2017/18 & 2018/19 ELECTRIC GENERAL RATE APPLICATION

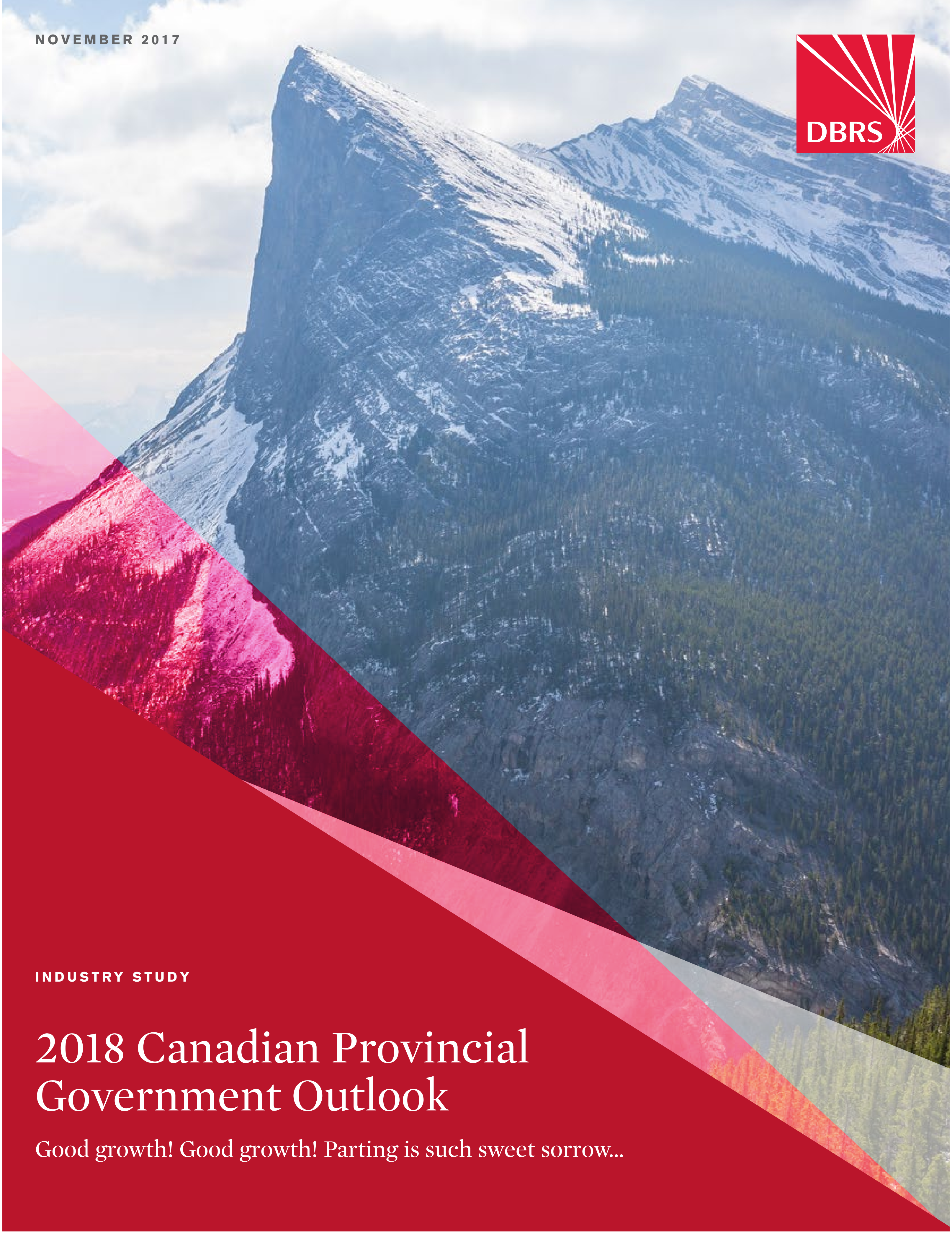
Manitoba Hydro Undertaking #3

Manitoba Hydro to provide the 2018 DBRS Canadian Provincial Government Outlook Report.

Response:

Please see the attachment to this Undertaking.

NOVEMBER 2017



INDUSTRY STUDY

2018 Canadian Provincial Government Outlook

Good growth! Good growth! Parting is such sweet sorrow...

Contact Information

Paul LeBane, CFA
Assistant Vice President,
Public Finance
+1 416 597 7478
plebane@dbrs.com

Scott Cherry
Assistant Vice President,
Public Finance
+1 416 597 7343
scherry@dbrs.com

Michael Thomas
Financial Analyst,
Public Finance
+ 1 416 597 7525
mthomas@dbrs.com

Travis Shaw
Vice President,
Public Finance
+ 1 416 597 7582
tshaw@dbrs.com

Brenda Lum, CPA, CA, CFA
Managing Director,
Real Estate & Public Finance
+1 416 597 7569
blum@dbrs.com

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Table of Contents

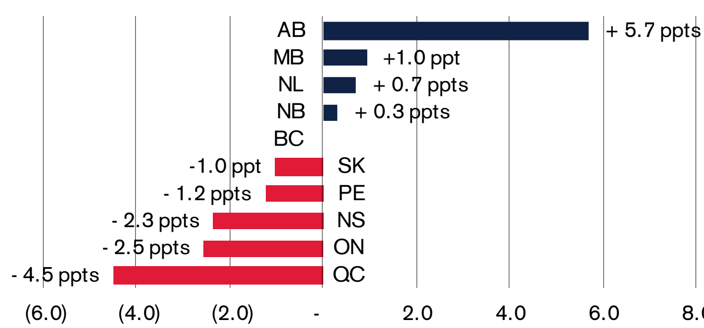
Executive Summary

The *2018 Canadian Provincial Government Outlook* outlines the key trends and issues in Canadian provincial finance and DBRS's expectations for the credit profiles in 2018 and beyond.

- Economic fundamentals have exceeded expectations in 2016 and 2017, enabling most provinces to finish the year better than expected while increasing spending or reducing taxes. Growth will likely slow over the medium term as cyclical influences diminish.
- Provincial fiscal policy varies but is generally expansionary.
  - **Ontario**, **British Columbia**, **Nova Scotia** and **Prince Edward Island** are targeting balanced budgets or modest surpluses with incremental revenue directed to affordability measures and increased program spending.
  - **Québec** is targeting moderate surpluses to set aside funds for debt retirement while modestly raising spending and reducing taxes.
  - **Manitoba** and **New Brunswick** are exceeding expectations in their multi-year deficit reduction plans, though the pace of deficit reduction remains gradual, and deficits will persist through the near term.
  - **Alberta** continues to incur large operating deficits in the name of protecting and improving services while preserving the province's considerable tax advantage. The province has yet to credibly demonstrate how it will meet its commitment to balancing the provincial budget by 2023–24.
  - **Saskatchewan** and **Newfoundland and Labrador** are pursuing aggressive deficit reduction plans, which include tax increases and spending adjustments. Newfoundland's approach has already led to substantial improvement in financial results, while Saskatchewan's plan, introduced earlier this year, appears credible.
- The improving economic outlook and improving results in most provinces suggest stable or improving debt-to-GDP ratios in most provinces. The outliers are Québec and Alberta. While Alberta's debt burden is expected to rise sharply, Québec's debt burden should steadily fall if fiscal policy remains focused on debt retirement.
- **Near-term credit outlook:** The outlook for provincial ratings is stable in all cases except Alberta, for which DBRS has changed the trend to Negative and stated that a one-notch downgrade is likely within the next year. The ratings for the Province of New Brunswick are stable, though the credit profile has limited capacity to withstand further deterioration.
- **Medium-term credit outlook:** Most provincial ratings are expected to remain relatively stable. The outlook for oil-producing provinces remains somewhat uncertain, with commodity prices posing some downside risk, while positive rating actions are conceivable for Québec and Prince Edward Island if the current trends in fiscal policy persist.
- **Who is at risk in the next recession?** While not anticipated, DBRS considers how much flexibility is present within the existing ratings to withstand a severe downturn in the economy over the medium term. Assuming a similar severity as past recessions and a similar policy response, the ratings for Ontario and New Brunswick appear most at risk of a negative rating action if the economy were to face a severe recession, while a downturn may accelerate the pace of a rating change in Alberta.

Exhibit 1: Projected Growth in DBRS-Adjusted Debt-to-GDP Ratios

Change in the DBRS-adjusted debt-to-GDP ratio (percentage points) between 2017–18 and 2020–21



Source: Provincial budgets and public accounts. DBRS calculations.

Introduction

DBRS's annual review of Canadian Provincial Governments summarizes DBRS's key findings on the major trends, themes and issues in Canadian provincial finance over the next year, as well as a review of the past year.

The report is structured into sections based on the needs and interests of investors.

2018 and Beyond

The first section of the report provides DBRS's expectations for provinces over the near to medium term, as well as commentary on current events and issues that may affect provincial credit profiles in the future.

Credit Outlook: DBRS's expectations for credit profiles in the near to medium term.

Who is at Risk in the Next Recession?: Assessment of rating flexibility in light of the severity of past recessions and the associated policy responses.

Provincial Politics: Status of governments in power, fiscal priorities and timeline to the next election.

Top Issues in Public Finance

Brief vignettes providing DBRS's views on the topical issues most frequently raised by investors.

Review of Public Finances in 2017

The second section of the report provides an overview of the structure and trends of provincial economies, budgets and debt profiles, and how they align with DBRS's methodology for *Rating Canadian Provincial Governments*.

Economic Structure: Overview of the structure and volatility of provincial economies, export diversification and long-term demographic trends.

Fiscal Management: Overview of the structure and trends in government revenue and expense.

Financial Management: Key trends in provincial debt burdens and pension liabilities.

Appendices

2017 Public Finance Publications

Provincial Ratings History: DBRS's provincial credit ratings since original assignment in 1987.

Historically, the annual review included a large appendix of supporting data tables, which can now be found in a data supplement to this report available at www.dbrs.com.

2018 and Beyond

Credit Outlook

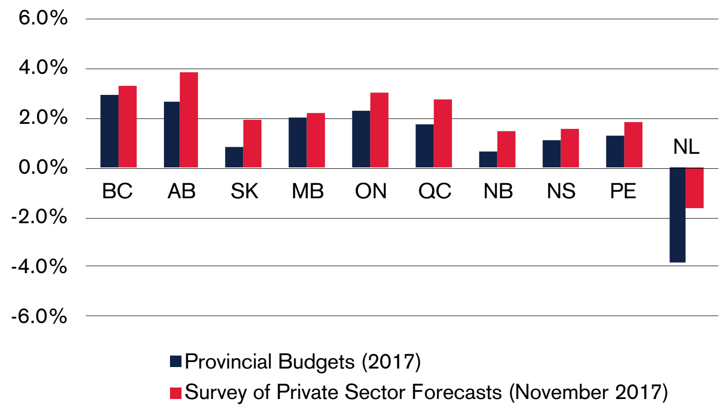
- **Credit profiles are generally improving as economic growth outperforms expectations in all provinces.**
- **Most provinces are tracking ahead of budget expectations in 2017-18.**
- **The medium-term outlook for energy prices is somewhat weaker than was expected in the spring, as the oil price recovery appears to be more gradual than first expected. This may necessitate further budget measures to prevent further deterioration in credit profiles.**

The outlook for most credit profiles has improved since the provinces tabled their spring budgets. Since the start of the year, private-sector forecasters have raised their economic growth projections for *all* provinces. The economic outlook is now meaningfully higher. Some provinces have started to report revised projections for 2017–18, which generally show improvements in tax revenue.

- **British Columbia** intends to maintain modest surpluses, with rising revenues redirected toward core priorities of affordability, service enhancements and a strong and sustainable economy. British Columbia's budget update in mid-September revised the province's revenue forecast higher by an additional $1.5 billion (+3.0%). The debt burden should remain relatively stable over the medium term.
- **Alberta** continues to prioritize public services over deficit reduction. The province has stated that it intends to return to balance by 2023-24, but has yet to present a credible plan to do so. The debt burden will continue to rise, though the trajectory remains uncertain.
- **Saskatchewan** introduced a three-year plan to return to balance through immediate tax increases and extensive expense management. The debt burden is expected to rise modestly before stabilizing and then declining to somewhere between 20.0% and 23.0% of GDP.
- **Manitoba** has begun a gradual process of deficit reduction with the stated aim of returning to balance during the government's second mandate (2020–2024). Deficits have begun to fall, and debt is expected to rise modestly higher before stabilizing around 45.0% of GDP.
- **Ontario** intends to maintain balanced budgets, with rising revenues being directed into program spending. Debt growth has slowed with the return to balance, which is leading to a gradual decline in the debt-to-GDP ratio. DBRS expects debt to decrease to 40.0% of GDP over the medium term.

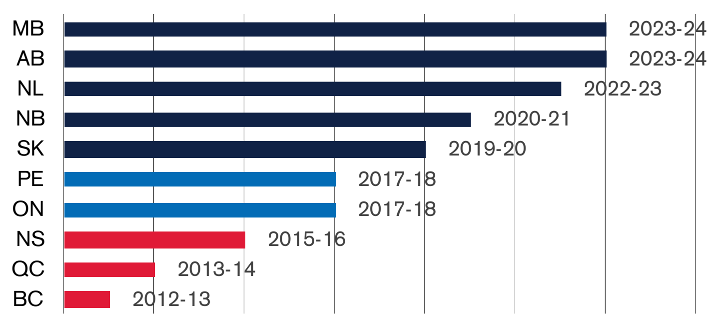
Exhibit 2: Real GDP Growth Expectations, 2017

Current Private Sector Consensus vs. Budget Projections



Source: Provincial budgets. DBRS's survey of economic forecasts.

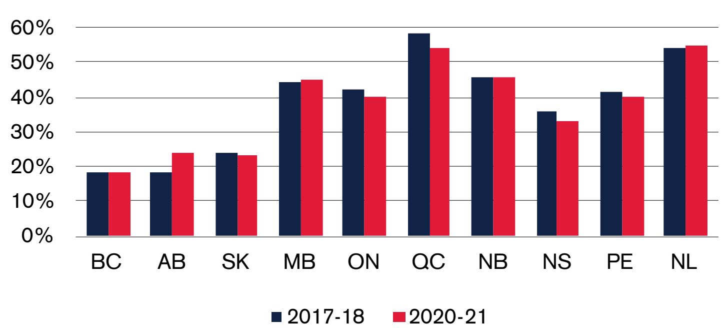
Exhibit 3: Planned or Actual Return to Balance



Source: Provincial Budgets and public accounts.

Exhibit 4: Projected DBRS-Adjusted Debt Burden, 2017–18 and 2020–21

Share of Nominal GDP



Source: Provincial budgets. DBRS calculations.

- **Québec** is reporting moderate surpluses, and setting aside funds in the Generations Fund for eventual debt reduction. The province has begun to provide modest tax reductions and spending increases. The debt-to-GDP ratio is steadily declining. DBRS projects debt to fall to between 50.0% and 55.0% of GDP over the medium term.
- **New Brunswick** continues to make progress on its plan to balance the budget in 2020–21 through ongoing expense management, which should result in the debt-to-GDP ratio stabilizing around current levels (46.0% of GDP).
- **Nova Scotia** has balanced its budget and will seek to maintain a balanced operating result over the medium term, while targeting new spending in core policy priorities. Debt is projected to track modestly lower over the medium to about 33.0% of GDP.
- **Prince Edward Island** has returned to a balanced budget position and will target modest surpluses. Debt is projected to decline gradually and potentially fall below 40.0% of GDP over the medium term.
- **Newfoundland and Labrador** is targeting a balance budget for the 2022–23 fiscal year. The deficit has been reduced significantly with the extensive tax increases introduced in 2016 and will fall further as expenditure measures are introduced to bring the level of per-capita spending in line with the average of the Atlantic Canadian provinces. The debt burden is projected to stabilize around current levels (50.0% to 55.0% of GDP).

Recent Announcements

	Date	Fiscal Update	Trend
BC	September 11	Budget update released by the new NDP government. Revenue is projected to be significantly higher, enabling the government to target new spending. Similar amount of contingency contained in budget and surplus projections similar to February 2017 budget.	↑
AB	August 23	Q1 Fiscal Update showed a modest deterioration in the deficit projection ($41 million). The medium-term outlook may be weakening as medium-term projections for oil prices have fallen since the February 2017 budget was tabled.	→
SK	August 25	Q1 Fiscal update maintains deficit projection. However, contingency is being reduced, as expected compensation savings are likely to be lower than planned since negotiations were ongoing at the time of release.	→
MB	September 29	The 2016–17 public accounts were better than expected, with revenue higher and expense lower than planned. The deficit was $764 million – about $150 million lower than budgeted. Manitoba's Q1 update showed a modest improvement in the fiscal outlook.	↑
ON	November 14	The 2016–17 public accounts were better than expected, with revenue higher and expense lower than planned. The deficit was $991 million – about $3.3 billion lower than budgeted. At mid-year, the Province revised its revenue forecast modestly higher and announced it would direct incremental revenue into tax reductions for small business and various spending measures. The Province plans to complete the year with a balanced budget.	↑
QC	October 6	The July 2017 Monthly Report of Financial Transactions suggests the province's fiscal results may be better than expected. Québec has yet to release a mid-year fiscal update or 2016–17 public accounts, but monthly financial transactions reporting suggests that the budget outlook is favourable.	↑
NB	November 15	The 2016-17 public accounts were better than expected, with the deficit $127 million lower than planned. The Q2 update has lowered the deficit projection to $135.4 million, with revenue higher and expense lower than budgeted.	↑
PE		No update available.	–
NL	November 14	The 2016–17 Public Accounts were significantly better than expected, with the deficit down to $1.1 billion from an original projection of $1.8 billion. Newfoundland's mid-year fiscal update suggests a modest deterioration in budget results because of weaker offshore revenue.	↑

Who is at risk in the next recession?

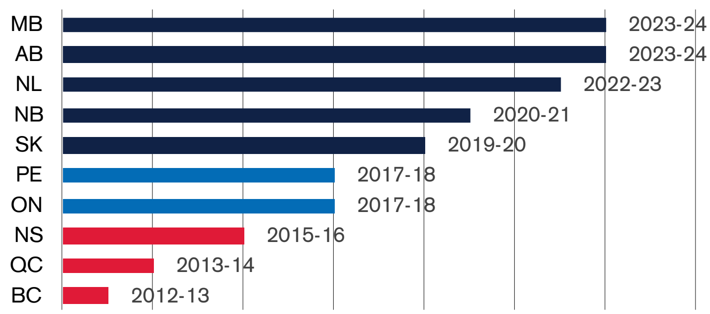
- **Collectively, the provinces have recorded deficits in excess of $130 billion over the last decade, and debt rose by nearly $400 billion.**
- **The Canadian economy is now eight years into the expansion, and only five provinces presented a balanced budget in 2017–18. The objective of those provinces is a balanced result or modest surplus.**
- **Debt-to-GDP ratios are stabilizing or gradually declining in most provinces, but they generally remain at or above pre-recession levels.**
- **Elevated debt levels leave Ontario's and New Brunswick's credit ratings vulnerable to an economic shock. Alberta's rating remains at risk because of persistent deficit spending.**

Ten years ago, markets were on the verge of a financial crisis. Since that time, the world has faced profound financial and economic challenges. Governments around the world committed enormous sums to stabilize their financial systems and support their economies, while central banks brought interest rates to their lowest levels in history with unconventional monetary policy.

Since that time, the provinces have together incurred a cumulative operating deficit in excess of $130 billion, coupled with capital spending and other debt needs which have driven total provincial debt (DBRS-adjusted basis) higher by nearly $400 billion. The aggregate debt-to-GDP ratio for provinces has climbed by about ten percentage points (ppts) to 36%.

The Canadian economy is now eight years into the expansion and is growing at its fastest pace in years. Growth is broad based, and unemployment is falling steadily. Equity markets are once again reaching record highs, and central banks have begun to raise interest rates and unwind their unconventional monetary policy.

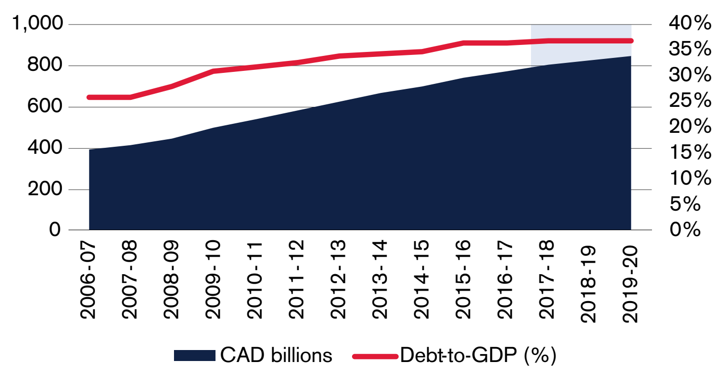
Exhibit 5: Planned or Actual Return to Balance



Source: Provincial budgets and public accounts.

