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CUSTOM REPORT

Canada's Fiscal and Economic Prospects

The Conference Board of Canada, January 2017

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Table of Contents

Executive Summary

At a Glance

- This report presents the results of the Conference Board of Canada's analysis of the federal and collective provincial and territorial fiscal prospects.
- Federal and provincial government revenue growth is set to slow over the long term as an aging population weighs on Canadian economic growth while also boosting demand for program spending.
- Both the federal government and provinces and territories face a challenging fiscal future.
- While weak revenue growth and new policy initiatives will leave the federal government in deficit for many years, we expect it will be able to balance its budget in 2029-30.
- Starting in fiscal year 2016-17, the federal government's debt-to-GDP ratio and its interest payments as a share of revenues are both expected to fall over the forecast horizon, placing the federal government in a relatively sustainable fiscal position.
- Meanwhile, without significant cuts to program spending, the provinces and territories' combined debt-to-GDP ratio and interest payments as a share of revenues are both expected to rise considerably over the same time period.
- Together, the combined debt-to-GDP ratio of the Federal, Provincial, and Territorial governments is expected to remain flat even without significant cuts to program spending, suggesting that the distribution of fiscal resources between levels of government is a more significant problem than the level of services being provided.
- While provinces and territories have managed to hold back spending growth since the financial crises, going forward they will find it difficult to maintain this level of spending restraint as demand for provincially funded services, especially health care, is set to increase significantly as our population ages. Starting in 2016-17, provincial and territorial health expenditures are projected to grow in line with the requirements of an aging population—at an annual average rate of 5.2 per cent.

Analytical Context

Collectively, the provincial and territorial governments have struggled to balance their books since the 2008 financial crisis. In fiscal year 2015-16, provincial and territorial governments ran a combined estimated budgetary deficit of $13.3 billion. While the three territories and two provinces—B.C. and Québec—balanced their budgets last year, the remaining eight provinces were in deficit. Many of the provinces in deficit are

planning to balance their budgets over the next few years, but our analysis indicates this will be extremely difficult to accomplish. Indeed, to hit their aggregate spending target for 2017–18, the provinces would overall have to freeze per-person health care spending after accounting for demographics and inflation. Also, they would have to freeze per-student education spending after accounting for inflation, while also cutting almost 5 per cent from all other program spending. Based on current trends, we expect the combined provincial and territorial debt-to-GDP ratio to continuously rise over the forecast period, suggesting that their fiscal situation is not sustainable.

The federal government is also facing a large deficit in the near to medium term. After balancing its books in 2014-15, the federal government is back in deficit due to higher expenditures. Going forward, weak revenue growth resulting from the recent poor economic performance, as well as a host of new spending measures, will keep the federal budget balance in a deficit position for over a decade. That being said, the federal government is insulated somewhat from the slower expected economic growth by legislated constraints on several of its largest spending categories—for instance, growth in the Canada Health Transfer and Equalization is capped at the rate of increase in nominal GDP. Our forecast projects the federal government to balance its budget in 2029-30 without any further spending restraint.[1] As a result, we expect the federal debt-to-GDP ratio to continuously fall, suggesting that the federal government has significant fiscal room compared to the provinces.

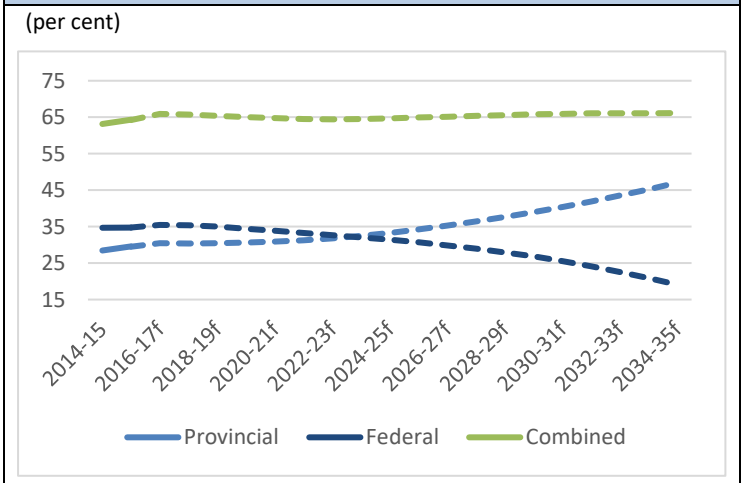
The fiscal challenges currently facing the federal and provincial governments are likely to persist over the long term. Our population is set to age quite rapidly and, baring a marked improvement in productivity, demographics will result in a slowdown in economic growth. Slower economic growth in turn translates into weaker growth in government revenue, hurting governments' ability to pay for existing services. At the same time, the share of retirees in the population will increase substantially, leading to higher demand for services geared towards seniors. Demand for health services in

[1] Our forecast's estimate of the federal government's return to balance, in 2029-30, differs from a recent Update of Long Term Economic and Fiscal Projections published by Finance Canada, which shows the federal government remaining in deficit until the 2050s. The difference between our forecast and Finance's is due to different assumptions. Most significantly, the Finance report assumes that federal direct program spending and fiscal transfer payments grow in line with nominal GDP. Our forecast assumes instead that most categories of federal (and provincial) spending grow in line with inflation and population growth. Since assumptions play such a large role in long-term fiscal forecasting, it is more important to pay attention to trends than to specific numbers. Since we are being consistent in our assumptions between the federal and provincial governments, changing our assumptions to match Finance's should not change the overall conclusions of this study, because both the federal and provincial governments would be worse off.

particular is set to soar as more of the population moves into older cohorts, which have the highest per capita health care costs. Since the provinces and territories are responsible for delivering health services, these trends will put a great deal of pressure on their finances.

That said, if current trends continue, we project that the total combined debt-to-GDP ratio of the federal, provincial, and territorial governments will stay nearly flat over the next two decades (see Chart 1). In a decentralized federation like Canada's, the overall sustainability of the debt load depends on the combined debts of the federal and regional governments. The fact that the overall debt-to-GDP ratio is not rising implies that, when the fiscal resources and commitments of both levels of government are combined, current policies are approximately sustainable if governments keep spending growth at the pace of inflation and population growth. What our analysis also shows, though, is that while the overall debt-to-GDP ratio remains stable, the federal debt-to-GDP ratio falls over the forecast at the same time as the provincial and territorial debt-to-GDP ratio rises dramatically. This spells trouble for some provincial governments and suggests that there is a problem with the way fiscal resources and spending commitments are shared across levels of government.

Chart 1: Comparison of Debt-to-GDP ratios, *Status Quo* scenario



Source: The Conference Board of Canada; Statistics Canada

Considering the coming fiscal challenges for governments, this research examines the long-term outlook for federal and provincial finances. Our revenue projections are based on our forecast for overall economic growth, which in the long run aligns with our estimate of potential output. Expenditures are based on detailed projections that account for demographic change and price pressures. These projections are then used to calculate how these factors will affect demand for government provided services and transfer payments.

Because most federal government spending is based on set formulas for transfers and other programs, the federal fiscal forecast is largely determined by the economy's performance. While it is possible to produce alternate policy scenarios based on reasonable policy changes, program spending makes up only a small part of the federal government's overall budget. As a result, alternative policy scenarios are unlikely to produce significantly different fiscal results than our underlying status quo scenario.

On the other hand, the majority of provincial spending is on programs, making the fiscal situation for provinces sensitive to alternate spending assumptions. We focus primarily on the largest provincial program—health care—and craft three scenarios that demonstrate the pressures provinces and territories are facing from the fiscal implications of funding health care in the context of rising demand pressures.

In the *Status Quo* scenario, health care spending is expected to grow in line with overall demand. In this scenario demand is driven by population growth, aging, inflation, and trend growth (the historical rate at which health care spending has grown over and above the first three factors, due to quality improvements and increased utilization). In the *Low Health* scenario, we assume that the provinces freeze spending on real per capita age-adjusted health care and funding is therefore not provided for trend growth. In the *What's Possible* scenario, spending on health and education aligns with the *Low Health* scenario, and we determine what cuts are needed in other program spending for the provinces to fund these core programs while eliminating their deficit over the next few years.

Fiscal Outlook

Federal government revenues will grow at an average annual pace of 3.8 per cent over the forecast, much slower than the average annual growth of 5.3 per cent in the five years before the financial crisis.[2] Several recent policy initiatives—including the more generous Canada Child Benefit, the reinstatement of age 65 eligibility for OAS, and the enhanced Canada Pension Plan—will make it challenging for the federal government to balance its books in the near future. Nevertheless, growth in expenditures will slow below growth in revenues in 2018-19, allowing the federal government to balance its books in 2029-30. Despite running deficits for the next 14 years, the federal

[2] Note that all average annual rates provided in the text are calculated using the compound annual growth formula and may differ slightly from a simple arithmetic average of annual growth rates.

government's net debt-to-GDP ratio is nonetheless expected to fall over the entire forecast period, reaching just 20 per cent by 2034-35. At the end of the forecast, interest payments are consuming 6.7 per cent of federal revenues. However, it should be stressed that the federal government's fiscal position is not strong, and there are significant risks such as an increase in interest rates or another economic downturn, that could threaten a return to budgetary balance. Nonetheless, the federal government is in a significantly better position than the provinces and territories.