Exhibit 6: Aggregate Provincial Debt, 2006-07 to 2019-20

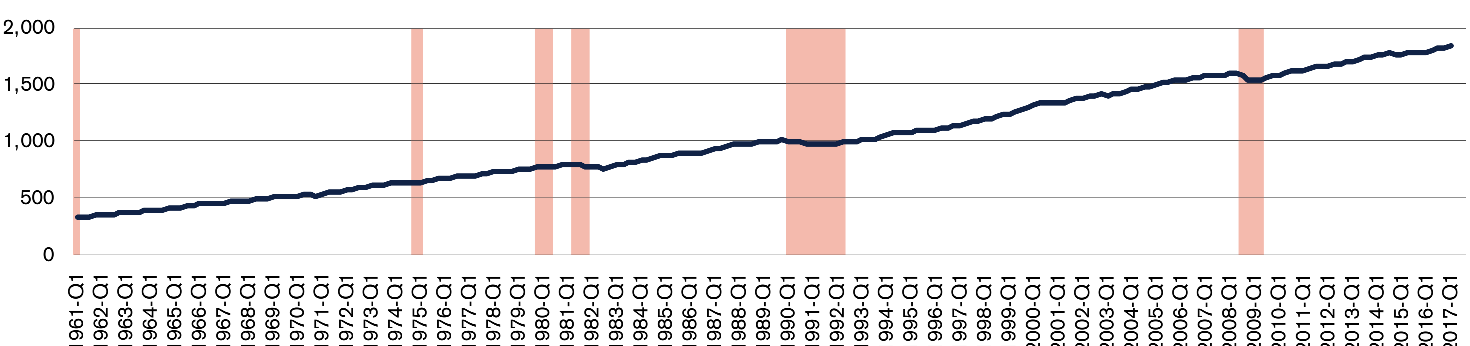
Aggregate DBRS-Adjusted debt burden for Canadian provinces



Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 7: Canada Real GDP and Recessions, 1961 to 2017

Gross Domestic Product (SAAR, CAD 2007 billions). Shaded regions denote recessions.



Source: Haver Analytics/Statistics Canada. CD Howe Institute Business Cycle Dating.

And yet, despite the positive economic outlook, deficits remain the norm in much of the country. Last year, only three provinces were able to report a positive operating result. Seven provinces and the federal government reported deficits.

This year, five provinces presented balanced budgets; the remainder are at various stages of their multi-year deficit reduction plans. Nevertheless, in those provinces that have managed to return to a balanced or better operating position, the goal is merely to balance or aim for a modest surplus. Furthermore, with the exception of Québec, there is no concerted effort to quickly or meaningfully reduce debt burdens or debt-to-GDP ratios. The resource-producing provinces face significant challenges as they make structural changes to address the effect of the sharp drop in oil and gas royalties.

Provincial elections are scheduled to take place in many provinces over the next two years, and with an improving revenue outlook, the fiscal constraint is relaxing. Provinces are pursuing affordability measures, tax reductions, new program spending or enhancements and are providing more funding to broader public-sector entities that have been subject to restraint for much of the past decade (e.g., health care, post-secondary education, etc.).

Aggregate debt growth has slowed to its slowest pace since the start of the financial crisis, as borrowing is now largely limited to capital needs in most provinces. With this slower pace and moderate economic growth, debt-to-GDP ratios have stabilized or begun to fall in most provinces. However, for some provinces, debt-to-GDP ratios are meaningfully higher than pre-recession levels, and reductions have been, at best, gradual.

The direction of fiscal policy suggests that this gradual pace of debt improvement is likely to continue provided there are not unexpected economic shocks. Provincial budgets in 2017 indicate that most provinces will move toward achieving and maintaining roughly balanced budgets in the coming years, which should result in relatively stable or declining debt-to-GDP ratios.

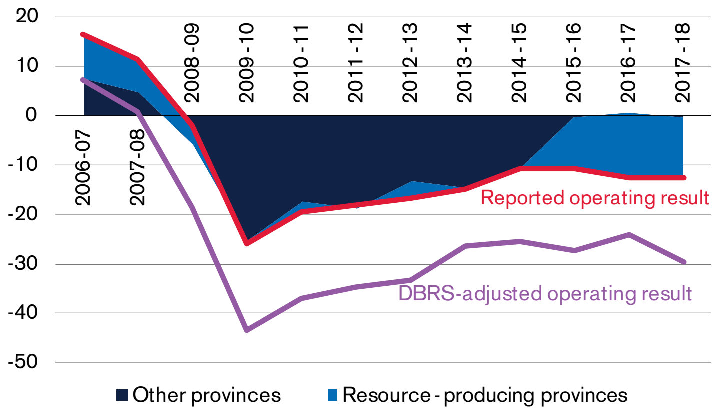
Recognizing there is inherent uncertainty in forecasting economic growth and the direction of government fiscal policy (particularly during the final years of an electoral mandate), DBRS projects debt ratios using the fiscal policy outlook contained in provincial budgets. For most provinces, the debt-to-GDP ratios appear relatively stable over the next three years.

The outliers are Alberta and Québec.

- In **Alberta**, debt is rising quickly with a $10 billion deficit, though the outlook for debt remains uncertain and heavily

Exhibit 8: Aggregate Deficits, 2006-07 to 2017-18

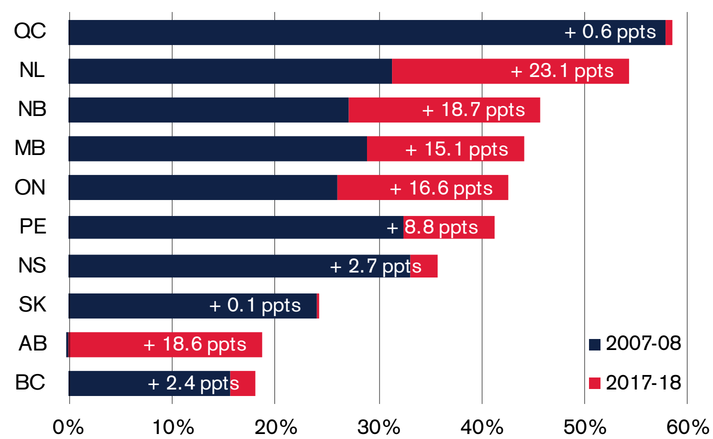
Budgeted and actual operating results as reported and on a DBRS-adjusted basis. CAD billions.



Notes: Resource-producing provinces include AB, SK and NL.
Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 9: DBRS-Adjusted Debt Burden, 2007-08 vs 2017-18

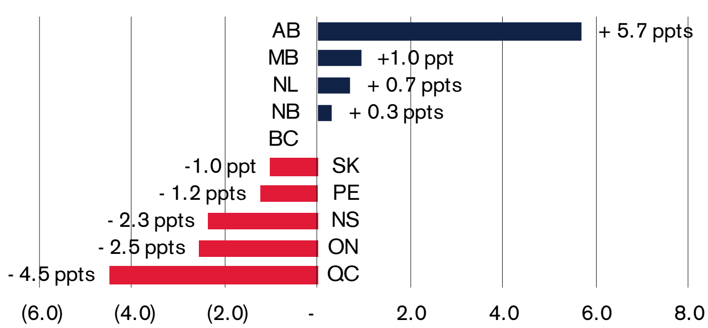
Increase in the DBRS-Adjusted Debt-to-GDP Ratio



Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 10: Projected Growth in DBRS-Adjusted Debt-to-GDP Ratios

Change in the DBRS-adjusted debt-to-GDP ratio (percentage points) between 2017–18 and 2020–21



Source: Provincial budgets and public accounts. DBRS calculations.

dependent on the outlook for oil prices and fiscal policy.

- In **Québec**, debt is falling steadily with ongoing budget surpluses directed to debt reduction.

Prepared for a severe shock?

With debt still elevated in some provinces and most provinces planning for, at best, modest surpluses, what would be the potential consequences of a severe downturn for provincial ratings? Some commentators have suggested that there are signs that the economy may be entering the later stages of the expansion and a correction may be possible in the coming years. In thinking about this, DBRS has stressed the provinces against the last two major Canadian recessions — one in 1990–91 and the second in 2008–09 — both of which the CD Howe Institute has categorized as severe recessions.[1]

March 1990 to April 1992

The recession in the early 1990s was particularly severe in Canada, characterized by household and business deleveraging, as well as broader changes to the global competitive environment. With widespread layoffs and restructurings, the recovery was slow.

Deficit spending was common in the 1980s and 1990s. The particular circumstances facing individual provinces varied but generally, deficits widened during the recession and debt burdens rose. The increases in debt were especially pronounced in central Canada. DBRS's measure of debt has been largely consistent since it began rating provinces in the 1980s.

Between 1989 and 1993, DBRS downgraded five provinces by at least one notch, changed the trend to Negative for three provinces, and the left the ratings for two other provinces unchanged.

Exhibit 11: Summary of 1990–92 Recession

Real GDP Growth

	1989	1990	1991	1992
BC	3.1%	1.6%	0.2%	2.9%
AB	1.5%	2.2%	0.4%	0.6%
SK	1.7%	7.6%	0.8%	-4.4%
MB	2.6%	2.9%	-3.3%	0.8%
ON	3.3%	-1.6%	-3.4%	1.3%
QC	0.3%	0.5%	-2.6%	0.4%
NB	0.3%	-1.0%	-0.3%	1.1%
NS	2.4%	-1.0%	-1.3%	1.2%
PE	3.0%	0.1%	-0.4%	2.7%
NL	3.8%	0.3%	0.5%	-1.9%
CAN	**2.3%**	**0.2%**	**-2.1%**	**0.9%**

DBRS-Adjusted Debt Burden (Share of GDP)

	1988-89	1992-93	Change (ppts)
BC	19.5%	23.5%	+ 4.0 ppts
AB	28.5%	31.8%	+ 3.3 ppts
SK	53.1%	62.2%	+ 9.1 ppts
MB	41.0%	45.6%	+ 4.6 ppts
ON	19.4%	30.2%	+ 10.8 ppts
QC	44.4%	57.1%	+ 12.7 ppts
NB	28.8%	42.1%	+ 13.3 ppts
NS	43.9%	46.2%	+ 2.3 ppts
PE	45.7%	47.0%	+ 1.3 ppts
NL	72.1%	81.3%	+ 9.2 ppts

Source: Haver Analytics/Statistics Canada and DBRS.

1. CD Howe Institute (2012). C.D. Howe Institute Business Cycle Council Issues Authoritative Dates for the 2008/2009 Recession. Available online at https://www.cdhowe.org/cpc-communique/cd-howe-institute-business-cycle-council-issues-authoritative-dates-20082009-recession

October 2008 to May 2009

The recession in 2008–09 was severe, particularly in central Canada and in the resource-producing provinces. However, the resource-producing provinces recovered quickly with the subsequent recovery in oil prices, while it was more gradual in other parts of the country.

Provinces undertook a range of measures to stimulate their economies. With shrinking revenue, increasing program spending and rising capital investment, the budgetary results weakened in most provinces and debt increased.

There was greater divergence among provinces during the 2008–09 downturn. The resource-producing provinces experienced short-term challenges with the decline in commodity prices, but with rising production and the quick price recovery, they were in some instances able to reduce debt through the recession. DBRS upgraded Newfoundland and Labrador in 2008 and Saskatchewan in 2009.

Elsewhere in the country, debt-to-GDP ratios rose moderately in most provinces (2.0 to 6.0 ppts), though the increase in Ontario was somewhat more pronounced (+11.1 ppts) and similar in magnitude to the increase during the prior recession.

The fiscal consolidation of the 1990s and persistent growth through the early 2000s led to sustained improvements in provincial credit profiles and provided many provinces with the flexibility to absorb moderate increases in debt during and after the recession. DBRS only downgraded Ontario at a time when the debt burden was rising sharply and was anticipated to reach nearly 50% of GDP on a DBRS-adjusted basis.

Exhibit 12: Summary of 2008-2009 Recession

Real GDP Growth

	2007	2008	2009	2010
BC	2.7%	0.7%	-2.4%	2.7%
AB	2.1%	1.6%	-5.5%	5.1%
SK	3.5%	5.3%	-5.3%	5.0%
MB	3.0%	3.7%	-0.2%	2.6%
ON	1.5%	0.0%	-3.1%	3.1%
QC	2.0%	1.9%	-0.8%	2.2%
NB	1.2%	0.8%	-1.5%	2.1%
NS	1.6%	2.0%	0.3%	2.6%
PE	2.1%	1.1%	0.3%	2.1%
NL	9.3%	-1.5%	-10.1%	5.3%
CAN	**2.1%**	**1.0%**	**-2.9%**	**3.1%**

DBRS-Adjusted Debt Burden (Share of GDP)

	2006-07	2010-11	Change (ppts)
BC	16.8%	19.0%	+ 2.2 ppts
AB	0.0%	4.6%	+ 4.6 ppts
SK	27.1%	17.9%	- 9.2 ppts
MB	31.0%	32.4%	+ 1.4 ppts
ON	26.1%	37.2%	+ 11.1 ppts
QC	55.8%	61.7%	+ 5.9 ppts
NB	27.7%	34.0%	+ 6.3 ppts
NS	36.0%	35.4%	- 0.6 ppts
PE	36.5%	41.1%	+ 4.6 ppts
NL	37.6%	30.5%	- 7.1 ppts

Source: Haver Analytics/Statistics Canada and DBRS.

Who is vulnerable?

The financial and economic circumstances of the provinces are different today than they were in 1990 or 2007, and the policy outlook is similarly different.

While it is not possible to reasonably forecast the causes, timing, consequences or policy responses to the next recession, the slow pace of debt reduction in some provinces likely leaves some provincial credit ratings with limited flexibility if a severe recession were to occur over the medium term.

For the downside scenario, DBRS has assumed that the fundamental qualitative factors underpinning the ratings (e.g., economic structure, fiscal policy and capacity, and debt and liquidity management practices) remain stable and that the associated methodology scoring does not change (see Risk Assessment Scorecard for Canadian Provincial Governments, on page 27). DBRS then stressed the quantitative factors (e.g., fiscal results, debt-to-GDP ratios), using the worst of the two recessions, to assess the provinces' flexibility within the existing ratings.

This approach is speculative and makes significant assumptions about the severity of a downturn and the associated policy response. Nevertheless, the exercise is intended to illustrate which provinces have flexibility within the existing ratings to withstand a severe downturn.

- **Alberta's** ratings are currently under pressure. DBRS has changed the trend to Negative and stated that a one-notch downgrade is likely within the next year. A significant downturn in the economy would likely exacerbate the current budgetary challenges and debt outlook for the province and may accelerate the pace of negative rating actions.
- **New Brunswick's** credit ratings have limited flexibility to withstand any deterioration in the fiscal and debt outlook. A downturn that results in a weaker budgetary outlook or modest debt growth would likely put negative pressure on the rating.
- **Ontario's** credit profile is improving. However, the province has only recently balanced its budget, debt is significantly higher than it was before the recession and the pace of debt-to-GDP reduction is gradual. In past recessions, the policy response and economic contraction led to significant increases in the debt-to-GDP ratio. A similar economic impact and policy response could put downward pressure on the rating.

Saskatchewan and Newfoundland and Labrador, the other oil-producing provinces, the outlook is not entirely clear. Both provinces are undertaking significant deficit reduction measures to address the large deficits caused by the collapse in oil prices. A severe downturn would put pressure on the credit profiles, though there is some flexibility in both ratings to absorb some deterioration. The complication is how the commodity-producing industries are affected and whether the current fiscal policy direction persists.

For most other provinces — British Columbia, Québec, Nova Scotia, Manitoba and Prince Edward Island — there appears to be some flexibility within the existing ratings to withstand modest deterioration in operating results and debt growth similar to what happened during past recessions, assuming all else is held constant.

For some provinces, parting with a period of good growth may be sweet sorrow, indeed.

Provincial Politics

- **Elections in the four largest provinces are required or possible over the next two years.**
- **Most governments remain focused on returning to or maintaining a balanced budget.**

Canada has a stable political system at both the federal and provincial levels, though differences in management styles and fiscal priorities can lead to differences in credit quality among provinces.

DBRS's review of the political environment focuses on a province's track record of political stability, the public approval of the governing party and the stage of the election cycle. Also taken into account are the influence and philosophy of the official opposition party.

The political environment has been generally stable throughout the provinces in 2017. The most notable changes were the NDP's assumption of power following British Columbia's May election. Despite a shift in fiscal priorities, the province's broad policy environment remains stable. Nova Scotia held the only other provincial general election in 2017, with the incumbent Liberal party re-elected with another majority mandate. In most other provinces, governments are moving into the pre-election phase of their mandates. Six provinces are set to hold provincial elections in 2018 or 2019. In addition, another election in British Columbia is a possibility, as the NDP does not have majority control of the legislature and is governing under a confidence and supply agreement with the Green Party.

British Columbia

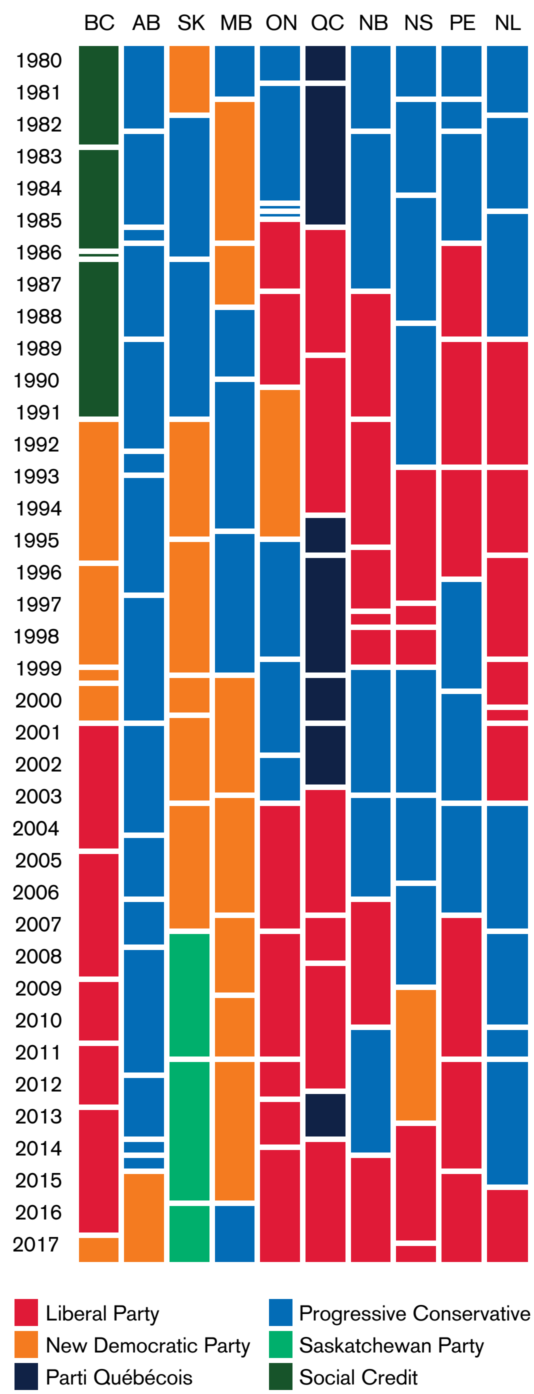
- A spring election resulted in plurality of seats for the incumbent Liberal Party (43/87 seats) but not an outright majority.
- The Liberal government did not have the confidence of the legislature, and the NDP (41/87 seats) formed government with the support of the Green Party (3/87 seats).
- Core government priorities include affordability, access to services and the new/sustainable economy, though the NDP maintains the previous government's focus on balanced budgets and debt affordability.

Alberta

- The NDP government is midway through its four-year mandate. The party campaigned on maintaining affordable and accessible public services. It has governed in line with these priorities. During the NDP's mandate, the deficit has widened considerably with commodity prices remaining low.
- The Wildrose (official opposition) and the Progressive Conservative Party (in power 1971–2015) merged in the summer to create the new United Conservative Party (UCP), and recently elected former federal cabinet minister Jason Kenney as party leader.
- Provincial legislation requires the next election be held between March and May in 2019. Recent polls put the UCP ahead of the NDP.

Exhibit 13: Elected Governments by Party, 1980 to 2017

Elections and changes in leadership



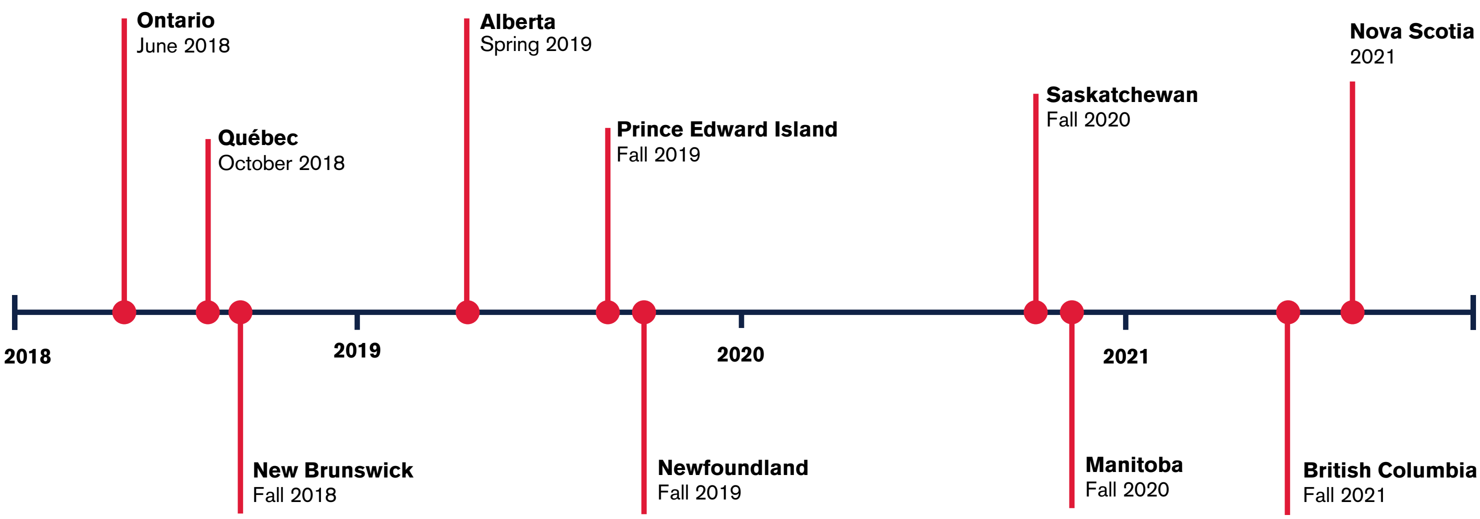
Ontario

- The Liberal government is nearing the end of its four-year mandate with an election legislated to be held in June 2018. The Liberal Party has won the last four elections but is now trailing in opinion polls.
- The Liberal government has achieved its long-stated promise of returning the budget to balance and has committed to maintaining balanced budgets in the coming years. The government has also pledged to gradually reduce the debt-to-GDP ratio over this period.
- The province is now introducing various affordability measures ahead of the June 2018 election (e.g., rent control, children's pharmacare, hydro cost reductions, elimination/reduction of fees, minimum wage increases, etc.).

Québec

- Québec's next election is legislated to take place in October 2018.
- The province has prioritized balanced budgets, debt reduction and modest tax relief in recent years. Debt is now firmly declining, and the province has begun to increase spending in health care, education and infrastructure following a period of constraint.

Exhibit 14: Election Timeline



Other Provinces

In the remaining provinces, the political outlook for the next two years remains stable. DBRS does not expect any meaningful shifts in political priorities or fiscal policy.

- **Saskatchewan** had its last provincial election in 2016 and the next election is to take place in 2020. The Saskatchewan Party won a strong majority (51/61 seats) in the last election and is now addressing the large budget deficit that emerged with the commodity price correction. Consistent with the Party's fiscal policy stance, the province is now pursuing a three-year plan to return to balance through a mix of tax increases and spending reductions. Brad Wall, the popular long-time leader of the Saskatchewan Party, has announced he will step down as leader. Both the Saskatchewan Party and the NDP (official opposition) will select new leaders early in 2018.
- **Manitoba** had its last provincial election in 2016 and the next election is not legislated to occur until 2020. The Progressive Conservative Party won a large majority (40/54 seats) in the last election, displacing the long-governing NDP. The PCs have stressed the importance of balanced budgets, stabilizing the debt burden and reducing taxes. The government has now started to implement a program to gradually balance the provincial budget.

- **New Brunswick** will hold a provincial election in 2018. The Liberal Party is currently in power and has recognized the economic and fiscal challenges faced by the province. The Progressive Conservatives (official opposition) have also made it a priority to address these challenges. The Liberal government has made progress in recent years to address the province's persistent deficit.
- **Nova Scotia** held a provincial election in 2017 in which the incumbent Liberal government was re-elected with a majority. During its last mandate, the government eliminated the budget deficit and has since achieved modest surpluses and introduced tax reduction measures.
- **Prince Edward Island** will hold a provincial election in 2019. The Liberals have been in power since 2007, while Premier Wade MacLauchlan has been in power since 2015 and continues to enjoy widespread support. Fiscal policy under this government has been focused on economic diversification, economic development and balancing the budget.
- **Newfoundland and Labrador** will hold a provincial election in 2019. The Liberals won a majority in the last election (held in late 2015), ending more than a decade in government for the Progressive Conservative Party. The government is focused squarely on deficit reduction and a gradual return to balance.

Top Issues in Public Finance

Top Issues in Public Finance

The following is a list of the most frequently discussed issues and DBRS's views on how or whether those issues are likely to affect provincial credit profiles.

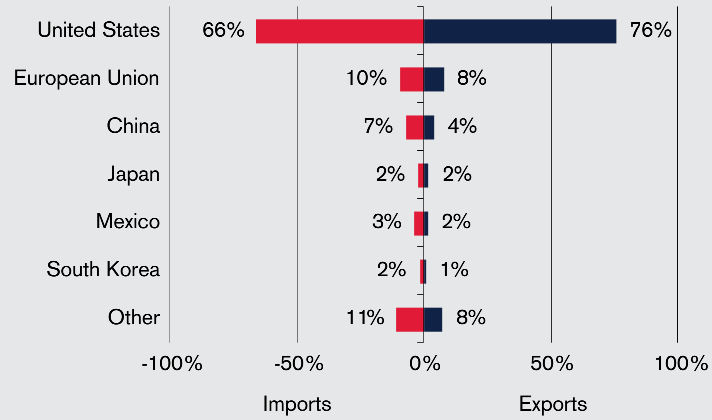
North American Free Trade Agreement (NAFTA)

NAFTA negotiations remain contentious and the outcome is uncertain. The potential withdrawal from NAFTA by the United States could adversely impact the competitiveness of North American firms and lead to gradual changes in cross-border production chains. The effect could be disruptive for some economic sectors in Canada (e.g. autos, manufacturing). However, the risk to provincial credit ratings appears limited.

The United States is Canada's principal trading partner, accounting for 76% and 66% of merchandise trade exports and imports in 2016, respectively. The shared history and geography have resulted in well-established trade linkages that are unlikely to be entirely disrupted by an adverse change to the NAFTA or a sudden termination. While not expected, DBRS anticipates that a termination would lead to financial market volatility and a depreciation of the Canadian dollar but that the resulting reallocation of resources across industries would be more gradual with cross-border trade continuing in the interim.

Exhibit 15: Merchandise Trade Imports and Exports by Country, 2016

Balance of Payments Basis



Source: Statistics Canada. DBRS Calculations.

Further to that point, the post-NAFTA trading arrangement could fall back to most-favored-nation status under the World Trade Organization, in which general tariffs are not significantly higher than current rates in many instances.

Ontario, Québec and New Brunswick appear somewhat more exposed to changes in NAFTA because of their relatively larger export-oriented manufacturing industries and their integration into North American supply chains. **However, the risk to these provincial credit ratings appear limited.**

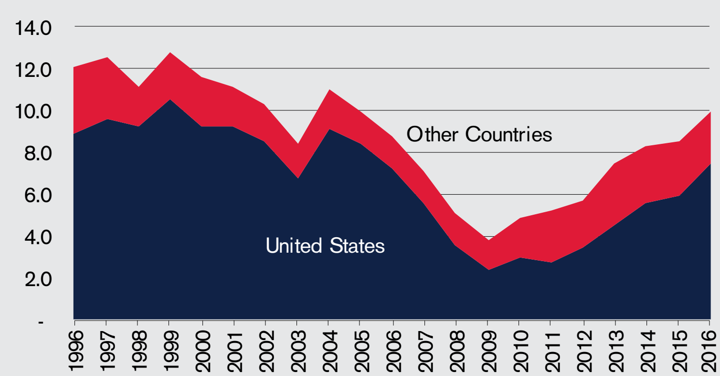
Softwood Lumber

U.S. lumber manufacturers have argued that the Canadian stumpage system represents a subsidy to Canadian producers by lowering their log costs. The argument continues that Canadian lumber is being dumped on the U.S. market. This has led to several trade disputes in recent decades. **However, the softwood lumber dispute does not appear to pose a material risk to provincial credit profiles.**

The most recent Softwood Lumber Agreement (SLA) expired in October 2015. Following complaints from U.S. industry, the U.S. Department of Commerce imposed countervailing duties and anti-dumping duties on Canadian producers, ranging between 9.9% and 23.8%.

Exhibit 16: Value of Canadian Softwood Lumber Exports, 1996 to 2016

Domestic Exports (CAD Billions)



Source: Statistics Canada.

The duties are putting pressure on the Canadian industry but are unlikely to result in broad closures or mass layoffs, or have a material impact on provincial credit profiles. Softwood lumber is a major export for the Province of British Columbia, but from a broader credit perspective, forestry accounts for relatively small shares of GDP (3.0%), employment (less than 3.0%) and provincial revenue (3.0%).

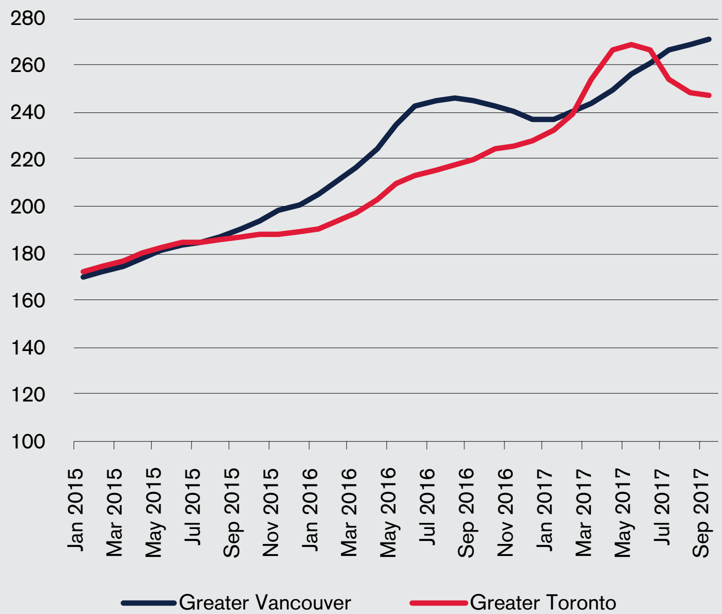
In the near term, healthy U.S. lumber demand remains supportive of pricing and is limiting the overall impact on Canadian exporters. Canada is challenging the duties under NAFTA (Chapter 19).

Housing Market

Housing market imbalances in certain regions present risks to provincial economies, particularly in the greater Vancouver and Toronto areas. However, house price dynamics or an isolated correction in house prices in these markets are unlikely to have a material impact on provincial credit profiles. Provincial budgets are exposed to the housing market through direct taxes on property transfers, as well as indirectly through other revenue sources tied to general economic conditions. A decline in house prices would have a limited impact on provincial budgets, as property transfer taxes account for a relatively small share of revenue bases where they exist. The Ontario Fall Economic and Fiscal Update revised down land transfer tax revenues by $270 million to reflect lower sales activity from the ongoing correction of the Greater Toronto Area market following the spring policy intervention, which was offset by stronger revenue growth from other sources. **For those provinces with significant housing imbalances, the more serious concern for provincial credit profiles is a broader economic shock.**

Exhibit 17: MLS® Home Price Index

100 = Jan 2005



Source: Canadian Real Estate Association

Policy measures introduced in Ontario in April 2017, including a non-resident buyer's tax, have been effective – at least temporarily – in reducing speculative activity and rapid price growth. Sales activity is down notably, and the average October resale price in the GTA has declined by 15% from the peak of April 2017, mostly erasing the gains observed in the last year. Average prices in October were just 2.3% higher than October 2016. Benchmark prices remain 9.7% and 12.4% higher than the prior year in the GTA in Greater Vancouver, respectively. However, despite the price declines since April, GTA prices remain elevated and appear to be retracing the path of Greater Vancouver Area prices a year prior. Tighter mortgage underwriting guidelines for federally regulated financial institutions set to take effect in 2018 may act as a further drag on activity, but it is unclear how markets and segments will be affected, as lending may be driven to non-regulated institutions.

In DBRS's view, a moderate correction in house prices in Toronto and Vancouver in isolation is not likely to cause significant macroeconomic disruption. In both cities, robust employment growth and steady population gains from immigration, combined with supply constraints, have contributed to price growth. However, high prices combined with elevated household debt leaves these provinces more vulnerable to employment and interest rate shocks, whereby a price correction could amplify a downturn through negative wealth effects.

Ontario Fair Hydro Plan

Provincial electricity policy by successive governments has contributed to high prices and substantial electricity system debt. Ontario's electricity prices have risen significantly over the last decade, diminishing Ontario's competitiveness and prompting political backlash by households. In response to political pressure, the province announced a series of new policy interventions in March 2017. These changes are intended to reduce costs for households, businesses and farms.

The province eliminated the harmonized sales tax (HST) on electricity, enhanced support programs, and is now paying for electricity support programs with government general revenue, as opposed electricity rates as was previously the case. The Province will also use debt to pay producers to further lower electricity costs over the next ten years. The costs of this debt will be recovered from ratepayers in subsequent years. The province estimated that the annual cost would be $2.5 billion over the first ten years, of which no more than $1.4 billion would be sourced from debt markets by OPG Trust (a special-purpose financing trust) and the remaining $1.1 billion would be provided by the province to Ontario Power Generation Inc. in the form of an equity injection. Since the plan was introduced, cost estimates have been revised lower with peak debt now estimated to be less than $20 billion, well below the $28 billion originally estimated.

The province has indicated that it intends for the debt to be supported by electricity rate payers but has yet to clarify how its equity injection will be recouped. The province will borrow to fund this equity investment, and in the absence of further information, DBRS considers this debt to be tax-supported debt, consistent with established practice. Given the existing size of the province's debt burden, the incremental borrowing to fund the equity injection is marginal, **therefore having a limited impact on Ontario's credit profile.**

Oil Prices

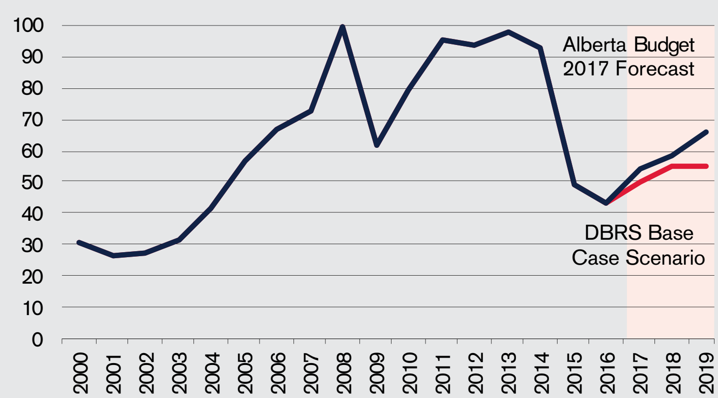
Oil prices have largely recovered from the lows experienced during the summer, but the medium-term outlook remains weaker than what was expected at the time 2017 provincial budgets were tabled. **Of the oil-producing provinces, the potential impact appears most significant for Alberta.**

Revenue projections assumed that the price of WTI would rise to USD 65 and Brent would rise to USD 69 in 2019–20. The consensus outlook now suggests that prices will remain in the USD 50 to USD 60 range.

The oil-producing provinces were projecting that moderate growth in resource revenue over the medium term would help close the budget gaps. In the absence of offsetting production growth or other measures, the pace of deficit reduction may be slower than anticipated.

Exhibit 18: West Texas Intermediate Oil Prices, 2000 to 2019

DBRS Base Case Scenario and Alberta 2017 Budget Forecast

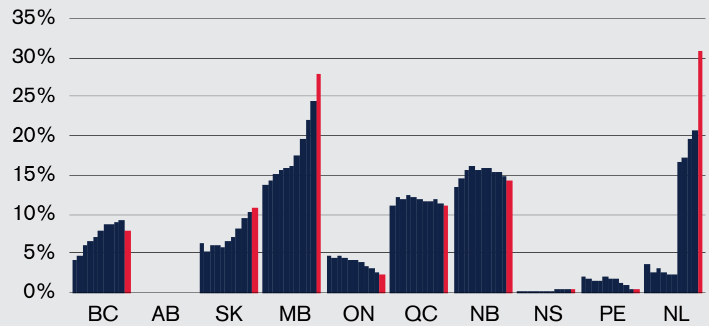


Source: Province of Alberta and DBRS

Hydro Investment Projects and Self-Supported Debt

DBRS excludes debt issued on behalf of self-supporting government business enterprises from the calculation of DBRS-adjusted debt metrics. Most of this debt is attributable to provincially owned enterprises engaged in power generation, transmission and distribution. In recent years, a number of the provincial Crown corporations have borrowed heavily to support major capital projects (e.g., BC Hydro, Manitoba Hydro, Hydro Québec and Nalcor).

Exhibit 19: Self-Supporting Debt as a Share of Nominal GDP, 2007-08 to 2017-18



Source: Provincial budgets and public accounts. DBRS calculations.

DBRS continues to treat these entities as self-supported and could reclassify some of this debt as taxpayer-supported debt if it believed that taxpayers would ultimately be responsible for servicing the debt. At this time, DBRS expects the Crown corporations will recover their costs from the electricity rate base.

There is, however, some uncertainty whether some of the burden of Nalcor's debt will be borne by taxpayers. The Premier of Newfoundland and Labrador has committed to limiting electricity rate increases, which may require cross-subsidization within Nalcor. **If an outright subsidy is provided by the province, this could put pressure on the credit profile.**

Infrastructure and the Canada Infrastructure Bank (CIB)

The federal government continues to roll out an ambitious $180 billion infrastructure program, which includes the creation of the new Canada Infrastructure Bank (CIB). The CIB's purpose is to attract investment from private-sector and institutional partners in revenue-generating projects. The government has committed $35 billion to the CIB to deploy through a range of mechanisms, including loan guarantees, debt and equity investments. The balance of federal funds will flow through traditional grant programs. CIB's involvement may be to adjust the risk-return dynamics or otherwise subsidize projects to attract private investors.

The CIB's approach may encounter resistance from provincial and local governments. BC's cancellation of bridge tolls and Ontario's decision not to permit the tolling of Toronto's Gardiner Expressway demonstrate a lack of political willingness in two populous provinces for the type of user-pay financing models required to compensate private investors for risk. Provincial, territorial and municipal governments own nearly 95% of infrastructure in Canada and may be reluctant to pursue new ownership structures through the CIB, while retaining public accountability. DBRS believes that the CIB is most likely to see the most success in greenfield projects where users have not previously enjoyed free access to infrastructure.

DBRS has noted that the CIB may bolster the market for public-private partnerships (PPPs) to some extent by potentially providing financing to public-sector counterparties for lump sum contributions, or through a market-maker role providing capital to projects that involve certain risks that private partners are unwilling to bear. Nonetheless, significant uncertainty remains with respect to how the involvement of the CIB would provide distinct advantages relative to PPPs. Provincial capital spending has risen in recent years, independent of federal policy, and it is **unlikely that the CIB will materially alter credit profiles or investment decisions in the near term.**

Equalization

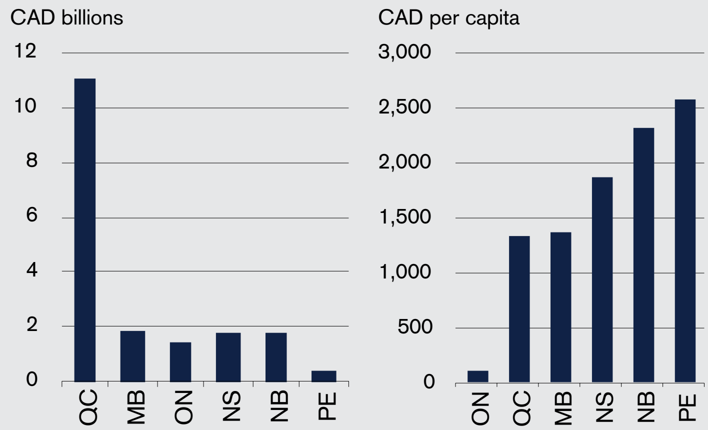
The equalization program seeks to address differences in fiscal capacity among provinces, thus enabling less prosperous provinces to provide reasonably comparable levels of services at similar levels of taxation. The transfers are unconditional and funded with federal tax revenue.

The program is enshrined in the Canadian Constitution, but the details pertaining to growth in the equalization envelope and its distribution among provinces are contained in federal legislation.

- The pool of funds is legislated to grow in line with national nominal GDP (three-year moving average with a two-year lag).
- The allocation is effectively based on an assessment of how much revenue each province *could* raise if it levied the average tax burden.

Exhibit 20: Equalization Program Recipients, 2017-18

Total and per capita transfers



Source: Government of Canada.

Despite the deterioration in Newfoundland's public finances and the improvements in Ontario and Québec, the outlook for the program remains stable. The next review of the program is scheduled for 2019. However, the use of lagged data and the gradual nature of program changes are unlikely to have a significant impact on provincial allocations before 2022-2023. **Any changes to credit profiles will be gradual as a result.**

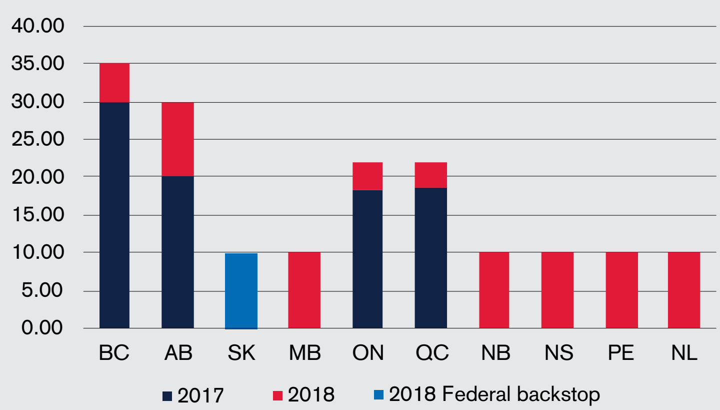
Carbon Pricing

The federal government has mandated the provinces to introduce carbon pricing regimes as part of the broader Canadian effort to address climate change. **The introduction of carbon pricing is unlikely to have a meaningful impact on provincial credit profiles.** The additional revenue has or is likely to be committed to programs targeting GHG emissions.

The four largest provinces have introduced carbon pricing, and the remaining provinces (except SK) have stated they will introduce their measures consistent with federal expectations in 2018. The western provinces have adopted carbon taxes, while central and eastern Canada appear to be opting for cap and trade.