The provincial and territorial governments will also face slower revenue growth over the long term: total revenues will grow at an average annual rate of 3.7 per cent a year, down sharply from the average 7.0 per cent growth observed in the five years before the financial crisis. Unlike the federal government, though, the provinces and territories are not on a path to balance their budgets or reduce their debt-to-GDP ratios over the long term. Thus, substantial spending restraint would be required to put them on a path similar to the federal government's. To capture different assumptions about the path provincial/territorial expenditures can take over the forecast period, we focus our analysis on three scenarios.

In the *Status Quo* scenario, cost-pressures associated with delivering health care will keep program expenditures growing at a faster pace than revenues. Health care represents the largest portion of provincial-territorial government spending and it is driven by structural forces such as the age and structure of the population. These cost-pressures will cause health care spending to increase by an average of 5.2 per cent per year out to 2035. With expenditure growth outpacing revenues, the provincial operating deficit grows, pushing up the stock of debt. Rising debt in turn makes interest payments the fastest growing line item in the provincial budget. This situation is unsustainable in the long run. By the end of our forecast, the provinces and territories are running a combined deficit of $109 billion and debt servicing costs are consuming 14.2 per cent of provincial revenues. The combined provincial and territorial debt-to-GDP ratio is 47 per cent. In this scenario part of the operating shortfall stems from our assumption that growth in program expenditures outpaces revenues. However, the largest factor behind the fiscal deterioration results from years of financing operating deficits with debt. As illustrated in this scenario, it is unsustainable to continuously finance operations with debt as eventually interest payments will overwhelm other spending obligations.

In the *Low Health* scenario, real per capita age adjusted health care spending is frozen to provide a more favourable fiscal outlook relative to the *Status Quo* scenario. Holding real per capita health spending constant allows growth in program spending to come in only slightly below revenue growth. However, this scenario includes estimates for

provincial-territorial health spending that are well below the cost-pressures associated in the *Status Quo* projection. Nonetheless, freezing both real age-adjusted spending on health and real per-student spending on education and holding social services and other program spending growth to inflation and population growth is still not enough to bring the provincial and territorial budget back into balance. The continued need to finance operating shortfalls with debt combined with future interest rate increases will drive up debt servicing costs over the forecast. This problem will compound over the years and by 2034-35 the provincial and territorial deficit hits $36 billion, with interest payments consuming 10.9 per cent of revenues. The combined provincial and territorial debt-to-GDP ratio in this scenario reaches 35 per cent at the end of the forecast. In the *Low Health* scenario, the provinces and territories are projected to restrain growth in program expenditures to below revenue growth. However, this is insufficient to balance the books in a timely manner as increasing debt and interest payments lead to a continuous deterioration in the fiscal outlook for the provinces and territories.

In the *What's Possible* scenario we examine the degree of expenditure restraint that would be required to bring the provincial and territorial budgets back into balance and permit the provinces and territories to fund services at the rate of growth outlined in the *Low Health* scenario without running a long term structural deficit. It is assumed that the provinces and territories freeze real per student funding levels and real age adjusted heath care funding. Also, a cut of 5.4 per cent from other program spending between fiscal year 2016-17 and fiscal 2018-19, transpires in order to achieve balance in 2019-20. To remain in a balanced position after 2019-20, spending outside of health care, education and social services will need to be restrained until 2022-23. Afterward, spending increases in line with inflation and population.

Under this scenario, the collective budget will remain balanced. Given that the provinces and territories are not continually adding an operating deficit to their debt, interest payments will only reach 8.4 per cent of revenues by 2034-35. Interest payments at the end of the forecast are $19 billion lower than in the *Low Health* scenario and $44 billion lower than in the *Status Quo* scenario. The combined provincial debt-to-GDP ratio reaches 26 per cent by 2034-35. The results from this scenario provide strong evidence that a near term return to budget balance is essential for the provinces and territories to collectively achieve a fiscally sustainable position. However, this would require provinces and territories to freeze key services and make significant cuts to other programs and services.

Implications

The federal, provincial and territorial governments will face significant fiscal challenges over the long term as their revenue growth is set to slow at the same time that an aging population leads to higher OAS transfers and increased demand for health services.

New policy measures introduced over the last year will result in the federal government posting a sizeable deficit before achieving balance in 2029-30. The federal net debt-to-GDP ratio is projected to decline throughout the forecast horizon. The provinces and territories find themselves in a worse fiscal position as their combined budget balance is not expected to return to surplus even by 2034-35. As a result, they will be unable to keep real age adjusted health care spending in line with past trends without making cuts to other program spending or running unsustainably high deficits. This research does not prescribe solutions to the fiscal challenges faced by the provinces and territories. However, our analysis shows that now is the time to address these issues, as further delays will only compound the problem.

Introduction

At a Glance

- This report examines the fiscal challenges facing the federal and provincial and territorial governments over the next two decades.
- Provinces and territories have been running a combined budget deficit since the financial crisis.
- Demographic trends will slow revenue growth and drive up demand for provincial and territorial program expenditures and federal transfers tied to demographics.

Provincial and territorial balance sheets have been hit hard in recent years by a number of external shocks. The 2008-09 financial crisis and the commodities price crash that began in 2014 had a significant impact on economic growth across the country. While tax revenues have bounced back since the recession, other revenues (including resource royalties) remain flat at the level observed during the recession. Overall, provincial and territorial combined revenues have grown by 3.6 per cent per year since the end of the recession, compared to 7.0 per cent in the five years before it began. Going forward, revenue growth is likely to remain tepid as we enter an era where slow growth is the new normal.

The provinces and territories have been trying to restrain spending growth since the financial crises in order to balance their books. Expenditure growth has averaged just 2.8 per cent per year since the financial crisis, a sharp slowdown relative to the prerecession period. However, going forward, the provinces and territories will find it difficult to maintain this level of spending restraint as demand for key services is set to increase significantly over the next two decades as our population ages.

The provinces and territories' combined deficit peaked at $26.4 billion in 2009-10, and by 2014-15 they had managed to shrink that deficit to $10.3 billion. But the decline in energy prices that started in 2014 has hit provincial and territorial finances hard, as resource royalties collapsed. The combined provincial and territorial deficit widened to $13.3 billion last fiscal year (see Table 1) and is projected to narrow slightly to $12.8 billion in the current fiscal year. Since the financial crisis the provinces and territories have run a combined deficit of $120 billion and increased their net debt by 85 per cent. Although short term deficits and debt are not intrinsically bad, debt accumulation can cause problems if it increases the share of revenues spent on interest payments.

Provinces and territories have successfully avoided that risk so far. In 2007-08, 7.9 per cent of every tax dollar went to interest payments; in 2015-16, despite significantly higher debt loads, low interest rates meant that only 7.6 per cent of revenues were being spent on interest payments. However, we expect that interest rates will rise over the next five years and that debt financing, that was so cheap after the financial crisis, will rapidly start demanding a greater share of provincial revenues. For provincial and territorial governments already caught between slow economic growth rapidly rising health care costs, becoming caught in a vicious circle of debt financing could quickly result in an untenable fiscal situation.

The federal government also finds itself running a substantial deficit. The federal deficit hit $55.6 billion in 2009-10, but after years of restraint, the federal government managed to post a small surplus in 2014-15. However, its return to surplus was short lived, as higher spending pushed it back into deficit last fiscal year. Going forward, the federal government will also face slower revenue growth. This combined with a number of new spending initiatives and rapid growth in Old Age Security (OAS) benefit payments will shape the federal fiscal outlook over the forecast period.

Table 1: **Surplus/Deficit by Province in 2015-16**
(millions of dollars and per cent of GDP)

Province	Budget Balance	Share of GDP
NFL	-2,207	-7.1%
PEI*	-28	-0.5%
NS	-11	-0.0%
NB	-260	-0.8%
QC	2,191	0.6%
ON	-5,029	-0.7%
MB	-847	-1.3%
SK	-1,519	-2.0%
AB	-6,442	-1.9%
BC	730	0.6%

*All numbers final except Prince Edward Island.

Sources: The Conference Board of Canada; Provincial Public Accounts.

The purpose of this analysis is to quantify the long term fiscal outlook for the federal and provincial and territorial governments. One fiscal scenario is developed for the federal government but we examine the provincial and territorial fiscal prospects under three different scenarios.

The first chapter reviews the medium term and long-term forecast for the Canadian economy and the implications of that forecast for government revenue growth. The second chapter examines the factors driving government expenditures over the long term. The third chapter presents the

results of our fiscal forecast. First, the outlook for federal finances is detailed and then the provincial and territorial fiscal outlook is discussed for each of the three scenarios examined in this report. The final chapter provides a brief summary of the results and key takeaways from this analysis.

The timeframe for this analysis is the current fiscal year to the year 2034-35. Although fiscal 2015-16 ended almost a year ago, some of the figures we cite for that year are not yet final. That means that some of the numbers we give in this paper may change as more complete data becomes available. A detailed description of the methodology used can be found in the appendices, as can complete data tables of the results.

Economic Outlook and Government Revenues

At a Glance

- Following a weak performance in 2016, economic growth will pick up over the medium term, helping to slowly close the output gap in 2019.
- Over the long term, GDP growth will be constrained by potential output growth of only 1.8 per cent annually over the 2020-2040 period.
- Weak GDP growth over the long term will result in a slowdown in government revenue growth relative to recent history.

The outlook for government revenues is tied to the overall outlook for the economy. While the models we use to project government revenues incorporate a great deal of detail about the underlying trends in different sectors of the economy, nominal GDP can provide a broad measure of the government's tax base. In this chapter, we discuss the economic outlook in the medium and long term and what that means for government revenue growth going forward.

Medium Term Economic Outlook

Global Outlook

Economies around the world have been slow to recover from the financial crisis, and global economic growth is expected to remain sluggish for the foreseeable future. We expect the world economy to grow by only 2.4 per cent in 2016 and by only 2.8 per cent in 2017, compared to 4.6 per cent during the five years before the financial crisis. The American economy is expected to rebound from a poor start to this year and post growth in the 2.5 per cent range over the next couple years. However, the benefit to Canada from an improving U.S. outlook remains to be seen as President-elect Trump's campaign contained some anti-trade protectionist measures. Specifically, President-elect Trump indicated that he would "tear up" the North American Free Trade Agreement—an agreement that is vital to the Canadian export sector. Although this seems unlikely, it certainly signals a more protectionist tone on current files such as softwood lumber and beef where country of origin labeling is being discussed and could have a significant impact on that industry.

The Chinese economy has slowed considerably over the past few years, and other large emerging markets like Russia and Brazil are in recession. Weak Chinese growth is a

major concern, since China has been responsible for about 30 per cent of global economic growth since the financial crisis. It is also bad news for Canada, for whom China is an increasingly important trading partner. Moreover, China is a major consumer of raw materials, and its sustained slowdown has lowered commodity prices, which weakens Canada's terms of trade. Our other largest trading partner, Europe, also suffers from a long list of problems, including an aging population, high unemployment, weak investment, slow wage growth, high levels of government debt, and the prospect of increased barriers to trade if other countries follow Britain in leaving the EU.

Canadian Outlook

After a promising start to 2016, the Canadian economy experienced a terrible second quarter, with GDP falling at an annual pace of 1.6 per cent. The Fort McMurray wildfires drove large drops in output, employment, and real exports in the spring and early summer. However, even after excluding the impact of the wildfires, GDP growth was a disappointing 0.4 per cent. Growth will rebound in the second half of this year driven by an improvement in net exports and a return to normal in the oil sands. The extensive insurance payouts and reconstruction efforts required to rebuild fire-damaged Fort McMurray should also provide a noticeable, albeit temporary, boost to economic activity.

Stronger economic growth is in store for 2017 when energy investment subtracts less from overall economic growth and we finally see a resurgence of non-energy investment. However, the outlook going forward is much different than the economic performance that was common place throughout most of the 2000s. In the years leading up to the global financial crisis, economic growth in Canada averaged over 3 per cent per year. Over the next several years, we will be lucky to see growth above 2 per cent due to an aging population and weak productivity growth.

One of the key factors holding back our productivity growth is the persistent lack of business investment. In order for there to be a sustained pickup in growth, we will need to see a pickup in non-energy investment aimed at expanding productive capacity. Business investment has been so weak that since 2012, investment in machinery and equipment has not been sufficient even to maintain the economy's current level of capital stock. After declining by almost 7 per cent in 2016, we expect business investment to grow by an average of just 2.2 per cent per year over the next two years.

Consumer spending will remain a key driver of growth over the next few years. Job growth is expected to be tepid this year, with the economy adding only 107,000 jobs. We expect stronger gains in 2017 and 2018. However, labour force growth is also

expected to pick up as discouraged workers re-enter the workforce, and this will keep the unemployment rate from showing much improvement. Over the next two years, the unemployment rate is expected to fall by just 0.2 percentage points from its September 2016 level of 7 per cent. The persistent slack in the labour market will keep wage growth modest through the medium term. Add to that the high levels of consumer debt, and consumer spending is expected to slow over the next few years.

Our forecast assumes that export performance will improve over the near term. However, a lack of investment and increased competition in key industries suggests growth will remain well below the average seen over the last five years. One factor that is expected to give a boost to economic growth next year is the beginning of federal stimulus funds. Increased funding for infrastructure and families with children is expected to boost GDP growth by 0.4 percentage points in 2017. This additional spending, along with weak revenue growth will keep the federal government in a deficit well into next decade. Stimulus spending at the federal level will be partially offset by restraint at the provincial level. While provinces are also devoting increased funds for infrastructure, they are looking to limit growth in program spending in order to work their way out of deficit.

Given the continued weakness in the economy, the central bank is expected to hold off on any interest rate hikes until 2018. Even then, rate increases will only be gradual.

Long-term Economic Outlook

Over the long term, our forecast for economic growth is anchored by our expectation for potential output. Potential output is driven by three main factors: productivity, capital stock and the supply of labour. A myriad of factors can influence these three inputs but one common trend that influences all three is demographics.

Demographics

The demographic composition of our population is set to shift rather dramatically over the next few decades. In 2000, the share of the population aged 65 and over was 12.5 per cent. By last year it had reached 16.1 per cent and by 2035 it will climb to 23.7 per cent. Population aging is not all bad news for the economy as it has some positive impacts on capital accumulation and productivity. Nevertheless, the predominant influence is negative due to the downward pressure it puts on potential employment.

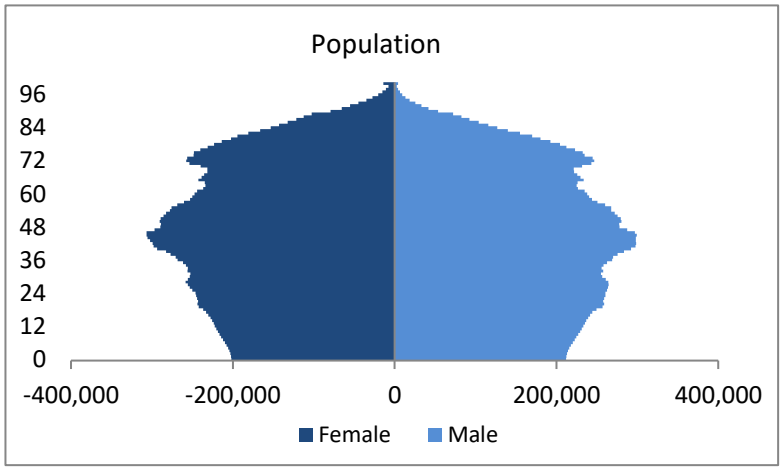
The main driver of population aging in Canada is the aging of the baby boom cohort. Canada's large baby boom generation has already started retiring but the baby boomer

population is higher in the lower-aged part of the distribution and therefore, the wave of retirements has yet to peak. (See Chart 2.) As more boomers hit retirement age, the impact of their departure from the labour force will become increasingly evident as labour force growth slows to an average of only 0.8 per cent per year over the next five years, and only 0.7 per cent from 2021 to 2035.

On the other hand, population aging is set to have a positive impact on investment and productivity over the longer term. Population aging will cause a tightening of labour markets across the country as labour becomes increasingly scarce. The scarcity of labour will result in upward pressure on national average weekly wage rate. Stronger wage growth will be an incentive for employers to substitute capital for labour wherever possible. Canada's track record on productivity over the past two decades has been disappointing, recording only modest gains over that period relative to the United States. However, over the long term, industries are forecast to respond to labour shortages, strong wage pressures, and greater international competition by increasing their investment in productivity-enhancing equipment and innovation. Combined with improved labour quality, will allow productivity to grow at a steady, but not booming, pace

Chart 2: Canada's Aging Population in 2036

(population by single-age cohort)



Source: The Conference Board of Canada; Statistics Canada.