Exhibit 21: Carbon tax rates or other charges, 2017 and 2018

Dollars per tonne of CO2 equivalent



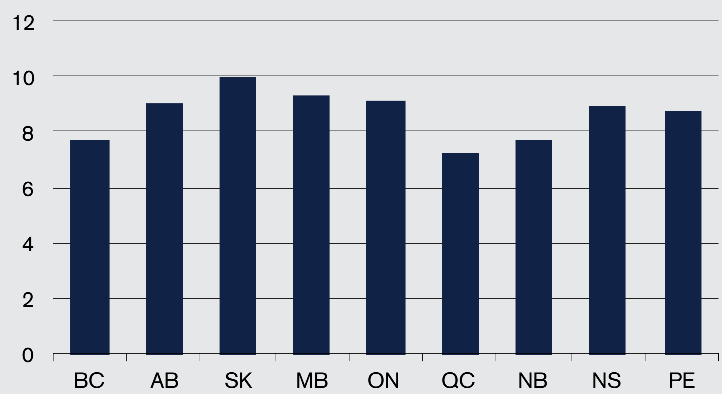
Note: Carbon prices for Ontario and Quebec are the settlement prices from the most recent auctions and the target for reserve prices in 2018.
Source: Provincial budgets and auction result summaries.

Cannabis

Canada is set to legalize the recreational use of cannabis on July 1, 2018. Some provinces have begun to introduce details regarding the regulatory framework, including sales and distribution and pricing. Ontario has said it will sell cannabis in government-run stores, while Alberta and Manitoba have stated they will use private sector-run stores.

Exhibit 22: Street Price of a Gram of Cannabis

CAD price per gram



Source: priceofweed.com. USD Index amount per ounce converted to CAD per gram.

The federal government has proposed a combined federal-provincial excise tax that is the higher of $1.00 per gram or 10.0% of the sale price. The HST/GST would also apply. Alberta is challenging the federal proposal arguing that the financial burden of legalization falls heavily on the provincial and municipal governments, not the federal government.

No province has provided revenue estimates, though initial indications suggest the **legalization of cannabis is likely to be neutral to the bottom line for provinces**. Most provinces have stated that they intend to increase resources for health, social services, education and justice to address the possible consequences of legalization.

The 2012 Canadian Community Health Survey found the use of cannabis during the prior 12 months ranged from about 10% in Saskatchewan to nearly 16.0% in Nova Scotia.

Fiscal Sensitivities and Assumptions

As reported in provincial budget documents

		Budget Assumption	Change	Net Impact
Oil Prices				
AB	WTI	USD 55.00 per barrel	- USD 1 per barrel	- $310 million
SK	WTI	USD 56.25 per barrel	- USD 1 per barrel	- $16 million
NL	Brent	USD 56.00 per barrel	- USD 1 per barrel	- $21.9 to $23.4 million
Light-Heavy Oil Price Differential				
AB		USD 16.00 per barrel	+ USD 1 per barrel	- $285 million
Natural Gas				
BC	At plant inlet	CAD 1.60 per GJ	- CAD 0.25 per GJ	- $60 to $70 million
AB	Alberta Reference Price	CAD 2.90 per GJ	- CAD 0.10 per GJ	- $45 million
Potash				
SK	KCl	USD 175.74 per tonne	+ USD 10 per tonne	+ $37 million
USD-CAD Exchange Rate				
BC		USD 0.7630 per CAD	+ USD 0.01 per CAD	- $25 to $50 million
AB		USD 0.7600 per CAD	+ USD 0.01 per CAD	- $215 million
SK		USD 0.7495 per CAD	+ USD 0.01 per CAD	- $22 million
NL		USD 0.7500 per CAD	+ USD 0.01 per CAD	- $16.2 to $17.8 million
Interest Rates				
BC	10-year bond (2017)	1.80%	+100 bps	- $58 million
AB	10-year bond (2017)	2.00%	+100 bps	- $230 million
ON	10-year bond (2017)	1.90%	+100 bps	- $300 million
QC	10-year bond (2017)	2.00%	+100 bps	- $250 million
Nominal GDP				
BC		5.10%	+ 1.00 ppt	+ $150 to $250 million
ON		4.30%	+ 1.00 ppt	+ 690 million
QC		3.30%	+ 1.00 ppt	+ 650 million
Primary Household Income				
BC		4.10% year-over-year growth	+ 1.00 ppt	+ $100 to $100 million
AB		1.80% year-over-year growth	+ 1.00 ppt	+ $160 million
Housing Starts				
BC		-8.50% year-over-year growth	+ 5.00 ppt	+ $285 million

Source: Provincial budgets.

Review of Public Finances in 2017

Rating Canadian Provincial Governments Methodology

- **No fundamental changes to the methodology in 2017.**
- **DBRS provincial scorecard with factor scores for each province and a provincial government factsheet is available at www.dbrs.com.**

The Canadian Constitution distributes various powers between the federal and provincial governments. While there are a number of conflicting or overlapping areas of jurisdiction, the provinces have broad authority over property, civil rights and matters that are generally local in nature. Provinces have direct taxation powers and oversee the jurisdictions of health care, most social services, education/school boards, municipal governance, and the administration of the justice/court system.

Canadian provinces benefit from their location within a AAA-rated country and from their cooperative and productive relationship with the federal government. Nevertheless, DBRS rates provincial governments on their own merits and does not assume any implicit support from the federal government.

The provinces vary considerably in size, location and natural endowments, economic structures and government policy. As a result, DBRS's provincial government ratings range between A (low) and AA (high).

DBRS's methodology for *Rating Canadian Provincial Governments* is available at www.dbrs.com. The description below is a brief summary of the principal factors used to determine provincial ratings. The methodology contains applicable ranges and additional explanations for the various rating factors.

Credit Fundamentals of Canadian Provinces

Strengths

1. Stable, liberal democracy with strong public institutions
2. Strong rule of law
3. Sound regulatory environment
4. Open flexible economy with a floating exchange rate
5. High levels of education and immigration
6. Broad taxation powers

Challenges

1. Regional economic differences
2. Threat of trade protectionism
3. High household indebtedness in some provinces
4. Housing market imbalances in some provinces
5. Aging populations

Critical Rating Factors

1. Economic Structure

The economic structure of a province constitutes a key consideration in the credit assessment of its government, as it is the primary determinant of that government's capacity to raise the revenue necessary to fulfill its responsibilities and support its debt. Considerations include economic diversification and volatility, income and wealth of the economy, export diversification, demographics and labour market.

2. Fiscal Management

The review of fiscal management assesses the government's commitment to fiscal sustainability, volatility of fiscal performance, budget management and prudence, relative tax competitiveness and the transparency, timeliness and quality of reporting.

3. Financial Management – Debt and Liquidity

The financial management strategy and practices of a provincial government, including the sophistication of its borrowing practices, access to capital markets, debt structure and maturity profile, liquidity and other unfunded liabilities, are central considerations in the determination of a provincial government rating.

4. Intergovernmental Relations

Relations with the federal government are analyzed for their potential to alter the political landscape in the province and the fiscal position of the provincial government. The analysis of intergovernmental relations requires consideration of such factors as the reliance on federal transfers, the level of cooperation with the federal government on key initiatives, and the degree of policy alignment between the province and the federal government.

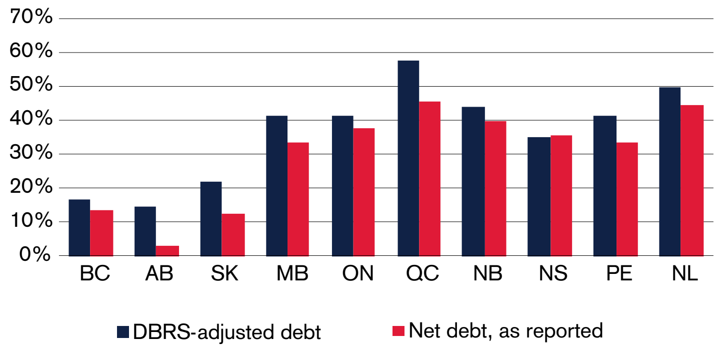
Financial Risk Assessment Factors

DBRS's ratings are based heavily on future performance expectations. While past metrics are important, any final rating will incorporate DBRS's expectations for the future. Moreover, DBRS looks beyond point-in-time measures, recognizing that ratios may move in and out of ranges.

1. DBRS-Adjusted Debt-to-GDP

DBRS calculates a province's tax-supported debt as the debt of all material tax-supported entities, including school boards, hospitals, universities and provincial agencies, conducting tax-supported activities. Tax-supported debt includes direct debt and other long-term capital obligations such as capital leases or liabilities arising from public-private partnership contracts. DBRS also includes municipal debt and unfunded pension liabilities, should the province have any, as part of provincial tax-supported debt. Dedicated sinking funds, debt retirement funds and debt reserves are netted against debt, provided that they cannot be used for other purposes.

Exhibit 23: DBRS-Adjusted Debt and Reported Net Debt as a Share of Nominal GDP, 2016-17



Source: Provincial budgets and public accounts. DBRS Calculations.

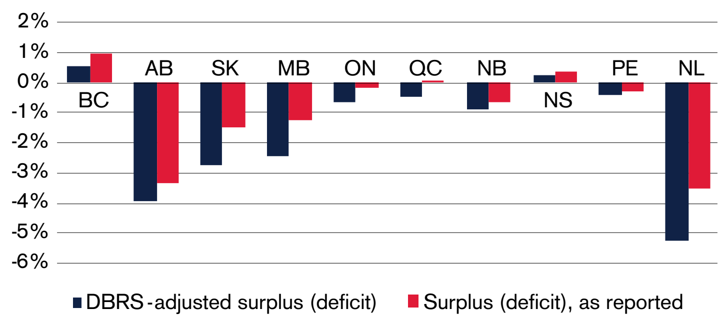
2. DBRS-Adjusted Surplus/(Deficit)-to-GDP

DBRS makes adjustments to fiscal results reported by provincial governments to facilitate inter-provincial comparisons and to allow for better reconciliation between recurring fiscal results and the change in debt for a given fiscal year. The most common adjustments include the following:

- Recognition of capital expenditures (capex) on a pay-as-you-go or cash basis rather than as amortized.
- Exclusion of non-recurring expenditure and revenue items, such as proceeds from material asset sales.
- Inclusion of loan-based, tax-supported capex of non-budgetary government agencies as part of a province's expenditures.

For most provinces, the adjustment of capital spending accounts for the bulk of the difference between reported results and DBRS-adjusted results. This often leads to the conversion of a balanced budget into a projected DBRS-adjusted deficit.

Exhibit 24: Reported and DBRS-Adjusted Surplus/ (deficit)-to-GDP, 2016-17



Source: Provincial budgets and public accounts. DBRS Calculations.

3. Real GDP Growth Rate

DBRS uses a seven-year moving average with five years of historical data and two years of projections.

4. Federal Transfers-to-Total Revenue

Federal transfers as a share of DBRS-adjusted total revenue.

5. Interest Costs-to-Total Revenue

DBRS adjusts reported interest expense by netting sinking fund earnings. This results in lower revenue and expense for a number of provinces but has no effect on the reporting or adjusted surplus (deficit). The ratio is calculated using DBRS-adjusted revenue.

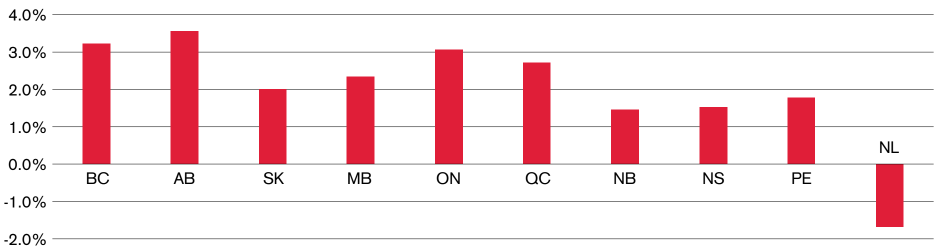
Corporate Risk Assessment Scorecard for Canadian Provincial Governments

As of November 16, 2017

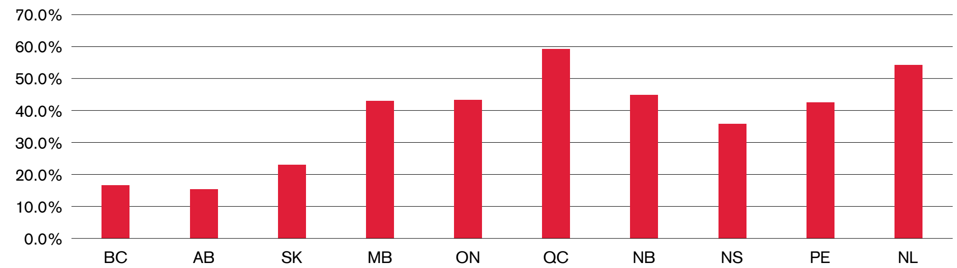
DBRS publishes Business and Financial Risk Assessment scorecards for all industry groups, which align with published methodologies.

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
Issuer Rating	**AA (high)**	**AA (high)**	**AA**	**A (high)**	**AA (low)**	**A (high)**	**A (high)**	**A (high)**	**A (low)**	**A (low)**
Critical Rating Factors										
Economic Structure	AA	AA	AA	AA	AA	AA (low)	A	A (high)	A (low)	BBB (high)
Fiscal Management	AA (high)	AA (low)	AA	A (high)	AA (low)	AA (low)	A (high)	AA (low)	A	A
Financial Management	AA (high)	AA	AA	AA (low)	AA (high)	AA	AA (low)	AA (low)	A	A
Intergovernmental Relations	AA (high)	AA (high)	AA (high)	AA (low)	AA (high)	A (high)	A (high)	A (high)	A	AA
Financial Risk Assessment Factors										
Debt-to-GDP	AA (high)	AA (high)	AA	A (high)	A (high)	A (low)	A (high)	A (high)	A (high)	A
Surplus/(deficit)-to-GDP	AA (low)	A (low)	A (high)	A (high)	AA (low)	AA	AA (low)	AA	AA	A
Real GDP Growth Rate	AAA	AA	AA	AA (high)	AA	A (high)	A (low)	A (low)	A (high)	BBB (high)
Federal Transfers-to-Total Revenue	AA (high)	AA (high)	AA (high)	AA (low)	AA (high)	AA	A (high)	A (high)	A	AA (high)
Interest Costs-to-Total Revenue	AAA	AAA	AAA	AA (high)	AA (low)	AA (low)	AA (high)	AA (high)	AA	A
Additional Rating Factors										
Impact on the Rating									Small size of the economy increases the emphasis placed on economic fundamentals.	

Projected Real GDP Growth (2017)



DBRS-Adjusted Debt-to-GDP Ratio (2016–17)

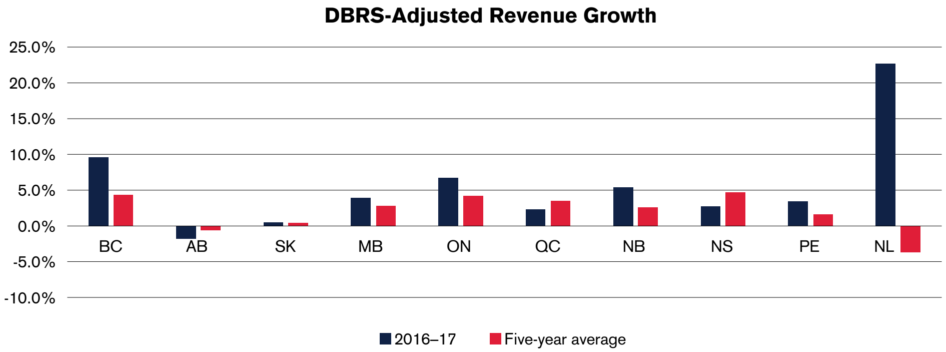


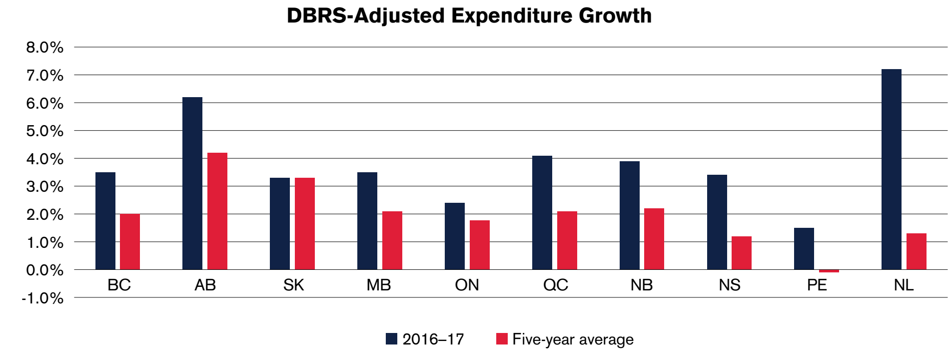
	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
Date of Last Rating Update	Oct. 26, 2017	Jul. 7, 2017	May 2, 2017	Jul. 4, 2017	Jun. 28, 2017	Jun. 9, 2017	Apr. 11, 2017	Nov. 16, 2017	Aug. 1, 2017	Jul. 14, 2017
Short-term debt rating	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (middle)	R-1 (middle)	R-1 (middle)	R-1 (middle)	R-1 (middle)	R-1 (low)	R-1 (low)
Trend	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
Long-term debt rating	AA (high)	AA (high)	AA	A (high)	AA (low)	A (high)	A (high)	A (high)	A (low)	A (low)
Trend	Stable	Negative	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
Economy										
Population (July 1, 2017, 000s)	4,817	4,286	1,164	1,338	14,193	8,394	760	954	152	529
Unemployment rate (2016)	5.6%	8.1%	6.3%	6.1%	6.5%	7.1%	9.5%	8.3%	10.7%	13.4%
Real GDP growth (2016)[1]	3.7%	-3.8%	-1.0%	2.4%	2.6%	1.7%	1.4%	0.9%	2.4%	1.9%
Real GDP growth (2017)[2]	3.2%	3.6%	2.0%	2.3%	3.1%	2.7%	1.5%	1.5%	1.8%	-1.7%
Nominal GDP growth (2017)[2]	5.1%	8.6%	6.1%	4.3%	5.0%	4.2%	3.4%	3.3%	3.4%	2.4%
Politics										
Party in Power	NDP	NDP	SK Party	PC	Liberal	Liberal	Liberal	Liberal	Liberal	Liberal
Next Election	Spring 2021	May 2019	Nov. 2020	Oct. 2020	Jun. 2018	Fall 2018	Sep. 2018	2021	Oct. 2019	Oct. 2019

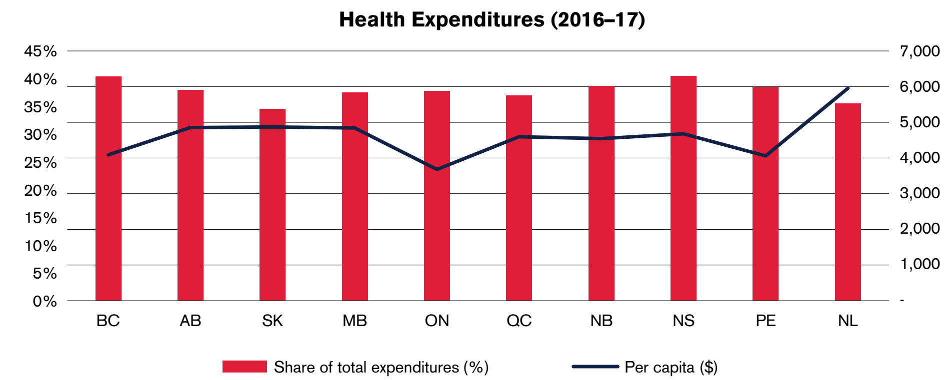
1. Statistics Canada, Real GDP (expenditure basis). 2. Private sector consensus tracked by DBRS.