Potential Output

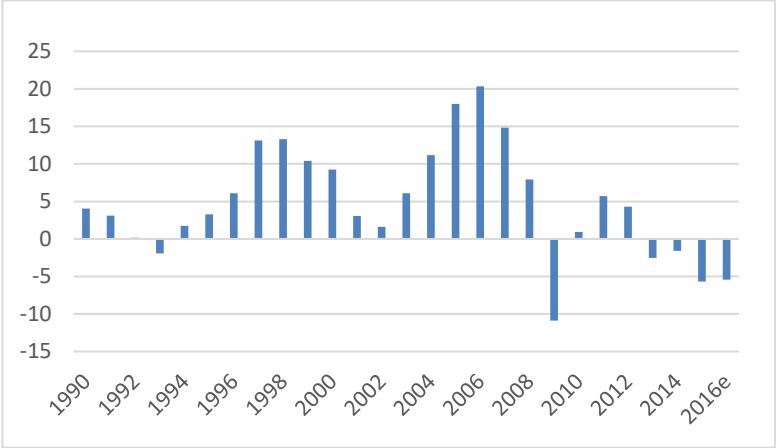
Potential output measures the maximum level of output an economy can produce based on its capital stock, labour supply, and available technology.[3] Although economic growth will always be affected by unforeseeable shocks, the most reasonable approach to forecasting economic growth in the long run is to have it follow potential output.

[3] See the methodology section of the Appendix for more information on how potential output was calculated for this research.

Potential output has experienced weak growth since the financial crisis, primarily because of anaemic business investment. Business investment has been chronically low for years, and since 2012 investment in machinery and equipment has actually been below the level necessary to recoup depreciation in the capital stock. (See Chart 3.) Since the capital stock is one of the three factors that contributes to potential output, this has been a serious drag on Canada's potential economic growth for years. Thankfully, business investment is set to recover, allowing the capital stock to make a stronger contribution to potential output. We forecast average annual potential output growth of 1.7 per cent over the forecast period, slightly below our 1.8 per cent average annual gain in GDP as the economy grows above its potential throughout the medium term in order to absorb its current significant excess capacity, as measured by the output gap.

Chart 3: Business Investment in M&E Net of Depreciation

(billions of chained 2007 $))



Source: The Conference Board of Canada; Statistics Canada.

Outlook for Government Revenues

The economic outlook is a crucial determinant of government finances. After sluggish growth in 2015 and 2016, the economy is set to experience stronger economic growth over the medium term, providing a decent boost to government revenues. However, over the longer term, economic growth is set to slow significantly compared to the pre-financial crisis period as population aging dampens growth in Canada's potential output.

The slowdown in economic growth will translate into a deceleration in own source revenue growth for both the federal and provincial and territorial governments. At the federal level, income tax revenues are expected to grow by an average of 4.2 per cent over the forecast; that's significantly slower than the 6.3 per cent year growth experienced in the five years leading up to the financial crisis. Excise taxes—which are primarily goods and services tax revenue—will grow by 2.9 per cent over the forecast as growth in consumer spending decelerates and as new trade agreements are enacted. A slowdown in labour force growth over the long term translates into weaker employment

gains, negatively impacting employment insurance revenue. Stronger wage growth will however, mitigate some of the impact; overall employment insurance revenues will grow at an average pace of 2.5 per cent over the forecast period. In total, federal government revenues will grow at an average annual pace of 3.8 per cent over the forecast, compared to average growth of 5.3 per cent in the five years before the financial crisis.

The slowdown in economic growth over the long term will also constrain provincial and territorial government revenue growth. Provincial and territorial tax revenues—including income taxes, sales taxes and other taxes such as property and tobacco taxes—are expected to increase at an average annual pace of 3.7 per cent over the forecast. This is down sharply compared to the years before the financial crises and even much lower than the average 5.7 per cent growth observed in the six years since the recession which was somewhat boosted by increased tax rates.

Provincial and territorial royalty revenues were hit particularly hard during the downturn in 2015 and remain quite low by historical standards. Royalty revenues fell by an astounding 52 per cent last year and are expected to remain relatively flat this year. Over the forecast, royalties are expected to grow in line with energy prices and oil and natural gas production. With energy prices recovering slowly over the forecast, royalties—in nominal terms—will not exceed their 2013-14 peak until 2030-31, despite steady increases in production.

Other provincial and territorial revenues are projected to grow in line with population and inflation growth. In total, provincial revenues are expected to grow at an average pace of 3.7 per cent per year over the forecast, slightly below the rate of growth in federal revenues over the long term.

Outlook for Government Expenditures

At a Glance

- Federal government spending on Old Age Security will increase significantly between now and 2030 as population aging accelerates.
- Population aging will lead to strong growth in demand for provincially and territorially funded health services.
- The provinces and territories will also experience solid growth in demand for educational spending, the second largest program expenditure after health care.

Outlook for Federal Expenditures

Although the federal government is not directly responsible for providing health care or post-secondary education, it has traditionally played a role in financially supporting these services. Every year, the federal government transfers tens of billions of dollars to the provinces and territories to help cover the costs of social programs. As federal transfers have historically provided significant support to provinces and territories, the fiscal health of the federal government is important in considering the fiscal health of the provinces and territories.

Projections for the federal government's direct program spending, which comprise other transfer payments, crown corporation expenses and ministries expenses, use the latest federal fiscal update as a guide through 2021-22. Afterwards, direct program spending is expected to keep pace with inflation and population growth, growing by 3.3 per cent a year in nominal terms. The forecast for public debt charges is based on projections of the stock of interest-bearing debt. The interest rate on this debt moves in line with our forecasts of short- and long-term interest rates.

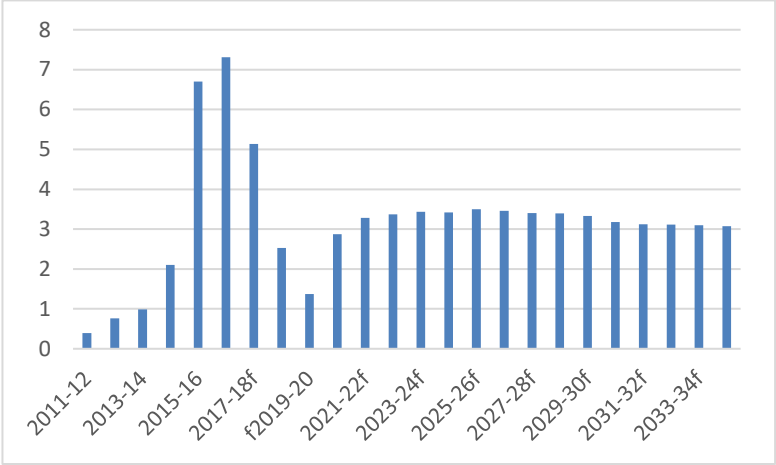
Children's benefits are estimated to have cost the federal government $21.8 billion in fiscal 2016–17, up from $18 billion last fiscal year, as the Canada Child Benefit (CCB) is more generous than the programs it replaced. When first announced, the CCB was not indexed to inflation. It was therefore expected that, over the long term, the cost of the program would fall despite growth in the under-18 population cohort. The government announced that it would begin to index the CCB to inflation starting in July 2020. This change is not included in this outlook because it occurred after this analysis was completed but is projected to cost the government close to $6 billion more by the end of next decade relative to our current forecast.

The aging of our population will have a significant impact on the federal government's single largest expenditure: Old Age Security (OAS), which accounted for 16.8 per cent of federal program spending in 2015-16. The eligibility age for OAS was expected to increase slowly from 65 to 67 over the 2023-2029 period. However, the 2016 federal budget reversed that decision. The decision to not proceed with the higher eligibility age will keep OAS growing at an annual pace of 5.4 per cent over fiscal 2017–30 and will bring total OAS benefits up to 21.8 per cent of program expenditures by fiscal 2030. In total, this decision will result in an additional 980,000 individuals receiving OAS benefits in 2029 and will cost the federal government an extra $10.6 billion in 2029 relative to our projections based on a higher eligibility age.

Although OAS is the single largest federal expenditure, it is dwarfed by the amount that is transferred to other levels of governments, which accounted for 24.3 per cent of federal program spending in 2015–16. Over the forecast period, we expect federal transfers to the provinces and territories to increase by 3.6 per cent a year, considerably slower than the 5 per cent a year increase seen over the last 10 years. This is in large part due to a major upcoming change in health transfers. Since 2004, health transfers have grown at a legislated rate of 6 per cent per year, however, starting in 2017–18, the growth rate of the transfer will be determined as the maximum between the three year moving average estimate of Nominal GDP and 3 per cent. Going forward, the Conference Board's projections[4] suggest that health transfers to other levels of government will grow at just 3.7 per cent a year, although this forecast is subject to change based on the outcome of the current negotiations between the provinces and the federal government over future levels of

Chart 4: Total Federal Program Spending

(percentage change)



Source: The Conference Board of Canada; Statistics Canada.

[4] Starting in 2017–18, Canada Health Transfers will be determined as the maximum between the three year moving average estimate of Nominal GDP and 3 per cent. Using our forecast for nominal GDP, we expect health transfer growth will be far lower than the previously guaranteed rate of 6 per cent.

health care funding[5]. Other transfers excluding health are expected to grow by an average of 3.2 per cent per year. This includes the Equalization program, where the ceiling imposed in 2009-10 limits the growth in funding to the rate of growth in nominal GDP. Overall total federal program expenditures are projected to grow by an average of 3.4 per cent over fiscal 2016-17 to 2030-34. (See Chart 4).

Outlook for Provincial Expenditures

The vast majority of provincial and territorial government spending is consumed by two programs, health care and education, where demand is driven by structural forces such as the age structure of the population.[6]

Population aging is set to drive substantial increases in demand for health services as the largest per capita costs of providing health care occur in older age cohorts. Indeed, demographic change and inflation will cause health care spending to increase by an average of 4.4 per cent each year between now and 2035 even if there is no new spending or increases in the quality of care. If we add in growth in trend real per capita age-adjusted funding (to account for factors such as quality improvements and increased utilization), annual health care demand jumps to 5.2 per cent per year. (See Table 2)

Inflation alone accounts for 2.4 percentage points of the expected annual increase. Physician wages are expected to be the largest source of inflation within the health sector, increasing by an average of 2.8 per cent per year over the forecast period. This projection is identical to the average growth seen over the 2004 to 2015 period. Drug prices, on the other hand, have actually declined over the past few years. We expect this decline to end next year, but we still forecast drug price growth of just 0.9 per cent a year through to the end of the forecast.

[5] Since this analysis was performed, nine provinces and three territories have signed bilateral health funding deals with the federal government. Those deals are not included in the analysis in this report. The total amount of new money provided by the bilateral agreements is $10.6 billion over the next 10 years. Over that same period the Canada Health Transfer will total $442.7 billion.

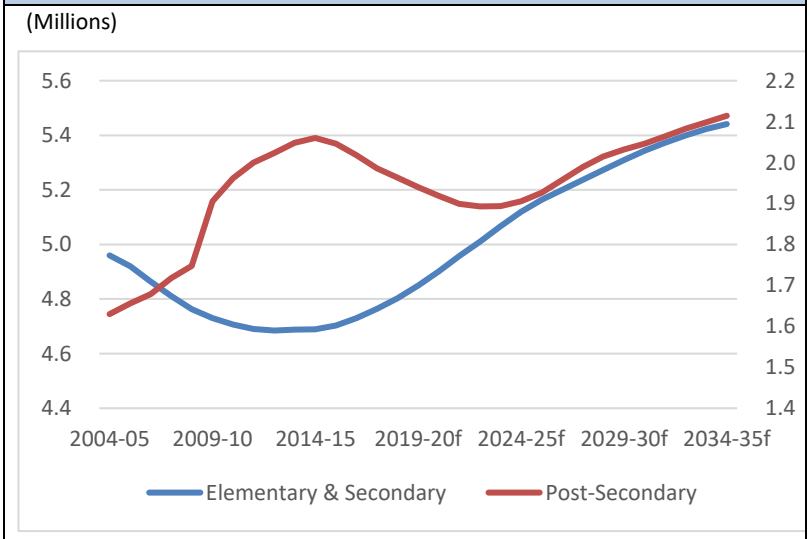
[6] For a detailed description of our methodology to forecast health and education expenditures, refer to the methodology section of the appendix.

Table 2
Average breakdown of health spending according to the baseline scenario of the Conference Board of Canada, from 2015 to 2035
(per cent)

Population growth	0.92
Inflation in the health care sector	2.43
Impact of population aging	1.01
Increased access to the system and continued improvements in the system	0.84
Annual average growth	**5.20**

As our population ages, it is reasonable to assume that services geared towards younger cohorts such as education may experience weakening demand. Unfortunately, from a fiscal cost perspective, that is not the case. Elementary and secondary school enrolments fell continuously over the 2003-04 to 2012-13 period as the cohort of school-aged children moving through the system was smaller than its predecessor. Since then enrolments have been increasing and are set to continue growing throughout the forecast, expanding by an average of 0.7 per cent per year and putting upward pressure on demand for education services. Some of this rising cost pressure will be offset by a slight decline in post-secondary enrolment over the first part of this forecast. Post-secondary enrolment surged at the onset of the recession and has remained high since that time due to tough youth labour market conditions. But the increase in post-secondary enrolment is expected to have peaked in 2013–14 and will fall until 2022–23, before rebounding in the final years of the forecast.

Chart 5: School Enrollment by Level



Source: The Conference Board of Canada; Statistics Canada

While demographically driven demand pressures for education are much lower than that in health care (See Chart 5.), even freezing real per-student funding will result in average annual growth of 3.3 per cent in education expenditures over the forecast. The provinces and territories have shown an ability to avoid any real per-student increases in education spending over the past decade (real per-student spending is up 0.2 per

over the past ten years) and it is reasonable to assume that trend will continue in the forecast. Average wages in the education sector are expected to grow at the same rate as in the economy as a whole, averaging annual growth of 2.7 per cent. Although this is considerably lower than the 3.8 per cent increase seen over the last 13 years, much of the historical increase was likely catch-up for the flat wages seen over the 1990s.

Despite a substantial increase in debt, interest payments on that debt have remained relatively stable as a share of revenues as the provinces and territories have taken advantage of record low interest rates. Going forward, interest payments on the public debt are projected using an implicit interest rate applied to the public debt. The implicit interest rate is expected to rise moderately beginning in 2017, in line with our forecast for interest rates.

In the short run, our estimate of social services spending is based on commitments in provincial and territorial budgets. In the medium and long term, we assume that social services will grow at a rate equal to population plus inflation. We similarly rely on the commitments in provincial and territorial budgets for other program spending for the next two years. Over the longer term, growth in this spending category differs amongst the three scenarios.

Expenditure Scenarios and Results

At a Glance

- Despite its current significant fiscal challenges, the federal government is expected to eliminate its deficit by 2029-30, and its debt-to-GDP ratio is projected to fall continuously.
- The long term provincial and territorial fiscal outlook is presented under three scenarios, all of which show provinces and territories face significant long-term fiscal pressure, especially given the cost-pressures associated with health care.
- The *Status Quo* scenario allows for small increases in real-per capita age-adjusted health care funding and results in a steadily increasing provincial and territorial deficit and soaring debt servicing costs.
- The *Low Health* scenario freezes real age adjusted health spending but the failure to balance the books in the near term leads to strong growth in debt servicing costs, keeping the provinces and territories in deficit throughout the forecast.
- The *What's Possible* scenario calculates the necessary program cuts to eliminate the deficit over the next few years in order to afford future program funding increases.

Introduction

In this chapter we bring together our projections for government revenues and expenditures and examine the implications for the federal and collective provincial and territorial budget balances. Results from our analysis of the federal fiscal situation are presented first. Next, the provincial and territorial budget balance is discussed under three spending scenarios: *Status Quo*, *Low Health*, and *What's Possible*. In each of these scenarios, provincial and territorial revenues are the same but the assumptions for spending growth differ. It is important to note that none of these scenarios are recommendations. Rather, they are tools that can be used to inform the discussion of the various challenges facing governments across the country as they assess their long term fiscal prospects.

Federal Fiscal Outlook

The 2008-09 recession drove the federal government deep into deficit. After years of expenditure restraint, the federal government managed to eliminate its deficit in 2014-15. The return to surplus was short lived as the global energy price decline that began in mid-2014 resulted in a mild contraction in the economy over the first half of 2015. Economic growth has been sluggish since that time and as revenue growth slowed, the government posted a $1 billion deficit in 2015-16. The return to deficit occurred even before the new government implemented its policy agenda—one that includes a host of spending measures. With weak economic growth limiting revenue growth in the long term combined with growing spending pressures from new policy initiatives (such as the CCB and reinstating the age of eligibility for OAS to 65), the federal government will have a long road back to balance. Even when the output gap is closed and the economy is operating at its potential, it will take years of limiting expenditure growth to below revenue gains before the federal government balances its books. However, growth in federal expenditures is expected to fall below its revenue growth in fiscal 2018, allowing the federal government to eliminate its deficit by 2029-30. Meanwhile, the federal government's net debt-to-GDP ratio is projected to fall from about 35.4 per cent today, to 26.8 per cent in 2029-30, finishing at 19 per cent at the end of the forecast horizon in 2034-35.

However, it should be noted that the projected federal fiscal deficits still carry risks. The accumulation of more debt creates additional risk should interest rates rise more than is assumed in this projection. There is also an assumption that the future Canadian business cycle, which will include periodic recessions, will not lead to greater structural deficits.