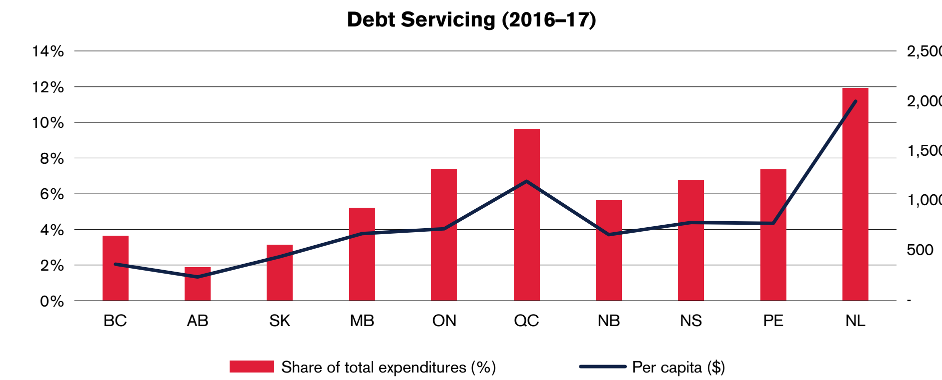
	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
2017–18 Budget Forecast (DBRS-adjusted)										
Surplus (deficit) ($ millions)	(2,482)	(13,615)	(1,601)	(1,661)	(6,967)	(2,184)	(327)	(105)	(24)	(982)
As a share of GDP (budget projection)	-0.9%	-4.2%	-2.0%	-2.3%	-0.8%	-0.5%	-1.0%	-0.2%	-0.4%	-3.2%
Total revenue growth	1.8%	7.3%	3.4%	2.9%	6.8%	3.7%	4.2%	3.2%	4.6%	0.2%
Total expenditure growth	10.0%	7.0%	-4.1%	2.5%	7.9%	4.0%	4.4%	5.3%	4.4%	-6.8%
Debt ($ millions)[3]	19,880	59,513	19,396	30,654	354,264	237,117	15,660	15,175	2,725	16,558
As a share of GDP (budget projection)	18.1%	18.3%	24.1%	44.0%	42.5%	58.5%	45.7%	35.7%	41.2%	54.3%
2016–17 Forecasted or Actual Results (DBRS-adjusted)										
Surplus (deficit) ($ millions)	1,485	(12,848)	(1,289)	(1,681)	(5,197)	(1,836)	(302)	119	(26)	(1,597)
As a share of GDP	0.6%	-4.2%	-3.6%	-2.4%	-0.6%	-0.5%	-0.9%	0.3%	-0.4%	-5.3%
Total revenue growth[4]	10%	-2%	1%	4%	3%	2%	5%	3%	4%	23%
Revenue mix										
Tax revenue	55%	48%	48%	54%	72%	62%	50%	50%	51%	50%
Federal transfers	16%	18%	23%	26%	19%	20%	36%	31%	40%	17%
Total expenditure growth[4]	4%	6%	3%	4%	2%	2%	4%	1%	4%	7%
Expenditure Mix										
Health	39%	38%	35%	38%	38%	37%	39%	41%	36%	36%
Education	25%	26%	23%	25%	24%	21%	20%	23%	22%	24%
Social Services	9%	10%	8%	12%	12%	10%	7%	10%	6%	1%
Debt servicing as share of revenue	3%	2%	4%	6%	8%	10%	6%	7%	7%	15%
Debt ($ millions)[3]	46,193	47,632	17,648	28,859	345,349	232,616	15,081	14,932	2,713	16,295
As a share of GDP	16.6%	15.4%	23.0%	43.0%	43.3%	59.3%	44.8%	35.8%	42.5%	54.3%
Unfunded Pension Liabilities	187	10,023	7,784	2,619	-	24,868	642	671	-	2,776
Source	Public Accounts	Public Accounts	Budget 2017	Budget 2017	Budget 2017	Budget 2017	Budget 2017	Public Accounts	Budget 2017	Budget 2017

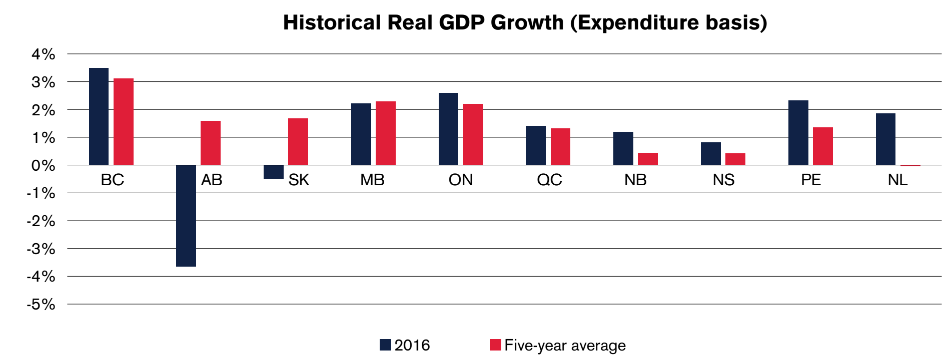
3. DBRS adjusted debt is defined in the methodology *Rating Canadian Provincial Governments* and encompasses net tax-supported debt and unfunded pension liabilities.
4. PEI revenue and expenditure figures have been adjusted to reflect differences between the budget and public accounts reporting entity.

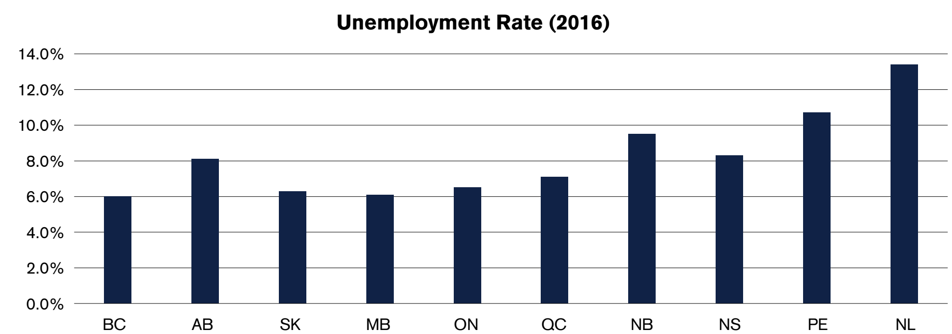

DBRS-Adjusted Revenue Growth
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
-5.0%
-10.0%
BC
AB
SK
MB
ON
QC
NB
NS
PE
NL
2016–17
Five-year average


DBRS-Adjusted Expenditure Growth
8.0%
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
-1.0%
BC
AB
SK
MB
ON
QC
NB
NS
PE
NL
2016–17
Five-year average


Health Expenditures (2016–17)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
7,000
6,000
5,000
4,000
3,000
2,000
1,000
-
BC
AB
SK
MB
ON
QC
NB
NS
PE
NL
Share of total expenditures (%)
Per capita ($)


Debt Servicing (2016–17)
14%
12%
10%
8%
6%
4%
2%
0%
2,500
2,000
1,500
1,000
500
-
BC
AB
SK
MB
ON
QC
NB
NS
PE
NL
Share of total expenditures (%)
Per capita ($)


Historical Real GDP Growth (Expenditure basis)
4%
3%
2%
1%
0%
-1%
-2%
-3%
-4%
-5%
BC
AB
SK
MB
ON
QC
NB
NS
PE
NL
2016
Five-year average


Unemployment Rate (2016)
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
BC
AB
SK
MB
ON
QC
NB
NS
PE
NL

Economic Structure

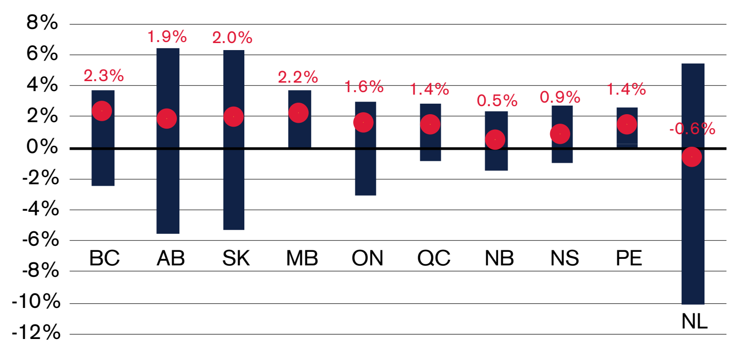
- **Provincial economies are outperforming budget expectations.**
- **Key risks are largely external in nature (e.g., trade, commodity market).**
- **Economic growth will likely decelerate to its potential growth rate as cyclical influences diminish.**
- **Internal factors may amplify potential severity of an external shock (e.g., elevated house prices/household indebtedness).**

The Canadian economy is experiencing a strong and increasingly broad recovery. The process of labour and capital reallocation sparked by the oil-price shock in 2014 appears well advanced. The economy expanded at an annualized rate of 4.5% in Q2 2017, with contributions coming from resource industries, non-resource goods industries and services industries.

Employment growth has stabilized in resource-based provinces and accelerated in non-resource-based provinces. Non-residential business investment remains weak following large cutbacks in 2015 and 2016 as well as uncertainty over NAFTA, but there are early signs of a recovery. Recent data suggest that the economic drag resulting from the 2014 oil price shock has largely passed, and slack in the economy is quickly diminishing.

Exhibit 25: Real GDP Growth by Province, 2008 to 2017

Minimum, maximum, and compound average annual growth rate (%)



Source: Haver Analytics/Statistics Canada. DBRS Survey of Private Sector Forecasts.

Economic growth will likely decelerate to its potential growth rate as cyclical influences diminish. Output is expected to grow 1.8% per year on average from 2018 to 2022. This is lower than Canada's historical growth performance (average gross domestic product (GDP) growth was 2.3% from 1987 to 2016), although in line with the structural slowdown experienced across most advanced economies. Slower growth, in part, stems from a declining working-age population ratio as Canada's population ages.

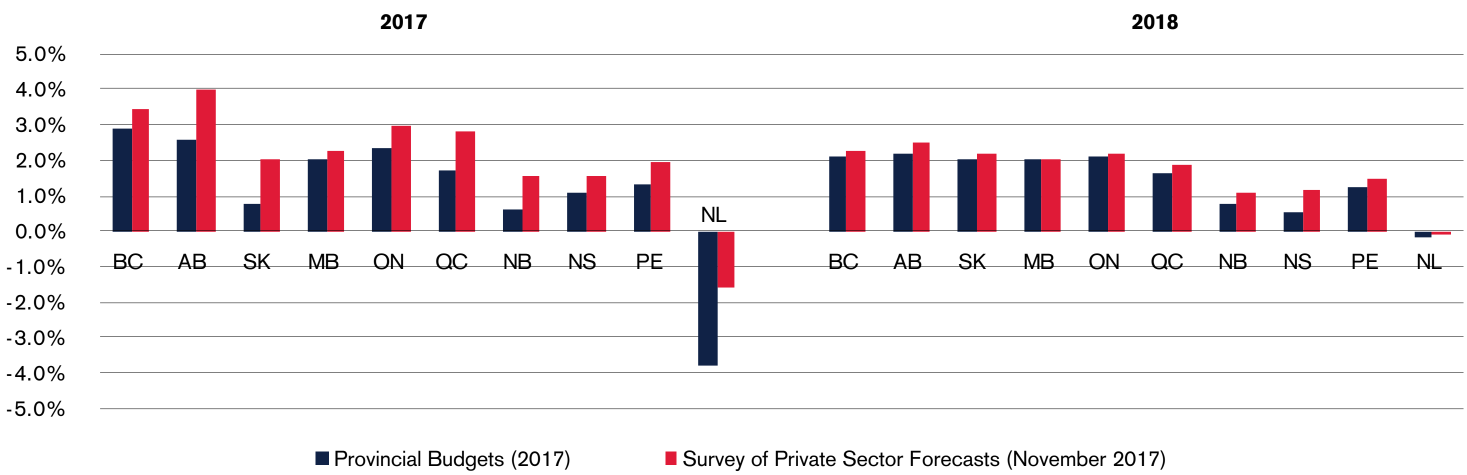
While the economy continues to exceed expectations, there are noteworthy risks:

- Interest rate and the withdrawal of unconventional monetary policy
- Elevated house prices and household indebtedness
- Trade risks
- Global macro and geopolitical uncertainty

DBRS surveys private-sector economic forecasts to assess the reasonableness of provincial budget forecasts. Since the start of the year, the consensus forecast tracked by DBRS has been revised higher for all provinces. The outlook is now meaningfully higher for 2017 and modestly higher in 2018.

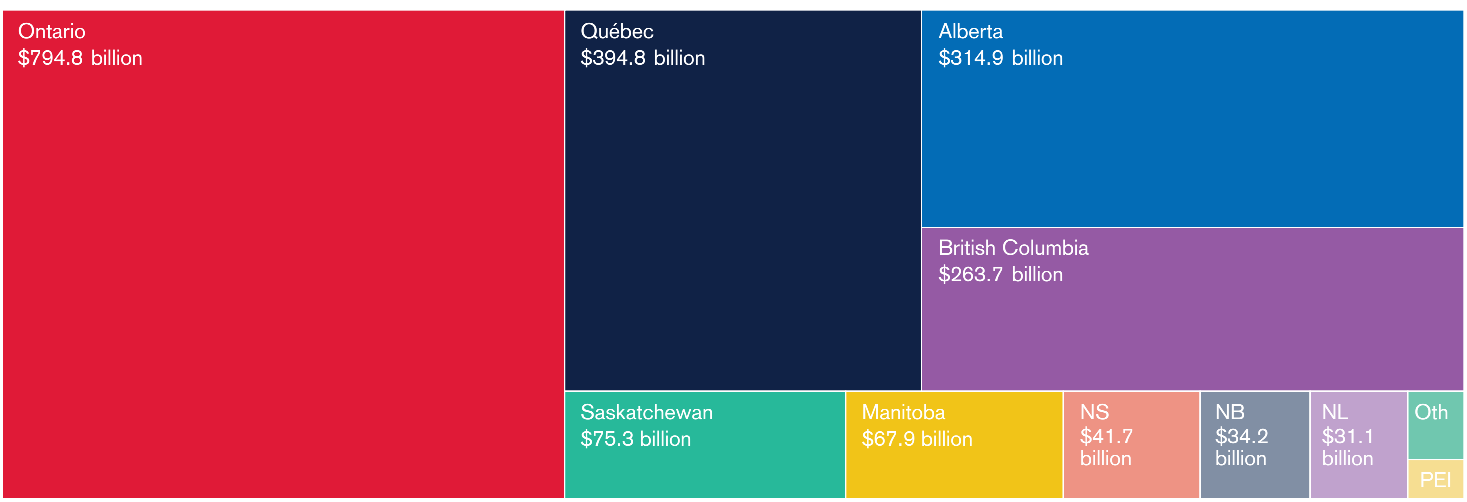
Exhibit 26: Real GDP Growth Expectations, 2017 and 2018

Current private sector expectations versus budget projections



Source: Provincial budgets. DBRS' survey of economic forecasts.

Exhibit 27: Canadian Nominal GDP by Province, 2016



Note: Prince Edward Island ($6.3 billion). Other comprises the territories, statistical discrepancy, etc. ($10.7 billion).
Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Methodological Considerations

A province's economic structure constitutes a key consideration in the credit assessment of provincial governments, as it is the primary determinant of the government's capacity to raise the revenue necessary to fulfill its responsibilities and support its debt.

DBRS's scoring of the Economic Structure critical rating factor and the description for the sub-factors follows:

Critical Rating Factor: Economic Structure

The economy constitutes a key consideration in the credit assessment of provincial governments, as it is the primary determinant of the government's capacity to raise revenue to service its debt. In assessing provincial economies, DBRS principally considers (1) economic diversification and volatility, (2) income and wealth of the economy, (3) export diversification, (4) demographics and (5) the labour market. DBRS may also consider other factors such as size, policy uncertainty, input costs (e.g., electricity costs), or burdensome tax or regulatory systems.

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
AA	AA	AA	AA	AA	AA (low)	A	A (high)	A (low)	BBB (high)

DBRS's scoring of provincial economic growth trends within the financial risk assessment section of the methodology follows:

Financial Risk Factor: Real GDP Growth Rate

The real GDP growth rate (seven-year moving average; five years historical + two years projection) is one of the primary metrics used by DBRS to determine the financial risk of provincial issuers. The scores are defined in the methodology: AAA (at or above national average), AA (at national average), "A" (below national average) and BBB (persistent contractions).

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
AAA	AA	AA	AA (high)	AA	A (high)	A (low)	A (low)	A (high)	BBB (high)

Economic Diversification and Volatility

Provincial economies vary considerably in their size and composition, which gives rise to differing growth profiles and sensitivities to external macroeconomic factors. Broadly, the provinces can be grouped into one of three categories that best reflects their principal underlying economic profiles:

Resource Producing (Mining, Oil and Gas)	Smaller and Public Sector-Oriented	Broadly Diversified
Alberta	New Brunswick	British Columbia
Saskatchewan	Nova Scotia	Ontario
Newfoundland and Labrador	Prince Edward Island	Québec
		Manitoba

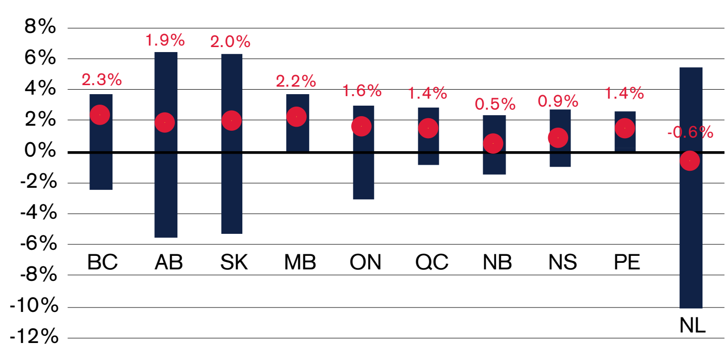
Resource-Producing Provinces

Provinces that are heavily oriented to non-renewable resource extraction experience greater volatility in their economies. With 20% to 30% of output being directly attributable to the energy sector, changes in commodity prices fundamentally alter profitability, income levels and business-investment decisions.

Over the last decade, high oil prices led to significant business investment in Canada's energy sector and helped to spur significant growth in Canada's energy exports. The collapse in oil prices beginning in 2014 led to a sharp reduction in business investment and weighed heavily on growth in these provinces. The outlook is now improving, though the high oil prices necessary to spur massive levels of investment in the energy sector do not appear likely in the near term.

Exhibit 28: Real GDP Growth by Province, 2008 to 2017

Minimum, maximum, and compound average annual growth rate (%)



Source: Haver Analytics/Statistics Canada. DBRS Survey of Private Sector Forecasts.

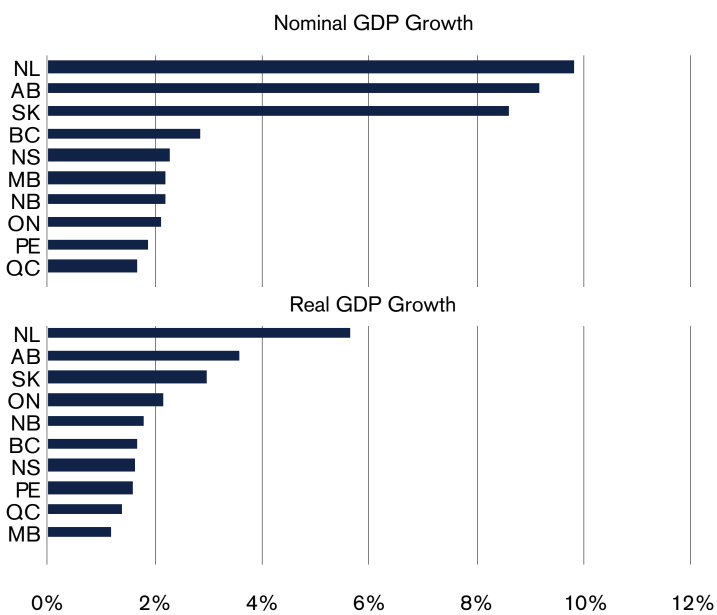
Relative to other provinces, the GDP composition of these provinces differs as follows:

- An industry basis: The goods sector typically accounts for 40% to 50% of output, while elsewhere in the country, the goods sector generally accounts for 20% to 30% of output.
- An expenditure basis: Consumption remains the largest category but accounts for relatively less, while investment accounts for relatively more than is typical in other provinces.

Over the last decade, resource-producing provinces have experienced stronger expansions and sharper corrections than other provinces. The outlook for the resource sector has improved since last year. Overall activity in the energy sector has increased, and there are some indications that oil production may exceed initial budget expectations.

Exhibit 29: Standard Deviation

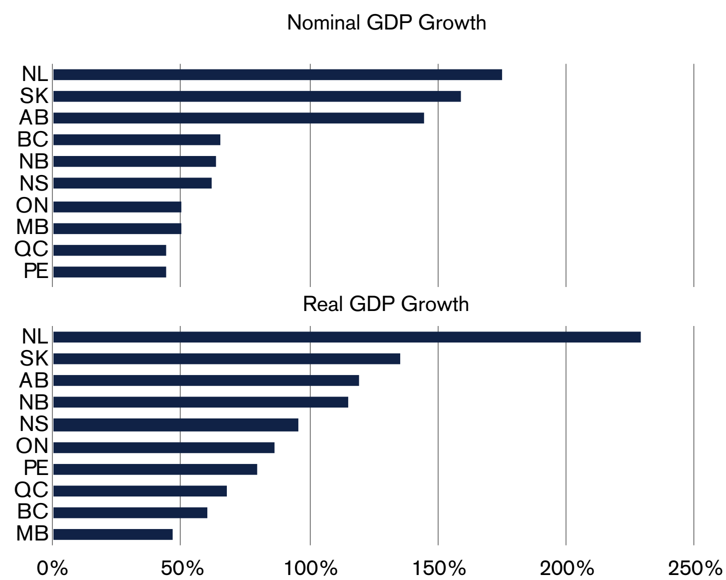
Standard deviation of real and nominal GDP growth, by Province, for the 1996 to 2016 period.



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Exhibit 30: Coefficient of Variation

Coefficient of variation of real and nominal GDP growth, by Province, for the 1996 to 2016 period.



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Public Sector-Oriented Provinces

In smaller provinces, the public sector tends to account for a proportionately larger share of economic activity and employment. In the public-sector oriented provinces — New Brunswick, Nova Scotia and Prince Edward Island — the public sector directly accounts for 25% to 30% of output. The relatively larger public sector reflects a number of factors, including the following:

- Smaller, older and slower-growing populations;
- Limited economies of scale in government, health and education;
- Limited economic opportunity;
- Geographic considerations (e.g., coastal military presence and shipbuilding); and
- Federal policy decisions to locate institutions and facilities in Atlantic Canada.

Ultimately, the economic impact of the public sector is larger in Atlantic Canada. With more economic activity being driven by the public sector and smaller private-sector industries, growth tends to be slower and less volatile in these provinces.

Broadly Diversified Provinces

The remaining provinces tend to be larger, more diversified, and with relatively smaller public sectors. Collectively, they account for almost 80% of Canada's population and 70% to 75% of economic activity in recent years.

These provinces tend to have a broader mix of industries and greater depth within individual industries in terms of the number of firms and their activities. The public sector tends to comprise a smaller share of the provincial economy, and growth tends to be broader based. Population growth is also generally positive and supported by both a natural increase and immigration. Together, these factors tend to result in moderate, stable growth.

Smaller Provinces

DBRS's methodology for rating Canadian provincial governments does not include an explicit rating factor for the size of a province or its economy. However, DBRS does seek to incorporate the asymmetric risks associated with a narrower economy by incorporating size considerations into the rating analysis and may assign a rating lower than what may otherwise be implied by the business and financial risk scoring.