Nevertheless, the projected federal debt load is the second lowest, based on todays estimates, in the OECD.[7] However, because Canada is a decentralized federation, our provincial governments are considered very large relative to the federal government. As a result, a truer measure of the sustainability of Canadian government debt is the combined federal and provincial debt-to-GDP ratio. Today, that ratio stands at 64 per cent. Its path over the forecast period depends on what happens in provincial expenditures, as discussed in each of the three scenarios to follow.

Provincial and territorial Fiscal Outlook: Status Quo Scenario

[7] https://data.oecd.org/gga/general-government-debt.htm

In the *Status Quo* scenario, we project provincial and territorial finances under the assumption that health care funding will increase in line with demand. As such, beginning in 2016-17, health care expenditures increase by 5.2 per cent per year. The 5.2 per cent growth comprises higher demand from population growth (0.9 percentage points), inflation (2.4 percentage points), population aging (1 percentage point) and the average increase in real per capita age adjusted spending observed over recent history to fund quality improvements and increased utilization (0.8 percentage points)[8].

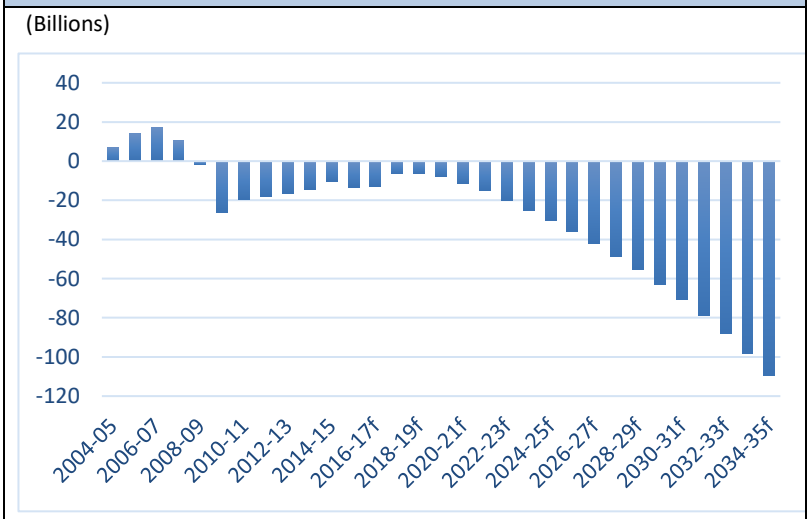
In this scenario, real per-student spending on education is assumed to be frozen, resulting in nominal spending increases of 3.3 per cent annually over the forecast. Provincial and territorial budgets have social services spending increasing by 5.5 per cent in fiscal year 2016-17. Thereafter we expect social services spending to grow at an average annual rate of 2.9 per cent, in line with inflation and population growth. While this is a reasonable assumption going forward, limiting the increase to just 2.9 per cent may prove challenging given that social service spending over the last 12 years has averaged 4.2 per cent—1.4 percentage points above population and inflation growth over that timeframe.

Other program expenditures are assumed to fall, allowing the provinces and territories to hit overall budget targets in the first two years of the forecast. Most provinces and territories do not provide detailed spending plans for all categories; instead they provide estimates for total spending after the current fiscal year. Due to a lack of detailed estimates for 2017-18, we use our projections for health care, education and social services. Other program spending is calculated by subtracting our estimates from the total budgetary estimates for total program spending for 2017-18. According to the budget projections, other program spending would have to decline by 6.3 per cent in 2017-18 for total program expenditures to come in on budget. That would represent one of the largest set of budget cuts in Canadian history and it is highly unlikely that cuts will be that deep. Nevertheless, it does suggest how difficult it will be to maintain funding levels for health care and education while sticking to the current budgetary envelope. Beyond 2017-18, we assume other program spending will expand at 2.9 per cent average annual growth rate, in-line with the rate of growth in inflation and population.

[8] The 5.2 per cent average annual growth rate is the Conference Board of Canada's forecast, based on the individual components of growth as described here. Note that the provincial government budgets provide their own estimates of health care spending for the first two years of the forecast. If we treat the provincial estimates as given in those years, the average drops slightly to 5.1 per cent. This is because the provincial estimates of health care cost increases are quite low compared to our own.

In this scenario, we expect the combined provincial and territorial deficits to reach a low of $6.4 billion in 2018-19 before beginning to increase again. (See Chart 6.) The situation would be worse if they cannot hold the spending increases to 1.7 per cent in 2017-18. The combined budget deficit in 2034-35 is $109 billion and the combined net debt is just under $1.9 trillion. Interest payments total $107 billion, or 14.2 per cent of total revenues (up from 7.6 per cent in 2015-16). In reality, practical constraints would put immense pressure on provincial governments long before these levels of deficits and debt are reached. This scenario instead illustrates the forthcoming pressures from increased demand, especially for health services, and how challenging it would be for provinces and territories to meet demand growth with their forecast increase in revenues. The combined provincial and territorial debt-to-GDP ratio at the end of the forecast is 47 per cent, and when federal debt is added the total government debt-to-GDP ratio stands at 66 per cent, three percentage points higher than today.

Chart 6: Combined Provincial and Territorial Budget Balance (*Status Quo*)



Source: The Conference Board of Canada; Statistics Canada

Provincial and territorial Fiscal Outlook: Low Health Scenario

The *Low Health* scenario is identical to the *Status Quo* scenario except in its treatment of health care costs. In contrast to the *Status Quo*, health spending increases by only 4.4 per cent per year in the *Low Health* scenario, equivalent to freezing real per-capita age adjusted health spending. Because health care spending is lower throughout the forecast, the required near term drop in other program spending is not as deep (only 4.6 per cent) as in the *Status Quo* as total expenditures remain unchanged for the current and next fiscal year.

In this scenario, the combined provincial and territorial deficit reaches its low point in 2019-20, at $5 billion, before increasing to $36 billion by the end of the forecast. Total net debt in 2034-35 is $1.4 trillion, and interest payments climb to $82 billion. By the end of the forecast, interest payments consume 10.9 per cent of total revenues, up from 7.6 per cent today. As a result, even if the provinces and territories budget accounts for

no quality improvements or increased utilization of health services, they still will not be able to grow spending at the same pace as demand without incurring a significant deficit based on their projected revenue stream. The combined provincial and territorial debt-to-GDP ratio in this scenario reaches 35 per cent by the end of the forecast, and if the federal debt is included the total government debt-to-GDP ratio is 51 per cent.

Provincial and territorial Fiscal Outlook: What's Possible

In the first two scenarios, provincial and territorial spending increased faster than revenues. This lead to higher debt levels and an increase in debt servicing costs as a share of revenues which in turn further exacerbated their fiscal challenges. In the final scenario we examine a situation where provinces and territories are able to balance their budgets in the next few years. Because we expect interest rates to rise only very slowly between now and the early 2020s, there is an opportunity for provinces and territories to avoid a scenario where debt servicing costs rise rapidly as a share of total revenues if they can eliminate their deficit. In the *What's Possible* scenario, we examine what it would take for the provinces and territories to balance their books and how that achievement translates into future fiscal capacity.

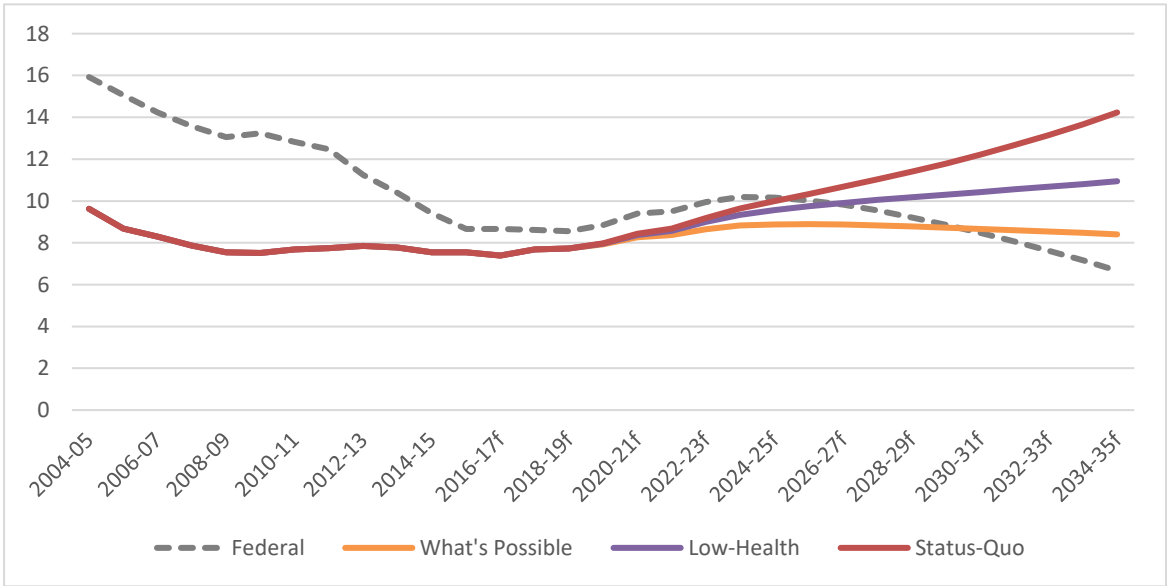
In this scenario, health care, education, and social services spending is the same as in the *Low Health* scenario. Health care spending grows with inflation, population growth, and aging. Education spending grows with student enrollment and inflation. Social services spending grows with population and inflation. However, in this scenario provinces and territories heavily restrain other program spending, cutting it by 5.6 per cent over a four-year period starting in fiscal year 2017-18. Spending is held relatively flat for the next two years and then, beginning in 2023-24, other program spending rises at the pace of inflation and population growth, the assumption utilized in the other scenarios. The result is that the provincial and territorial budgets are balanced by 2019-20, and fluctuate between small surpluses and small deficits for the rest of the forecast. This scenario serves to highlight the size of program restraint required to maintain a balanced budget.

At the end of the forecast in this scenario, the provinces and territories are running an $866 million surplus and have a net debt of $1.1 trillion. Their interest payments total $63 billion, or 8.4 per cent of total revenues. (See Chart 7.) This is compared to $82 billion in *Low Health* and $107 billion in *Status Quo* scenario. If we assume provinces and territories can achieve the health care spending restraint in the *Low Health* scenario, the

additional restraint in the *What's Possible* scenario means that by the end of the forecast, provinces and territories will save $19 billion a year in interest payments. The savings are even greater compared to the *Status Quo*, where provinces and territories expand health care funding in line with total demand growth, with debt servicing cost

$44 billion lower in the *What's Possible* scenario. That savings is equivalent to more than the entire amount spent on social services across all provinces and territories last year. The combined provincial and territorial debt-to-GDP ratio in this scenario reaches 26 per cent at the end of the forecast, and together with the federal debt the total government debt-to-GDP ratio is 46 per cent.

Chart 7: Provincial Interest Payments as a Share of Revenues (*all scenarios*)



Source: The Conference Board of Canada; Statistics Canada

Conclusion

At a Glance

- The provinces and territories are facing serious revenue and spending challenges over the next 20 years, throwing their fiscal sustainability into doubt.
- In the *Status Quo* and *Low Health* scenarios, the provinces and territories remain in deficit throughout the entire forecast.
- The *What's Possible* scenario estimates the magnitude of reduction in other program spending necessary to allow the provinces and territories to balance their books and leads to much lower future debt servicing costs than in the other two scenarios.
- Solutions will be required to address the looming fiscal challenges, as demand growth will be too strong to meet with new revenue measures while maintaining intergenerational tax fairness.

In this report, we analysed the long-term fiscal prospects of the federal and provincial and territorial governments. A key factor affecting the outlook is the aging of our population—affecting both growth in government revenues and expenditures. Population aging will lead to a deceleration in economic growth. Real GDP growth will average just 1.8 per cent per year over the forecast horizon. Adding inflation, this translates to an average pace of nominal GDP growth of 3.7 per cent annually. We expect that provincial and territorial government revenues will grow at the same pace as nominal GDP, while federal revenues will do slightly better, averaging growth of 3.8 per cent annually over the long-term.

An aging population will also put upward pressure on government expenditures. For the federal government, OAS benefit payments will grow much faster than revenues. Moreover, recent policy measures such as a more generous Canada Child Benefit and a new infrastructure program suggests that the federal government will find itself in a challenging fiscal position for many years. Nevertheless, federal expenditures will grow below revenues beginning in 2018-19 allowing the deficit to decline over the long-term. Our projections indicate that the federal deficit will peak at $27.9 billion next fiscal year but the gap between the federal revenues and expenditures will narrow over time, allowing the federal government to balance its books by 2029-30. Furthermore, the federal government's net-debt-to-GDP ratio is projected to steadily decline over the forecast horizon, providing the federal government with more fiscal room than the provinces and territories.

The provinces and territories face significant growing demand for all of their major programs, especially health care. These pressures suggest that expenditures will grow at a faster rate than revenues over the projection horizon. Because expenditures are already much greater than revenues, the provinces and territories will be in a structural deficit position indefinitely, and the size of their aggregate deficit will continue to expand—starting in 2017-18, beyond currently planned fiscal restraint measures. This situation puts provinces and territories in a vicious cycle of debt financing and an unsustainable fiscal position. We assume that the provinces and territories hold back spending on social services in line with inflation and population growth and continue to freeze real per capita education funding, annual growth in these program expenditures would come in lower than revenue growth. However, the growth of the provinces and territories' largest expenditure category, health care spending, will outpace revenues and assuming no cuts in quality or significant system innovation it will create a difficult fiscal situation for the provinces and territories.

In this research we examined three different spending scenarios and what it means for the future of provincial and territorial government finances. In the *Status Quo* scenario, we assumed that growth in health care demand is met with commensurate increases in funding. Over the forecast, this translates into annual average growth of 5.2 per cent in health spending which allows for small increases in real per capita age adjusted funding for quality improvements and increased utilization of services. For education, spending projections from the provincial and territorial budgets were used to forecast growth in the near term; after which real per capita education spending is held constant. Meanwhile spending on social services and other program spending are projected to grow in line with population and inflation. In this scenario the provinces and territories run deep chronic deficits that push their net debt up to $1.9 trillion. Rapid debt accumulation leads to large increases in debt servicing costs which consume 14.2 per cent of revenues by the end of the forecast.

In the second scenario, *Low Health*, non-health expenditures are the same as in the *Status Quo* but real age-adjusted per capita spending on health is held constant, this means no quality improvements and no funding for increased utilization. While the deficits are smaller in this scenario, the provinces and territories still find themselves facing a chronic structural deficit and the constant increase in their debt resulting from this additional combined deficit brings debt servicing costs to 10.9 per cent of revenues by 2034-35.

In the *What's Possible* scenario we assume that growth in health, education and social services mirrors the *Low* Health scenario but that provinces and territories make

significant annual cuts to other program spending over the next few years allowing them to balance their books by 2019-20 and to afford future program funding increases without slipping back into deficit. In this scenario, debt servicing costs are substantially lower since the provinces and territories are not adding their annual operating deficit to their debt. The savings on debt servicing costs are substantial; compared to the *Low Health* scenario, debt servicing costs are $19 billion lower and are $44 billion lower than in the *Status Quo.*

The results of this analysis show that both the federal and provincial and territorial governments face fiscal challenges as their revenue growth is set to slow at the same time that demand pressures rise. New spending commitments by the federal government leave them facing a sizeable deficit for many years, but retaining long-term fiscal room. The provinces and territorial also find themselves in a tight fiscal position, one that does not allow them to even maintain current quality levels in the health care system without making significant cuts to other program spending or running unsustainably high deficits. Potential solutions to the fiscal challenges are outside the scope of this research. But this analysis clearly shows that future fiscal troubles are in store for the provinces and territories and that the governments at all levels need to begin addressing these issues now before time compounds the problem. Those challenges will undeniably require an innovative approach to funding social services, as well as further fiscal partnerships between various levels of government.

Appendix: Methodology

Long-term economic outlook for Canada

The long-term economic outlook for Canada was generated using the Conference Board's proprietary model of the national economy. This model incorporates a detailed demographic forecast, economic accounts, price block, government accounts, and the components that drive potential economic output for Canada. The national medium-term forecast is influenced by global conditions and other economic indicators. Over the longer term, once the economy reaches its estimated potential output, it is assumed to expand at a pace consistent with potential output.

Demographic Assumptions

The Canadian population growth forecast is a crucial component affecting the country's fiscal outlook over the long term. A clear understanding of the age cohorts that make up this nation is critical for comprehending the large cost pressures facing this country. These pressures include health care demand, education expenditures, pension payments, and others. The forecast takes into account the current age structure of the population, as well as assumptions about fertility and mortality rates, and immigration and emigration—all of which shape and define the demographic profile. This profile helps determine labour force growth and economic potential—essential components in generating government revenues over the long term. These revenue projections then determine the government's ability to handle the cost pressures facing the country and the long-term sustainability of the country's finances.

Potential output

Potential output is the level of sustainable real (i.e., adjusted for inflation) economic growth over the forecast period from 2016-17 to 2034-35. The growth in Canada's potential output is an important concept in estimating Canada's future revenue-generating capacity. Real GDP growth, coupled with assumptions about inflation, determines the pace of growth of nominal GDP (or income) generated in Canada which provides the broadest measure of the tax base.