The smallest provinces tend to have narrower economic bases. While GDP by industry may suggest a high degree of diversification, the overall size of the economy is such that many industries may have a limited number of firms, facilities or activities. A closure of a major industry (e.g., Northern cod fishery), broader structural changes or the failure of a major employer could result in a significant and potentially prolonged economic disruption. This could put pressure on a province's budgetary results, its ability to service its debt and its longer-term debt outlook.

A further consideration for the smallest provinces is the volatility that arises from major capital projects. A single project in a small province can have a meaningful and transitory effect on economic output and incomes. In recent years, a number of provinces have benefited from large-scale capital investment projects that have amplified GDP growth but then faced weaker results in subsequent years as the stimulative benefits diminish.

Exhibit 31: Contribution to Provincial GDP by Industry, 2016

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
All Industries										
Goods-Producing Industries	25%	44%	43%	31%	23%	27%	24%	19%	23%	48%
Service-Producing Industries	75%	55%	57%	69%	77%	73%	76%	80%	77%	52%
Sector Groupings										
Energy Sector	6%	30%	23%	6%	2%	4%	6%	3%	0%	26%
Public Sector (1)	17%	13%	17%	21%	19%	21%	26%	29%	29%	19%
Goods-Producing Industries										
Agriculture, Forestry, Fishing and Hunting	2%	2%	7%	4%	1%	2%	3%	3%	6%	2%
Mining, Quarrying and Oil & Gas Extraction	5%	27%	21%	5%	1%	1%	1%	2%	0%	32%
Utilities	2%	1%	2%	3%	2%	4%	4%	2%	2%	2%
Construction	9%	9%	7%	8%	6%	6%	6%	5%	5%	9%
Manufacturing	7%	6%	7%	10%	13%	14%	11%	8%	10%	4%
Service-Producing Industries										
Wholesale Trade	4%	5%	6%	6%	7%	6%	5%	4%	3%	3%
Retail Trade	6%	4%	5%	6%	5%	6%	8%	7%	7%	6%
Transportation & Warehousing	6%	4%	5%	6%	4%	4%	5%	3%	3%	3%
Information and Cultural Industries	3%	2%	2%	3%	3%	3%	3%	3%	3%	2%
Finance and Insurance	6%	4%	4%	6%	10%	6%	5%	6%	5%	4%
Real Estate and Rental and Leasing	18%	11%	10%	12%	14%	12%	13%	17%	14%	9%
Professional, Scientific and Technical Services	6%	5%	3%	3%	6%	6%	3%	4%	3%	2%
Management of Companies & Enterprises	1%	1%	1%	1%	1%	1%	1%	0%	1%	0%

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
Admin/Support, Waste Management & Remediation Svcs	2%	2%	1%	2%	3%	3%	3%	2%	3%	1%
Educational Services	5%	4%	5%	5%	6%	6%	6%	7%	7%	5%
Health Care and Social Assistance	6%	5%	6%	8%	7%	8%	9%	10%	9%	7%
Arts, Entertainment & Recreation	1%	0%	1%	1%	1%	1%	1%	1%	1%	0%
Accommodation and Food Services	3%	2%	2%	2%	2%	2%	2%	2%	3%	2%
Other Services (Except Public Administration)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Public Administration	5%	4%	6%	8%	7%	7%	11%	12%	13%	7%

Note: *Public Sector* is a DBRS proxy comprising public administration, health care and social assistance, and educational services.
Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Exhibit 32: Contribution to Provincial GDP by Expenditure Category, 2016

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
Gross Domestic Product	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Final Consumption Expenditure	**81%**	**59%**	**70%**	**82%**	**79%**	**85%**	**98%**	**104%**	**104%**	**74%**
Household final consumption expenditure	63%	44%	51%	57%	58%	61%	69%	71%	73%	52%
Non-profit institutions serving households	1%	1%	1%	2%	2%	2%	1%	2%	1%	1%
General government final consumption expenditure	17%	15%	18%	23%	19%	22%	29%	31%	30%	22%
Gross Fixed Capital Formation	**22%**	**27%**	**26%**	**22%**	**19%**	**19%**	**18%**	**21%**	**17%**	**40%**
Business gross fixed capital formation	19%	24%	22%	17%	16%	15%	13%	16%	13%	36%
Residential structures	11%	6%	5%	5%	7%	6%	5%	7%	6%	4%
Non-residential structures, machinery and equip.	8%	16%	16%	11%	7%	7%	7%	8%	6%	31%
Intellectual property products	1%	2%	1%	1%	2%	2%	1%	1%	1%	2%
Non-profit institutions serving households	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
General government gross fixed capital formation	3%	4%	4%	5%	3%	4%	5%	5%	3%	4%
Investment in Inventories	**0%**	**-1%**	**0%**	**0%**	**0%**	**1%**	**1%**	**0%**	**1%**	**0%**
Exports of Goods and Services	**39%**	**59%**	**65%**	**53%**	**52%**	**46%**	**73%**	**36%**	**46%**	**60%**
Exports to other countries	24%	39%	40%	27%	36%	28%	42%	17%	20%	38%
Exports to other provinces	16%	20%	24%	26%	17%	18%	30%	19%	25%	21%
Less: Imports of Goods and Services	**42%**	**45%**	**62%**	**58%**	**50%**	**50%**	**89%**	**62%**	**68%**	**74%**
Imports from other countries	24%	25%	26%	27%	37%	34%	55%	30%	22%	44%
Imports from other provinces	18%	20%	36%	31%	13%	17%	34%	31%	46%	30%

Source: Haver Analytics/Statistics Canada. DBRS Calculations.

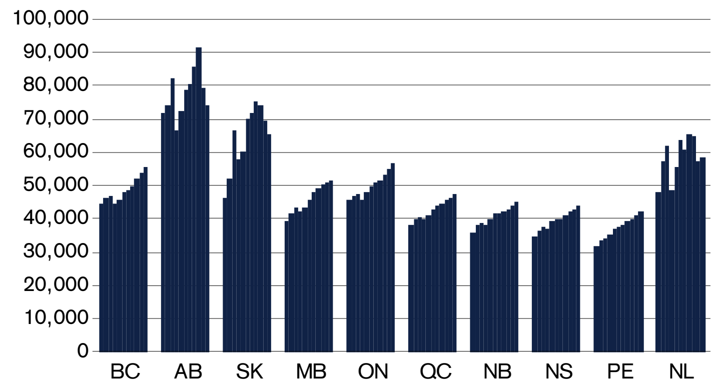
Income and Wealth of the Economy

Income and consumption taxes are the most important components of own-source revenue for senior governments in Canada. Growth in income and consumption tax bases generally results from population growth or rising income levels.

DBRS seeks to understand the differences in fiscal capacity that arise from differences in income/wealth levels and the outlook for income gains. DBRS uses a number of measures to make this assessment.

Broadly, higher income and a stronger outlook for income growth suggest a stronger credit profile when all else is held as equal.

Exhibit 33: Nominal GDP per Capita, 2006 to 2016



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Income and wealth levels vary across provinces: Resource-producing provinces tend to have relatively higher income levels on a range of measures, whereas the Maritime provinces tend to have lower income levels.

DBRS expects some convergence in income and wealth levels as the pace of income growth slows in the resource-producing provinces and accelerates in the larger, more diversified provinces.

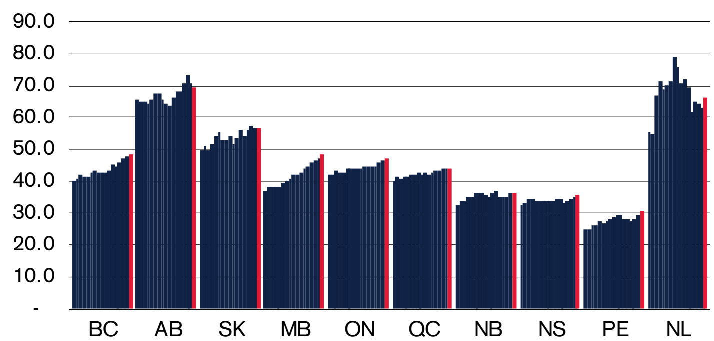
Nominal GDP per Capita and Labour Productivity

The most expansive measure of productive capacity and income is GDP. On a per capita basis, resource-producing provinces have the highest levels of nominal GDP per capita, reflecting the high returns and capital intensity of the energy industry. This is similarly reflected in various measures of labour productivity.

Ontario, British Columbia and Manitoba are the next tier of provinces with per capita GDP in the range of $50,000 to $55,000, while Québec and the Maritime provinces tend to have lower levels of output per capita.

Exhibit 34: Labour Productivity, 2000 to 2016

Chained 2007 dollars per hour



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Tax Data

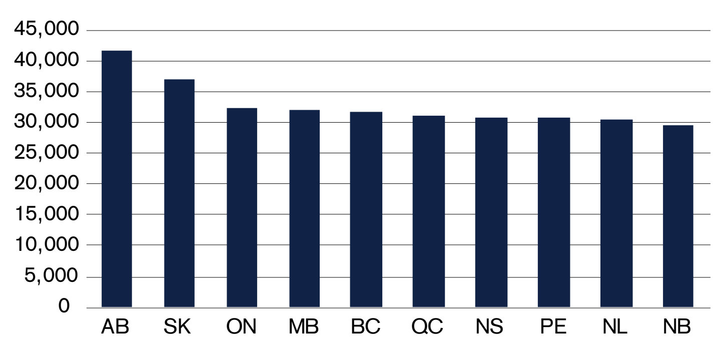
The Government of Canada publishes a variety of tax data, though this information is subject to a considerable lag. In broad terms, the relative rankings and distributions do not change significantly from year to year.

Median total income (line 150 on the personal income tax return) in 2014 fell between $29,600 and $32,400 for most provinces. The exceptions were Saskatchewan ($36,900) and Alberta ($41,570), which had higher median incomes.

Canadian provinces have progressive income tax systems. As a result, the distribution of incomes is important in assessing the fiscal capacity of provincial tax systems. There is greater capacity to raise revenue if there is a relatively larger share of income concentrated in the middle and upper income groups.

Exhibit 35: Median Total Income by Province, 2014

Total income as defined by the Canada Revenue Agency (T1 returns)

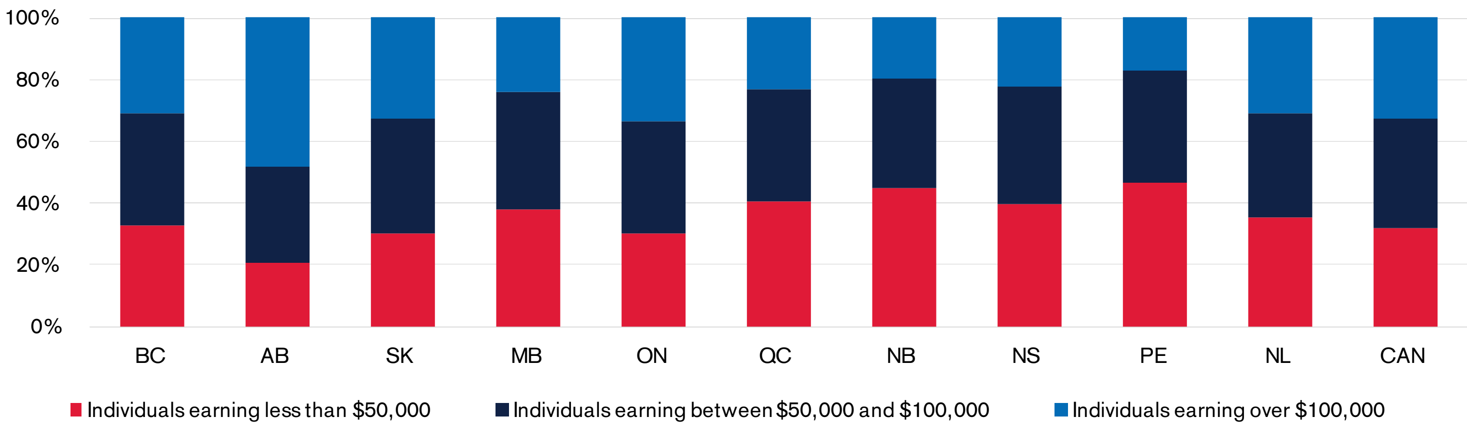


Source: Statistics Canada/Canada Revenue Agency.

- In Alberta, Ontario, British Columbia and Saskatchewan, between 35% and 50% of total taxable income was earned by individuals with incomes greater than $100,000; less than a third was earned by individuals with incomes of less than $50,000.
- In contrast, in Québec and the Maritime provinces, about 40% of taxable income was earned by individuals with incomes less than $50,000, and between 20% and 25% of taxable income was attributable to individuals with incomes in excess of $100,000.

Exhibit 36: Share of Taxable Income by Income Group, 2014

Taxable income as defined by the Canada Revenue Agency (T1 returns)



Source: Canada Revenue Agency.

Average Weekly Earnings (AWE)

GDP and tax data are subject to a considerable lag. In addition, they include various types of incomes. AWE provides a more timely measure of labour market activity.

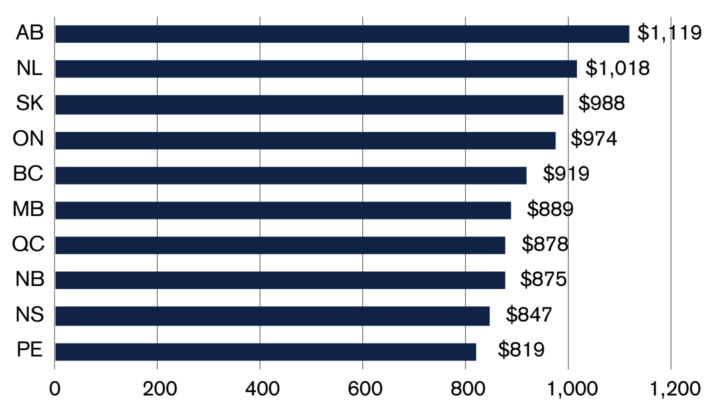
Similar to other measures, AWE data points to higher incomes in resource-producing provinces and weaker incomes in the Maritime provinces.

Over the last decade, resource-producing provinces experienced strong growth in AWE, which led to divergence in AWE across the provinces. With the downturn in the energy sector, the dispersion across provinces has narrowed modestly. In addition, the pace of AWE growth slowed.

In 2017, growth in AWE has been modest despite the relatively strong economic growth in a number of provinces. As of August, year-to-date growth in AWE was 1.5%. Québec experienced the strongest growth (2.5%), while Alberta experienced the weakest growth (0.1%) this year.

Exhibit 37: Average Weekly Earnings, 2016

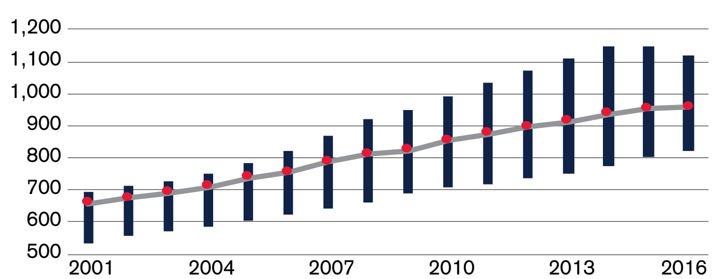
Including overtime



Source: Haver Analytics/Statistics Canada.

Exhibit 38: Average Weekly Earnings, Provincial Range, 2001 to 2016

Maximum and minimum range for provincials. National average.



Source: Haver Analytics/Statistics Canada.

Export Diversification

Canada is a small and open economy. As such, international trade is a critical factor to its economic well-being. Canada is a major exporter of raw materials (i.e., energy, minerals and related products, agriculture, forestry, etc.) and a major importer of consumer/manufactured goods and equipment.

The most comprehensive measure of Canada's trade balance can be drawn from national accounts data, which encompasses both goods and services. Services have grown rapidly in importance over the last two decades and are broadly grouped into commercial services, tourism and transportation.

Over the last three decades, the volume of Canada's exports and imports has risen sharply, reflecting broader global trends and increasing economic integration resulting from transformative trade agreements. Over the last decade, Canada has incurred modest trade deficits.

Geography, size, resource endowment and economic composition across provinces give rise to fundamental differences in the provinces' trade positions and compositions.

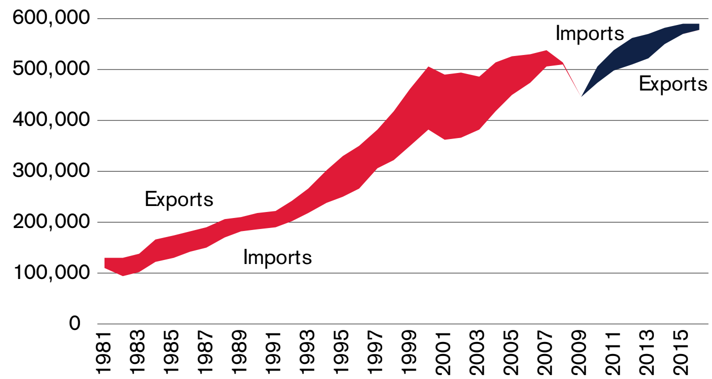
- Alberta and Saskatchewan are the only provinces with large international trade surpluses, reflecting the concentration of their economies in export-oriented resource production (i.e., oil & gas, mineral products, and agriculture).
- The other provinces have balanced or deficit international trade positions, reflecting Canada's reliance on international markets for consumer products, food, and machinery and equipment.
- Alberta, Ontario and Québec have surplus interprovincial trade positions, while other provinces have interprovincial trade deficits.

The near-term outlook for trade remains stable given the well-established, cross-border supply chains and enduring demand for many of Canada's principal exports. While NAFTA negotiations appear challenging and contentious, any sudden changes to the trade agreement are unlikely to result in an immediate change in trade patterns.

In addition to NAFTA, the other major issues in the near-term trade outlook are the imposition of countervailing and anti-dumping duties on Canadian softwood lumber suppliers (10% to 24% of total duties) and Bombardier (300% of total duties).

Exhibit 39: Canada's International Trade Balance, 1981 to 2016

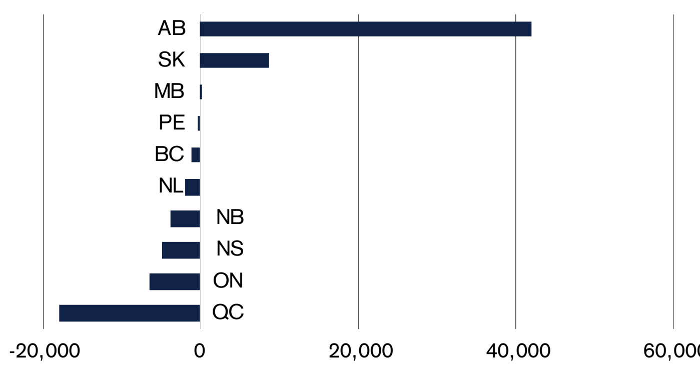
Real GDP Basis (millions 2007 dollars); imports, exports, and trade balance.



Source: Haver Analytics/Statistics Canada.

Exhibit 40: Canada's International Trade Balance by Province, 2016

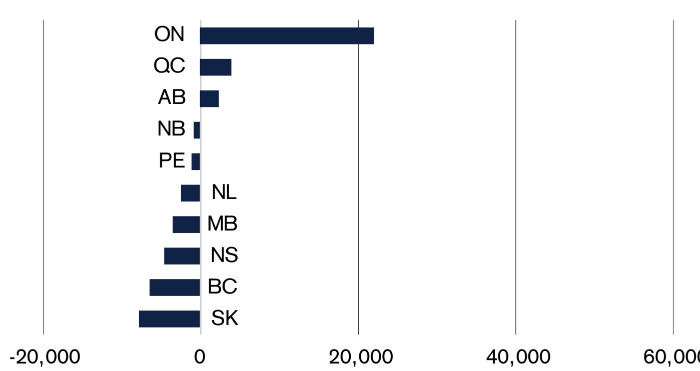
Real GDP Basis (millions 2007 dollars), goods and services.



Source: Haver Analytics/Statistics Canada.

Exhibit 41: Interprovincial Trade Balance by Province, 2016

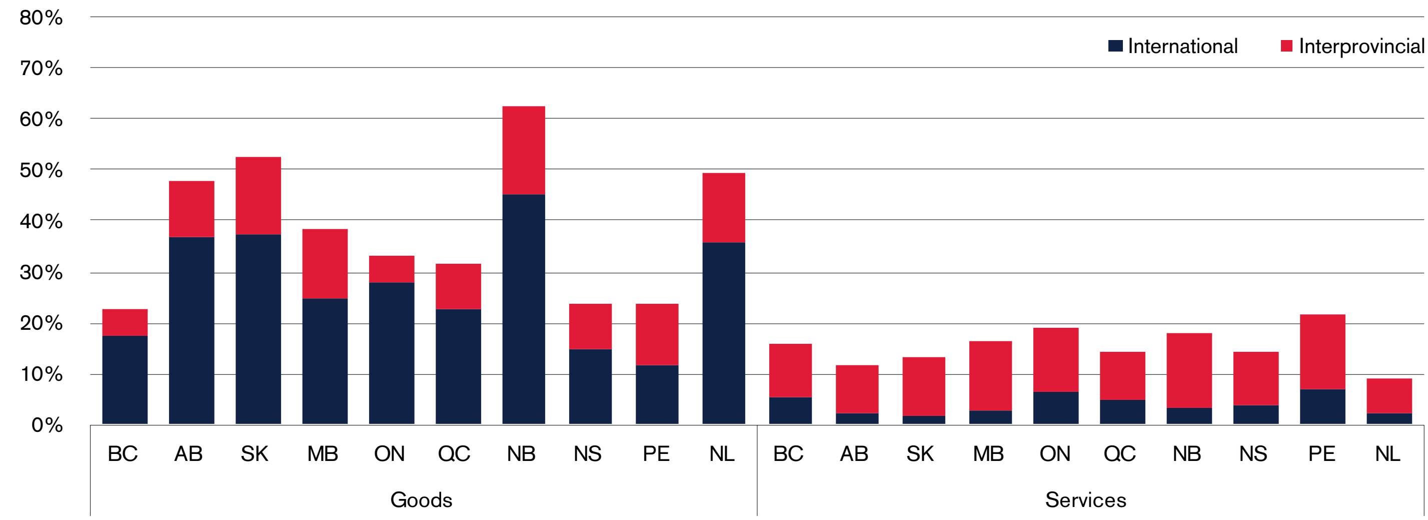
Real GDP Basis (millions 2007 dollars), goods and services



Source: Haver Analytics/Statistics Canada.