Our estimate of Canada's potential output is based on a Cobb-Douglas production function, which estimates the economy's production capacity given its potential employment, the available capital stock, and the technological efficiency in which capital and labour work together. Potential employment is estimated by projecting labour participation rates, by age and gender, based on past trends and projections of changes in the average age of retirement (which is rising). This is combined with demographic projections, a forecast of the natural unemployment rate, and potential average hours worked to estimate Canada's level of potential employment. The natural unemployment rate is the lowest level of unemployment that can be sustained in the economy without creating inflation. It is estimated over time, based on various factors, such as the generosity of the employment insurance program and other social programs, and the age structure of the labour force. Potential average hours worked are estimated over time, based on past trends and the changing age structure of the labour force. The capital stock is determined simply as the capital stock at the end of the last period, plus projections of new investment, less depreciation. The final category of potential output is total factor productivity (TFP), or technological change. Historically, TFP has been simply defined as the gain in output growth that is not accounted for by

improvements and growth in labour and capital. Over the forecast period, it is assumed to grow at its historical average rate.

Health care and education

The Conference Board has built and maintains a detailed, demographically driven health expenditure model to assess future demand for health care. This model projects demand for provincial health care for nine components of public health. Five of these components are modelled by detailed age and gender cohorts, allowing not just for population growth, but also for changes in Canada's demographic composition that drive health care needs. Specifically, hospitals, physicians, other institutions, other professionals, and drugs are each broken down for 40 separate age and gender cohorts and forecast in real (i.e., inflation-adjusted) terms. Capital investment, public health, administration, and other health spending categories are forecast on a more aggregate, total real per capital basis. The first five categories are projected on an age and gender basis, since the changing age composition of the population plays a significant role in health care spending growth. In the remaining four categories, historical data on spending are not broken down on an age or gender basis.

To adjust health care expenditures for inflation, four price deflators were developed. First, an average wage deflator for health care was created by weighting average wage inflation among hospitals, other institutions, physicians, and other health professionals. These wage deflators were created using data from Statistics Canada's Survey of Employment, Payrolls and Hours.[9] The wage deflator was then projected based on its historical relationship to the overall consumer price index (CPI).

Second, Statistics Canada's CPI for prescribed medicines was used as the deflator for drugs. Similar to the health sector wage deflator, the drugs deflator was projected based on its historical relationship to overall inflation. Drugs prices have fallen substantially since 2010, the result of fewer new drugs coming onto market and new generic pricing control policies from governments.[10] Because of this, drug price inflation averages only 1.2 per cent per year over the forecast.

Third, the government investment deflator from Statistics Canada was used as the deflator for investment in health care capital. The investment deflator is projected as a function of wages in the construction sector, raw material prices, exchange rates (to

[9] Statistics Canada, CANSIM Table 281-0006; CANSIM Table 281-0039.
[10] Canadian Institute for Health Information, *National Health Expenditure Trends, 1975 to 2015*, 12.

account for imported machinery), and CPI inflation. The government investment deflator is projected to grow by 2 per cent over the forecast period.

Finally, the CPI itself was used to deflate non-wage expenditures other than drugs. The CPI is projected to average 2 per cent over the forecast period.

Several of the categories of provincial health care spending include items that are influenced by multiple price factors. For example, hospital budgets include salaries for nurses and other professionals, spending on goods and services, and expenditures for drugs administered within the institution. Given this complexity, it was necessary to assign weights to each of the available deflators in order to generate realistic historical and forecast estimates of the deflator for each of the eight categories. Weights were estimated based on Statistics Canada's input-output database,[11] which provides a detailed snapshot of the industrial structure of our economy (including the public sector).

It should be noted that the deflator measures only the increase in a given cost over a specific period. Increases due to a shift to costlier services, increased per capita utilization of services, and new services being made available to the public are captured in the trend in real per capita expenditures. Overall inflation in the health care sector is expected to average 2.4 per cent per year starting 2017, identical to the average growth seen over the previous 10 years.

Education

The Conference Board's education model is similar to its health care model in that it forecasts spending on a real per-student basis. While an aging population is raising health care costs, it is having the opposite effect on education. The forecast for education spending is based on our projection of the future school-aged population as well as historical enrolment rates. We assume that real per-student spending for elementary and secondary students in the *Status Quo Scenario* will remain flat, which means nominal growth of 3.3 per cent per year over the length of the forecast (which is in line with recent trends).

A deflator was also created for the education sector, based on a methodology similar to that used for the health deflators. Historical data on average weekly earnings for educational services come from Statistics Canada's Survey of Employment, Payrolls and

[11] Statistics Canada, CANSIM Table 381-0022.

Hours.[12] Average inflation in the education sector is expected to grow by 2.7 per cent over the forecast period which is below the last 10 years of 3.5 per cent.

Public Accounts Projections

The Conference Board's public accounts model for Canada is used to project the fiscal situation of the federal government and the Canadian provinces and territories as a whole, from 2016-17 to 2034-35. A key assumption is that there will be no additional tax changes other than those announced in the latest respective budgets.

Government revenues at the federal and provincial levels are estimated as a function of key indicators from the Conference Board's long-term provincial and national economic forecasts. For instance, personal and corporate income tax revenues at both the federal and provincial levels are a function of personal income growth and corporate profits, respectively. Other income tax revenues at the federal level consist of income taxes paid by non-residents of Canada and are driven by investment and dividend income. Employment insurance revenues are a function of employment, maximum insurable earnings, and wages. Goods and services tax revenues are based on consumer spending. The goods and services tax is shown net of the goods and services tax credit, which is projected based on demographics. Provincial sales taxes are similarly projected based on consumption. Federal custom and import duties are a function of imports. Federal energy revenues and provincial gasoline tax revenues are a function of gasoline tax rates and real consumption of gasoline. Revenues from other excise taxes and duties (which include excise duties, the air traveller's security charge, the softwood lumber products export charge, and other small excise taxes and duties) are assumed to grow at just under 1 per cent over the forecast period. Other federal revenues include revenues from Crown corporations, which are projected to grow roughly in line with economic activity; foreign exchange revenues, which are assumed to grow roughly in line with inflation; and other non-fiscal revenues, which are projected to grow in line with inflation and population growth in the long term but will be affected by the sale of assets in the short term. Provincial tobacco tax revenues are a function of consumption of tobacco products and tobacco tax rates. Provincial property tax revenues are assumed to grow in line with inflation and population. Royalty revenues are a function of energy prices and projections for oil and natural gas production. Other provincial revenues are projected to grow in line with population and inflation growth.

[12] Statistics Canada, *Survey of Employment, Survey and Hours*.

Forecasting Expenditures

To complete the outlook for the federal government, we had to forecast its main expenditure categories. OAS is currently the largest category of federal government spending, representing an estimated 16.8 per cent of the total budget for program spending in 2015-16. Our forecast is based on projections of the number of recipients and the average pension, which is indexed to inflation. Under the previous government, some changes were made to OAS including raising the age of eligibility from 65 to 67; the new government has reversed those changes. We take this change into account. The number of total beneficiaries will rise from 5.7 million in 2015 to 7.3 million in 2022, an average increase of 3.6 per cent per year. By 2035, there will be over 10 million people receiving OAS.

Employment insurance benefits are based on projections of the number of recipients of regular benefits, maternity benefits, and other benefits; average earnings; and maximum insurable earnings. The number of regular beneficiaries is projected based on projections of the number of unemployed people. The ratio of regular beneficiaries to the number of unemployed has declined substantially over the last two years, the result of an increasing number of long-term unemployed who no longer qualify for employment insurance. The ratio of regular beneficiaries to the number of unemployed is expected to increase over the forecast period as the share of long-term unemployed to total unemployed returns to its long-term average. The number of maternity beneficiaries is based on projections of the number of births. The government introduced the new Canada Child Benefit this year which is projected based on demographics. Our forecast was completed before the recent announcement that these benefits would be indexed to inflation beginning in July 2020; our projections had assumed the benefits were not indexed and therefore are lower compared to what would be expected based on the recent policy change.

Our projections of transfers to the provinces and territories take into account recent announcements by the federal government. Health transfers are legislated to increase by 6 per cent per year until 2016-17; afterwards, they are currently legislated to grow in line with a three-year moving average of nominal GDP, with a guarantee of at least 3 per cent growth. Although this means that health transfers are scheduled to slow after this fiscal year, the provinces are currently negotiating the future of this transfer with the federal government. Social transfers, meanwhile, are legislated to grow by 3 per cent a year. Fiscal arrangements include funding for the Equalization Program and Territorial Formula Financing (TFF) Program. Fiscal arrangements also include the offsetting

category of the Youth Allowances Recovery. Similar to health transfers, equalization payments are projected to grow in line with the three-year moving average of GDP growth.

Insights. Understanding. Impact.

The Conference Board of Canada

255 Smyth Road, Ottawa ON
K1H 8M7 Canada
Tel. 613-526-3280
Fax 613-526-4857
Inquiries 1-866-711-2262
conferenceboard.ca