Exhibit 42: Composition of Exports by Province, 2016

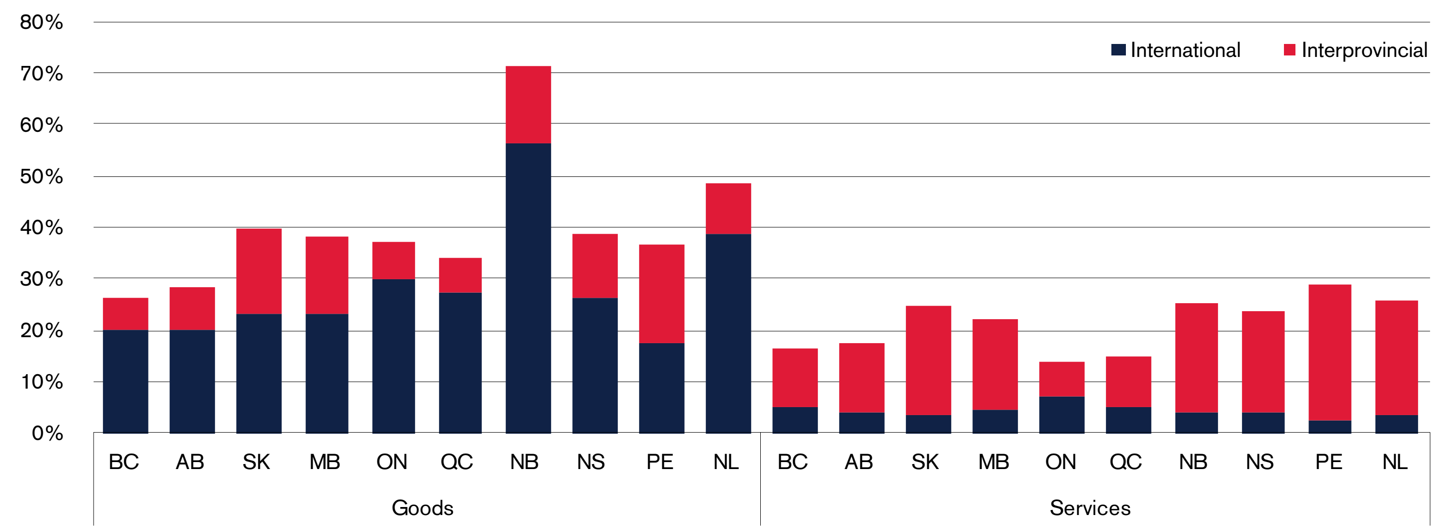
Share of Real GDP (%)



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Exhibit 43: Composition of Imports by Province, 2016

Share of Real GDP (%)



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Merchandise Trade Exports

While services have grown in importance, goods continue to account for the bulk of Canada's international trade, and the United States remains Canada's largest trade partner. Moreover, for many provinces the bilateral trade with key specific U.S. states is more significant than their trade relationship with other Canadian provinces.

Trade data is subject to some limitations. Most significantly, trade values/volumes are on a gross basis. Since supply chains have become increasingly integrated and international in nature, the trade data may not fully reflect the net volumes or economic substance of Canada's trade relationships. As an example, Ontario has significant imports and exports of autos and auto parts, which reflects the cross-border nature of manufacturing (i.e., parts/components moving back and forth across the border during the production process).

Moreover, since Canada's trade linkages tend to be north-south, some regions may be heavy importers of specific goods that are exported by another region. For instance, Alberta and Saskatchewan export much of their produced oil to the United States, while Eastern Canada imports some of its crude oil from the United States and overseas.

Nevertheless, on a gross basis, Canada is a major exporter of the following:

- Agricultural, livestock and fish products;
- Energy products;
- Metals, minerals and similar products;
- Forestry products; and
- Motor vehicles and parts.

Canada is a major importer of the following:

- Consumer goods and products;
- Autos and auto parts;
- Machinery and equipment;
- Electronics; and
- Metals, minerals and similar products.

U.S. Trade Relations

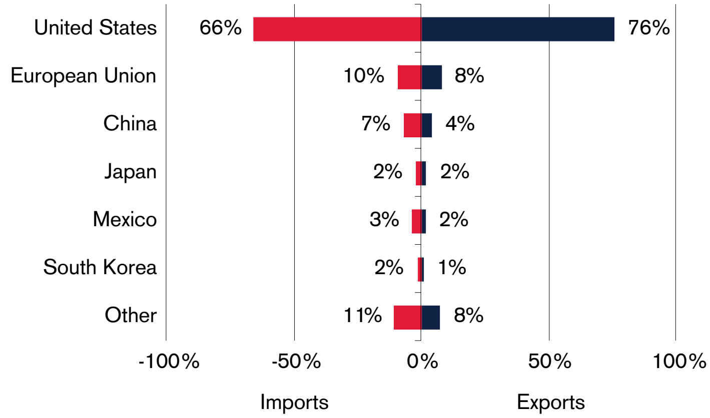
The United States accounted for 76% of Canada's merchandise trade exports and 66% of Canada's merchandise trade imports in 2016. There are significant and diverse trade linkages between the two countries. The exhibits on the subsequent pages outline the nature of provincial domestic goods exports to the United States.

North American Free Trade Agreement (NAFTA)

NAFTA negotiations are ongoing and the outcome appears uncertain. Key points of negotiation include supply management, rules of origin and the Chapter 19 anti-dumping dispute settlement mechanism.

Exhibit 44: Merchandise Trade Imports and Exports by Country, 2016

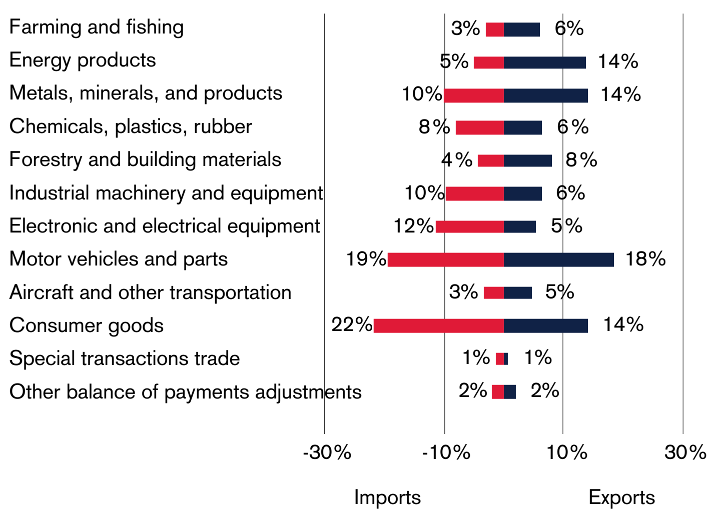
Balance of Payments Basis



Source: Statistics Canada. DBRS Calculations.

Exhibit 45: Merchandise Trade by Category, 2016

Balance of Payments Basis



Source: Statistics Canada. DBRS Calculations.

If the agreement is successfully modernized and extended to a broader set of economic sectors, some of the restructured deal's terms could increase competition and may help to improve productivity. If negotiations fail and NAFTA is terminated, DBRS expects this could lead to financial market volatility and a depreciation of the Canadian dollar, but that the resulting reallocation of resources in the real economy would be more modest and gradual. While DBRS believes a sudden termination of NAFTA is unlikely, the consequences of a sudden NAFTA termination for provincial credit profiles are likely to be limited.

The economic consequences of a termination or renegotiated NAFTA vary across provinces but appear more pronounced for Ontario, Manitoba and Québec because of their relatively larger manufacturing industries and their integration into the North American supply chains. Canadian goods are largely exempt from tariffs when entering the United States. The post-NAFTA trading arrangement could fall back to most-favored-nation status under the World Trade Organziation, in which general tariffs are not significantly higher than current rates in many instances. Import tariffs for most goods and commodities are fairly low, though manufactured goods tend to have relatively higher tariffs. The industries for which inputs cross the border multiple times during the production process could face greater challenges.

Softwood Lumber

U.S. lumber manufacturers have long argued that the Canadian stumpage system represents a subsidy to Canadian producers by lowering their log costs, which has led to several trade disputes in recent decades. The most recent Softwood Lumber Agreement (SLA) expired in October 2015. A standstill period — during which Canada's access to the U.S. market was unfettered — ended in October 2016.

The Department of Commerce (DOC) has imposed countervailing duties and anti-dumping duties on a number of Canadian producers. Producers are now subject to duties ranging between 9.9% (Irving) to 23.8% (West Fraser Timber).

The DOC has exempted Nova Scotia, Prince Edward Island and Newfoundland and Labrador from the duty regime, agreeing that because the majority of the logs in those provinces are from private timberlands, log costs are not being subsidized. Unlike the other Atlantic provinces, and despite its private timberlands, New Brunswick has not been exempted from duties, though its producers face lower duties than those in Western Canada. Québec has also not been exempted, despite arguing that its new auction-based stumpage system is market oriented.

British Columbia accounts for much of Canada's softwood lumber exports to the United States. However, the relative importance to the provincial economy and government revenue has diminished over the last two decades. The forestry industry currently accounts for about 3.0% of provincial output, the direct employment of 60,000 people (less than 3.0% of employment) and 1.7% of provincial revenue.

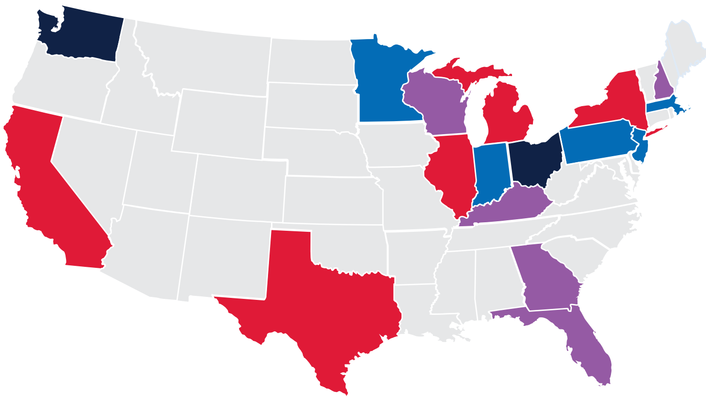
Recent measures introduced by the United States government are putting pressure on the industry and regional economies but are unlikely to result in a significant contraction in the industry or mass layoffs. Healthy U.S. lumber demand remains supportive of pricing and is limiting the overall impact on Canadian exporters.

DBRS has published two commentaries on the topic:

- *United States–Canada Softwood Lumber Negotiations: Reaching a deal earlier than expected would be credit positive* (August 11, 2017).
- *U.S.-Canada Softwood Lumber Negotiations: Slow burn now, but soon to heat up* (October 25, 2016).

Exhibit 46: Timeline of NAFTA Negotiations

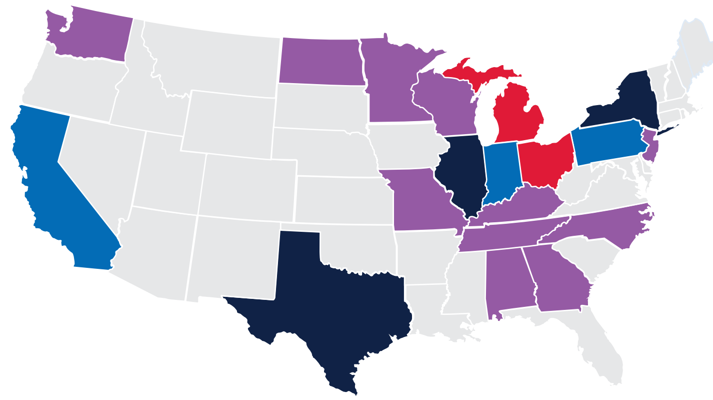
Exhibit 47: International Merchandise exports to the United States, by State, 2016



- Less than $5.0 billion
- Between $5.0 and $10.0 billion
- Between $10.0 and $15.0 billion
- Between $15.0 and $20.0 billion
- More than $25.0 billion (TX $21, NY $27,IL $36, CA $38, MI $66)

Source: Statistics Canada.

Exhibit 48: International Merchandise imports from the United States, by State, 2016



- Less than $5.0 billion
- Between $5.0 and $10.0 billion
- Between $10.0 and $15.0 billion
- Between $15.0 and $20.0 billion
- More than $25.0 billion (TX $21, NY $27,IL $36, CA $38, MI $66)

Source: Statistics Canada.

Exhibit 49: Domestic Merchandise Trade Exports to the United States by Category, 2016

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
Live animals and animal products	4.2%	3.1%	2.5%	7.6%	0.9%	2.2%	10.6%	24.7%	17.6%	9.0%
Vegetable products	4.1%	1.0%	9.4%	7.4%	1.4%	1.6%	1.2%	2.7%	9.0%	0.0%
Animal or vegetable fats and oils	0.0%	0.6%	10.0%	5.7%	0.2%	0.2%	0.0%	0.4%	0.4%	0.0%
Prepared foodstuffs, beverages, tobacco	4.6%	1.1%	5.8%	7.2%	4.2%	6.1%	5.8%	5.7%	35.5%	1.5%
Mineral products	17.0%	76.4%	38.8%	8.7%	1.8%	5.2%	60.7%	3.7%	0.4%	86.3%
Products of the chemical or allied industries	3.3%	4.4%	25.0%	11.8%	6.5%	6.1%	0.6%	1.9%	4.4%	0.0%
Plastics and rubber products	2.1%	5.6%	0.2%	4.2%	4.9%	5.7%	0.6%	36.8%	0.2%	0.0%
Raw hides and skins, leather, furs, etc.	0.1%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	0.0%
Wood and wood products	29.5%	1.5%	2.4%	2.5%	1.0%	5.5%	6.6%	2.7%	0.0%	0.2%
Pulp of wood or of other fibrous cellulosic material	4.9%	1.4%	0.0%	2.6%	2.0%	8.6%	7.2%	5.2%	2.8%	1.6%
Textiles and textile articles	0.5%	0.0%	0.0%	0.4%	0.9%	1.4%	0.0%	2.5%	0.1%	0.2%
Footwear, headgear, umbrellas, etc.	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.1%	0.0%	0.0%
Stone, plaster, cement, ceramic products, glass and glassware	0.6%	0.2%	0.0%	0.2%	0.7%	0.8%	0.7%	0.1%	0.0%	0.0%
Precious metals, stones, pearls, etc.	1.1%	0.0%	0.1%	0.1%	4.5%	1.8%	0.0%	0.0%	0.0%	0.0%
Base metals and articles of base metal	10.7%	0.8%	1.2%	4.3%	7.5%	19.4%	2.1%	2.7%	0.3%	0.2%
Machinery, mechanical appliances, electrical equipment	9.2%	2.2%	3.1%	11.4%	13.0%	12.9%	1.4%	4.6%	16.4%	0.1%
Vehicles, aircraft, vessels and associated transport equipment	2.6%	0.5%	0.6%	18.2%	44.6%	13.8%	0.5%	3.0%	0.9%	0.1%
Optical, photographic, cinematographic and other precision instruments	2.0%	0.3%	0.1%	0.9%	1.3%	1.8%	0.2%	1.4%	0.6%	0.0%
Arms and ammunition, parts, accessories	0.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%
Miscellaneous manufactured articles	1.8%	0.2%	0.0%	2.1%	2.9%	3.7%	1.0%	0.3%	0.0%	0.0%
Works of art, collectors' pieces and antiques	1.6%	0.6%	0.6%	4.6%	1.6%	2.8%	0.7%	1.5%	10.8%	0.9%

Source: Statistics Canada
Note: Shading denotes larger export categories.

Exhibit 50: Domestic Merchandise Trade Exports by Destination U.S. State, 2016

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
Alaska	0.6%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%
California	11.8%	2.7%	7.0%	4.8%	17.0%	3.1%	1.0%	2.8%	3.0%	0.9%
Colorado	1.4%	3.3%	1.1%	0.9%	0.3%	0.6%	0.1%	0.2%	0.8%	0.0%
Hawaii	1.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.5%	0.0%
Idaho	1.5%	0.6%	1.0%	0.7%	0.1%	0.2%	0.1%	0.4%	0.3%	0.0%
Montana	0.8%	3.3%	8.4%	0.9%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Nevada	0.6%	0.2%	0.1%	0.3%	0.3%	0.3%	0.1%	0.7%	0.0%	0.0%
Oregon	6.3%	0.7%	3.9%	0.7%	0.3%	0.5%	0.1%	0.9%	0.1%	0.0%
Utah	1.4%	0.6%	0.7%	0.7%	0.4%	1.0%	0.0%	0.1%	0.2%	0.0%
Washington	27.7%	10.3%	2.1%	3.6%	0.9%	1.1%	0.2%	0.8%	0.8%	0.1%
Wyoming	0.1%	0.8%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%
West	**53.2%**	**22.7%**	**24.4%**	**12.8%**	**19.5%**	**7.1%**	**1.6%**	**5.9%**	**7.2%**	**1.0%**
Arizona	1.3%	0.2%	0.2%	0.5%	0.4%	0.6%	0.0%	0.2%	0.5%	0.0%
New Mexico	0.1%	0.0%	0.3%	0.1%	0.1%	0.1%	0.0%	0.1%	0.3%	0.0%
Oklahoma	0.6%	3.4%	2.2%	0.5%	0.2%	0.5%	0.3%	0.3%	0.5%	0.0%
Texas	4.7%	11.0%	6.1%	6.0%	3.0%	6.3%	1.7%	3.8%	7.0%	2.8%
Southwest	**6.7%**	**14.7%**	**8.8%**	**7.1%**	**3.7%**	**7.5%**	**2.1%**	**4.4%**	**8.2%**	**2.8%**
Alabama	0.7%	0.7%	0.4%	1.4%	0.8%	0.9%	0.2%	1.7%	0.8%	0.1%
Arkansas	0.5%	0.1%	0.1%	0.8%	0.2%	0.6%	0.0%	0.2%	0.0%	0.0%
Delaware	0.1%	0.2%	0.0%	0.1%	0.1%	0.3%	0.2%	0.0%	0.5%	0.1%
District of Columbia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Florida	1.5%	0.3%	1.8%	3.4%	1.2%	2.7%	2.3%	2.1%	3.8%	2.9%
Georgia	1.4%	0.4%	1.0%	1.3%	1.4%	2.7%	0.8%	1.7%	1.3%	0.1%
Kentucky	0.8%	0.3%	0.3%	1.0%	1.6%	2.4%	0.3%	1.2%	0.5%	0.1%
Louisiana	0.3%	0.6%	1.0%	0.5%	0.3%	0.9%	0.0%	0.2%	0.0%	3.6%
Mississippi	0.8%	0.1%	0.1%	0.8%	0.3%	0.5%	0.2%	0.1%	0.1%	0.0%
North Carolina	0.9%	0.4%	0.9%	1.1%	1.3%	1.9%	0.9%	1.2%	1.3%	0.1%
South Carolina	0.6%	0.4%	0.1%	1.1%	1.0%	1.6%	0.6%	19.0%	0.1%	0.4%
Tennessee	2.1%	0.3%	1.1%	9.4%	1.5%	3.9%	0.3%	1.0%	0.5%	0.3%
Virginia	0.5%	0.2%	0.3%	1.3%	0.6%	1.5%	0.9%	1.8%	1.5%	0.8%
West Virginia	0.1%	0.0%	0.0%	0.1%	0.2%	1.3%	0.6%	0.3%	0.0%	0.0%
Southeast	**9.4%**	**3.3%**	**6.9%**	**20.9%**	**9.8%**	**20.1%**	**7.2%**	**28.9%**	**9.6%**	**8.4%**
Illinois	6.4%	31.8%	13.6%	8.3%	3.8%	4.1%	1.2%	9.6%	3.6%	0.3%
Indiana	2.1%	0.4%	3.8%	2.2%	3.5%	2.9%	0.9%	2.2%	0.3%	0.4%
Iowa	0.4%	0.9%	3.7%	4.4%	0.5%	1.2%	0.1%	0.4%	0.1%	0.0%
Kansas	0.3%	0.6%	0.5%	1.1%	0.5%	0.6%	0.1%	0.5%	0.3%	0.0%
Michigan	1.8%	6.7%	0.8%	1.8%	32.2%	3.6%	0.7%	0.7%	2.6%	0.1%
Minnesota	2.1%	5.9%	15.4%	14.8%	0.8%	0.9%	0.2%	0.3%	0.9%	0.1%
Missouri	1.2%	1.6%	1.8%	1.9%	1.0%	1.0%	0.2%	0.2%	0.5%	0.0%
Nebraska	0.5%	0.1%	1.2%	1.7%	0.2%	0.2%	0.0%	0.1%	0.2%	0.0%
North Dakota	0.2%	0.8%	3.2%	5.7%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%
Ohio	1.5%	2.0%	3.2%	2.8%	4.9%	7.3%	0.8%	1.0%	0.6%	0.0%
South Dakota	0.2%	0.2%	0.5%	1.0%	0.0%	0.1%	0.0%	0.1%	0.2%	0.0%
Wisconsin	1.5%	1.1%	2.5%	3.2%	1.3%	2.2%	0.5%	1.7%	0.8%	0.0%
Midwest	**18.2%**	**52.1%**	**50.4%**	**49.1%**	**48.8%**	**24.4%**	**4.6%**	**16.9%**	**10.2%**	**0.9%**
Connecticut	0.7%	0.1%	0.2%	0.5%	0.4%	3.7%	1.5%	2.1%	0.7%	0.4%
Maine	0.2%	0.0%	0.1%	0.1%	0.1%	1.3%	7.8%	6.7%	4.6%	1.5%
Maryland	0.7%	0.1%	0.1%	0.5%	0.5%	1.4%	1.4%	2.4%	1.7%	3.5%
Massachusetts	1.1%	0.6%	0.4%	0.8%	2.1%	3.8%	14.8%	20.0%	18.5%	10.6%
New Hampshire	0.5%	0.0%	0.0%	0.1%	0.2%	1.2%	44.7%	1.6%	6.2%	0.1%
New Jersey	1.1%	0.5%	0.8%	1.8%	1.8%	4.3%	3.7%	2.6%	12.3%	48.4%
New York	2.8%	3.1%	1.5%	1.7%	7.0%	11.6%	4.2%	3.2%	12.9%	1.3%
Pennsylvania	2.7%	1.2%	5.1%	2.2%	3.6%	6.2%	2.6%	1.7%	4.3%	16.6%
Rhode Island	0.1%	0.0%	0.0%	0.0%	0.1%	0.4%	0.2%	0.2%	0.3%	1.5%
Vermont	0.3%	0.2%	0.2%	0.1%	0.2%	4.8%	0.2%	0.0%	0.1%	0.0%
Northeast	**11.1%**	**6.6%**	**8.7%**	**9.1%**	**16.8%**	**39.5%**	**81.3%**	**42.2%**	**62.5%**	**84.0%**
Other	**1.3%**	**0.5%**	**0.7%**	**0.9%**	**1.4%**	**1.4%**	**3.1%**	**1.7%**	**2.3%**	**3.0%**

Source: Statistics Canada. Note: Shading denotes larger export markets.

Exhibit 51: U.S. Harmonized Tariff Schedule, NAFTA vs. General Tariff (MFN, selected), 2017

	NAFTA	General	Notes
Motor Vehicles			
Passenger vehicles	Free	2.5%	Chapter 87
Large vans and buses	Free	2.0%	Chapter 87
Vehicles for transportation of goods	Free	0 – 25%	Chapter 87
Ships and boats	Free	0 – 2.7%	Chapter 89
Automobile parts	Free	0 – 4%	Chapter 87
Tires	Free	4%	Chapter 40
Aircraft			
Aircraft	Free	Free	Chapter 88
Aircraft parts	Free	Free	Chapter 88
Agriculture and Livestock			
Wheat	Free	0.35c/kg	Chapter 10
Canola seed	Free	0.58c/kg	Chapter 12
Lentils	Free	0.1c/kg	Chapter 7
Fresh or chilled potatoes (excluding seed)	Free	0.5c/kg	Chapter 7
Frozen potatoes	Free	14%	Chapter 7
Cattle and Buffalo	Free	0 – 1 c/kg	Chapter 1
Swine	Free	Free	Chapter 1
Poultry	Free	0.9 c/each	Chapter 1
Fish and Seafood			
Lobster	Free	Free	Chapter 3
Prepared lobster	Free	10%	Chapter 16
Crabmeat	Free	7.5%	Chapter 3
Mussels	Free	Free	Chapter 3
Shrimp	Free	Free	Chapter 3
Crabmeat	Free	7.5%	Chapter 3
Salmon	Free	Free	Chapter 3
Halibut	Free	Free	Chapter 3
Haddock	Free	Free	Chapter 3
Energy Products			
Heavy crude oil	Free	5.25c/bbl	Chapter 27
Light crude oil and distillate	Free	10.5c/bbl	Chapter 27
Liquefied natural gas	Free	Free	Chapter 27
Gasoline, kerosene	Free	52.5c/bbl	Chapter 27
Coal	Free	Free	Chapter 27
Metals and Minerals			
Copper ore	Free	1.7c/kg	Chapter 26
Copper	Free	1%	Chapter 74
Nickel	Free	Free	Chapters 26 and 75
Nickel, articles of	Free	2 – 3%	Chapter 75
Ferroalloys	Free	0 – 5%	Chapter 72
Iron and steel	Free	Free	Chapter 72 and 73
Unwrought aluminum	Free	2.6%	Chapter 76
Aluminum, articles of	Free	1.5% – 6.5%	Chapter 76
Unwrought gold	Free	Free	Chapter 71
Mineral or chemical fertilizers	Free	Free	Chapters 31
Wood and Paper			
Wood (rough, sawn, chipped)	Free	Free	Chapter 44
Particle board and OSB	Free	Free	Chapter 44
Wood pulp	Free	Free	Chapter 47
Paper	Free	Free	Chapter 48
Select Manufactured Products			
Articles of stone, granite, plaster, etc.	Free	0 – 6%	Chapter 86
Miscellaneous household products	Free	0 – 15%	Chapter 96
Furniture	Free	0 – 12%	Chapter 94
Toys and sporting goods	Free	0 – 9.2%	Chapter 95
Medicaments	Free	Free	Chapter 30

Demographics

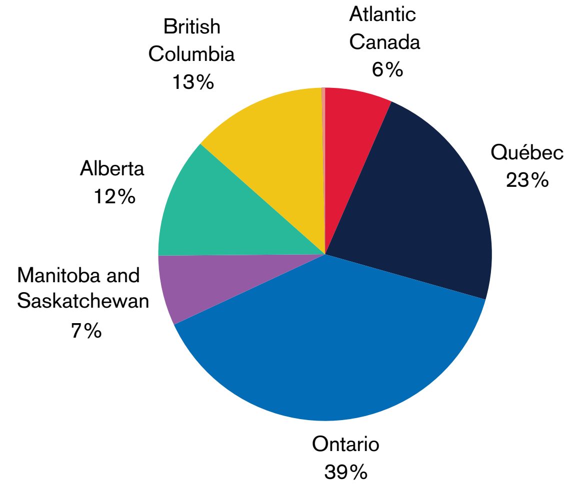
Canadian population growth has remained relatively stable in recent years, typically ranging between 1.0% and 1.2% annually. Population growth may increase modestly in the coming years as the federal government seeks to increase immigration levels over the medium term.

In recent years, the key population trends have included the following:

- There has been growth in net international migration, which continues to offset slowing natural increase;
- There is an increasing share of international migrants arriving in Atlantic Canada and the Prairies;
- There has been a sharp increase in the number of non-permanent residents over the last two years;
- There has been a change in the direction and magnitude of interprovincial migration resulting from the downturn in the energy sector; and
- Canadian society continues to age.

Exhibit 52: Population Share by Province, 2017

Population, July 1, 2017

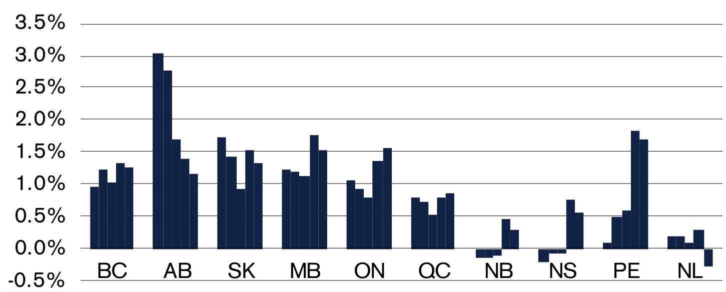


Note: The territories account for 0.3% of Canada's population.
Source: Haver Analytics/Statistics Canada. DBRS Calculations.

At July 1, 2017, Canada's population reached 37.8 million, an increase of 443,500 (+1.2%) over the prior year. As in past years, net international migration accounted for the bulk of the growth (0.9%). Contribution from natural increase (+0.3%) remains modest as the population continues to age and household compositions shifts.

The outlook for population growth and structure varies substantially among provinces. In considering a province's population structure, DBRS views population growth, immigration and interprovincial in-migration positively. General population growth and growth in productive capacity (potential output) increase a province's likelihood of being able to generate the revenue necessary to meet its program and debt servicing costs.

Exhibit 53: Annual Population Growth by Province, 2013 to 2017



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Exhibit 54: Total Population Growth by Component, 2015 to 2017

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	CAN
Population, July 1, 2015 (000s)	**4,694.7**	**4,177.5**	**1,131.2**	**1,295.4**	**13,789.6**	**8,254.9**	**753.9**	**941.5**	**146.8**	**528.8**	**35,832.25**
Natural Increase	15.9	63.5	11.8	13.5	83.1	44.0	(0.9)	(2.2)	0.1	(1.6)	230
Net Interprovincial Migration	42.7	(30.2)	(9.9)	(11.8)	34.8	(21.9)	(2.0)	1.4	(0.4)	(1.7)	
Net International Migration	63.9	75.3	30.8	41.0	285.9	117.0	8.6	13.1	5.5	3.3	645.6
Population, July 1, 2017	**4 ,817.2**	**4,286.1**	**1,163.9**	**1,338.1**	**14,193.4**	**8,394.0**	**759.7**	**953.9**	**152.0**	**528.8**	**36,708.1**

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	CAN
Natural Increase	0.3%	1.5%	1.0%	1.0%	0.6%	0.5%	-0.1%	-0.2%	0.1%	-0.3%	0.6%
Net Interprovincial Migration	0.9%	-0.7%	-0.9%	-0.9%	0.3%	-0.3%	-0.3%	0.1%	-0.3%	-0.3%	
Net International Migration	1.4%	1.8%	2.7%	3.2%	2.1%	1.4%	1.1%	1.4%	3.7%	0.6%	1.8%
Total Growth	**2.6%**	**2.6%**	**2.9%**	**3.3%**	**2.9%**	**1.7%**	**0.8%**	**1.3%**	**3.6%**	**0.0%**	**2.4%**

Source: Haver Analytics/Statistics Canada. Note: Shading denotes negative value.

Exhibit 55: International and Interprovincial Migration, 2012–13 to 2016–17
Census year basis (July 1 – June 30)

	2012-13	2013-14	2014-15	2015-16	2016-17	2012-13	2013-14	2014-15	2015-16	2016-17
	British Columbia					Québec				
Immigrants	35,736	37,471	31,680	43,238	35,388	55,966	51,652	45,530	55,354	53,199
Emigrants	(12,488)	(13,050)	(13,167)	(13,218)	(13,244)	(8,805)	(9,658)	(10,602)	(10,639)	(10,662)
Returning emigrants	5,486	5,839	6,455	6,455	6,455	5,701	5,265	5,224	5,224	5,224
Net temporary emigrants	(5,763)	(5,763)	(5,763)	(5,763)	(5,763)	(2,185)	(2,184)	(2,185)	(2,185)	(2,185)
Net non-permanent residents	11,420	11,692	(1,031)	(3,538)	13,846	(2,062)	1,100	1,104	6,440	17,279
Net international	**34,391**	**36,189**	**18,174**	**27,174**	**36,682**	**48,615**	**46,175**	**39,071**	**54,194**	**62,855**
Net Interprovincial	**(1,868)**	**9,475**	**20,379**	**26,573**	**16,163**	**(10,431)**	**(14,312)**	**(16,142)**	**(11,118)**	**(10,759)**
	Alberta					New Brunswick				
Immigrants	36,866	41,066	39,606	57,839	44,091	2,019	2,298	2,799	4,458	3,448
Emigrants	(7,422)	(7,704)	(8,496)	(8,525)	(8,542)	(301)	(433)	(551)	(553)	(555)
Returning emigrants	4,975	5,330	5,451	5,451	5,451	301	298	240	240	240
Net temporary emigrants	(2,284)	(2,286)	(2,285)	(2,285)	(2,286)	(184)	(184)	(184)	(184)	(184)
Net non-permanent residents	15,790	7,563	(18,582)	(10,378)	(5,504)	(10)	333	(201)	918	725
Net international	**47,925**	**43,969**	**15,694**	**42,102**	**33,210**	**1,825**	**2,312**	**2,103**	**4,879**	**3,674**
Net Interprovincial	**38,598**	**35,382**	**21,594**	**(15,108)**	**(15,131)**	**(3,290)**	**(3,517)**	**(2,790)**	**(1,113)**	**(849)**
	Saskatchewan					Nova Scotia				
Immigrants	9,816	12,315	11,378	15,151	14,315	2,243	2,779	2,685	5,442	4,356
Emigrants	(665)	(903)	(904)	(904)	(906)	(1,030)	(1,056)	(1,016)	(1,020)	(1,022)
Returning emigrants	443	651	652	652	652	588	651	509	509	509
Net temporary emigrants	(207)	(206)	(207)	(207)	(207)	(231)	(232)	(230)	(230)	(230)
Net non-permanent residents	3,455	209	(1,625)	1,168	1,107	239	165	515	2,634	2,140
Net international	**12,842**	**12,066**	**9,294**	**15,860**	**14,961**	**1,809**	**2,307**	**2,463**	**7,335**	**5,753**
Net Interprovincial	**392**	**(1,839)**	**(4,528)**	**(4,272)**	**(5,615)**	**(3,517)**	**(2,571)**	**(2,311)**	**754**	**645**
	Manitoba					Prince Edward Island				
Immigrants	12,680	15,441	14,799	17,405	15,679	863	1,400	1,339	2,015	2,264
Emigrants	(1,470)	(1,633)	(2,006)	(2,012)	(2,018)	(158)	(90)	(155)	(155)	(155)
Returning emigrants	1,470	1,341	1,249	1,249	1,249	114	88	58	58	58
Net temporary emigrants	(416)	(418)	(418)	(419)	(419)	(35)	(35)	(35)	(35)	(35)
Net non-permanent residents	1,772	1,041	1,059	4,729	5,550	135	186	267	698	777
Net international	**14,036**	**15,772**	**14,683**	**20,952**	**20,041**	**919**	**1,549**	**1,474**	**2,581**	**2,909**
Net Interprovincial	**(5,006)**	**(6,851)**	**(6,678)**	**(4,881)**	**(6,906)**	**(901)**	**(941)**	**(682)**	**30**	**(436)**
	Ontario					Newfoundland and Labrador				
Immigrants	105,910	101,913	89,704	120,338	98,409	680	1,024	849	1,420	1,021
Emigrants	(27,270)	(29,309)	(29,708)	(29,818)	(29,875)	(407)	(268)	(289)	(290)	(290)
Returning emigrants	17,752	17,542	19,119	19,119	19,119	170	141	147	147	147
Net temporary emigrants	(6,919)	(6,921)	(6,920)	(6,920)	(6,919)	(125)	(126)	(125)	(125)	(125)
Net non-permanent residents	18,942	10,560	2,192	33,148	69,295	420	375	238	814	582
Net international	**108,415**	**93,785**	**74,387**	**135,867**	**150,029**	**738**	**1,146**	**820**	**1,966**	**1,335**
Net Interprovincial	**(13,901)**	**(14,564)**	**(8,695)**	**9,077**	**25,689**	**495**	**234**	**161**	**232**	**(1,954)**

Source: Statistics Canada. Note: Shading denotes negative value.

Current trends:

- **Prairie provinces** (AB, SK, MB) continue to experience strong population growth. Their rates of natural increase and strong international migration are the highest among the provinces. However, the downturn in the energy sector has prompted modest interprovincial out-migration.
- **Ontario and British Columba** are experiencing strong population growth. While natural increase has been more modest, interprovincial migration to these provinces has reversed with the downturn in the energy sector. International migration remains consistently positive.
- **Québec** population growth has been more moderate. Natural increase is similar to Ontario, though international and interprovincial migration are weaker.
- **Atlantic Canada's** (NB, NS, PE, NL) population growth has been weak. Natural increase and interprovincial migration have either been neutral or negative in recent years. Modest growth over this period is attributable to international migration.

Canadian Immigration Policy

The Government of Canada has announced three-year immigration targets. Over the last two years, total immigration was about 300,000 annually. Immigration targets are now set to rise steadily over the next three years to 340,000 in 2020 with about 60% of immigrants in the economic class. The government focuses on skilled immigrants to offset some of the consequences of an aging population.

Atlantic Immigration Pilot

Atlantic Canada has been challenged in the past to attract and retain immigrants. The Government of Canada has introduced a pilot project to support higher levels of immigration and retention in the region. Under the program, employers play a greater role in the settlement of skilled workers and in exchange, some of the requirements for the nominee program are waived (i.e., labour impact assessment).

Population Aging

Like other developed economies, Canadian society is aging. This is a long-term trend and reflects the following:

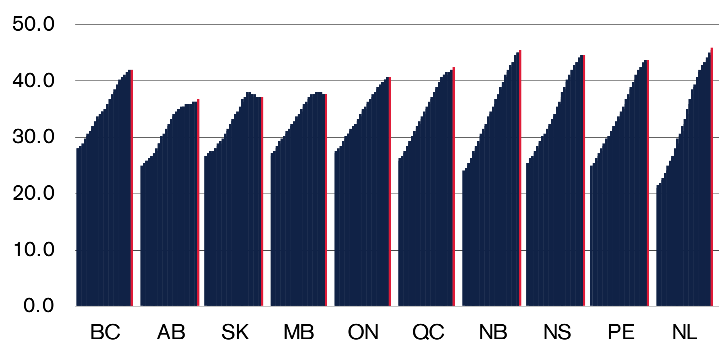
- Declining fertility rates;
- Increasing longevity/compression of morbidity; and
- Past population trends (e.g., Canada had a relatively more pronounced post-war baby boom).

The median age has risen steadily over the last four decades, from 26.2 years in 1971 to 40.6 years today. Population aging will continue over the coming decades, and estimates by Statistics Canada suggest the proportion of seniors in Canada could rise to 20% by 2025 and nearly 25% by 2050.

Among OECD countries, the proportion of seniors as a share of total population ranges between 6.5% and 25.1% (2013). Canada falls toward the centre (15.3%) and below the G7, EA19 and EU28 averages.

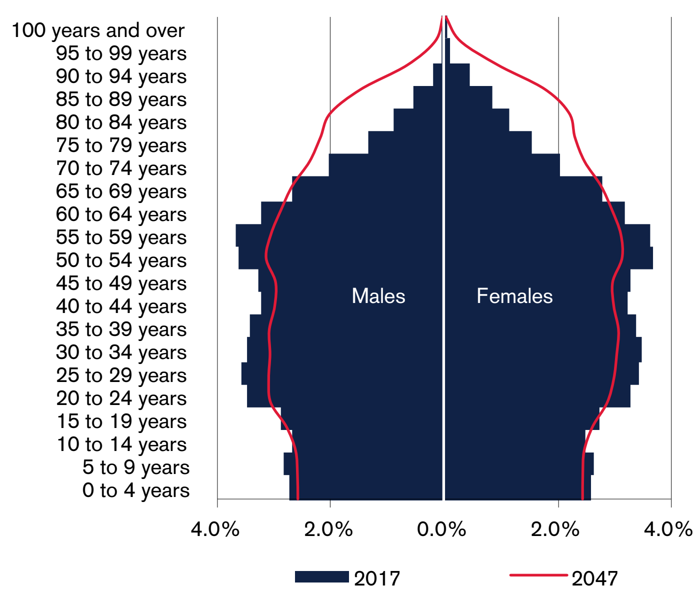
The aging population will have social, economic and fiscal implications. The implications will vary regionally but could

Exhibit 56: Median Age, 1971 to 2017



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Exhibit 57: Age Distribution, 2017 and 2047



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

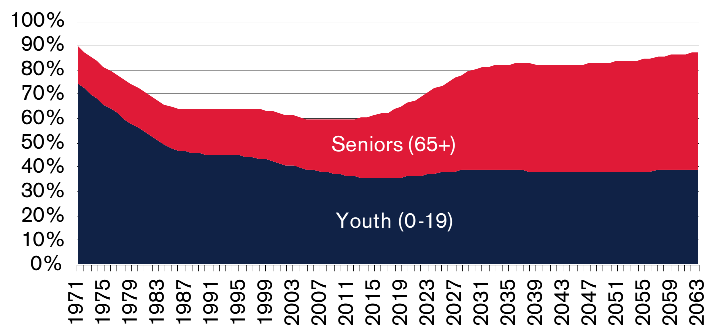
include these consequences:
- Slower growth or declines in some provinces, adversely affecting potential output;
- Changes in consumption, savings, and investment; and
- Labour supply shortages for some skills-sets and sectors.

The fiscal implications are less clear and will be heavily influenced by policy actions taken by governments over the coming decades. Potential fiscal implications include the following:
- Tax and other own-source revenue growth slows as broader economic growth slows and consumption patterns change. Seniors tend to have lower incomes and benefit from a number of preferential tax measures (e.g., income splitting, age amount, etc.).
- Increased pressure on health and social spending. While aging has not been the principal driver of rising health care cost growth to date, the changes in the population structure and the increasing number of seniors will require new facilities, increase demand for services and ultimately lead to growth in some budget areas.

The provinces have started to introduce policy measures intended to alleviate some of the economic and fiscal pressures arising from an aging population. The most visible actions have included policy measures to increase resources for home care and community-based care, which are less expensive and, in some respects, more effective in addressing some seniors' health and social needs.

Policies have also been introduced to address some of the longer-term economic challenges. A number of provinces have introduced measures to encourage greater labour market participation by seniors (e.g., Québec tax changes), while the federal and provincial governments have made a concerted effort in recent years to drive longer-term productivity increases. These efforts have included significant investments in public infrastructure, increased funding for K-12 and post-secondary education, research, etc.

Exhibit 58: Dependency Ratios for Canada, 1971 to 2063

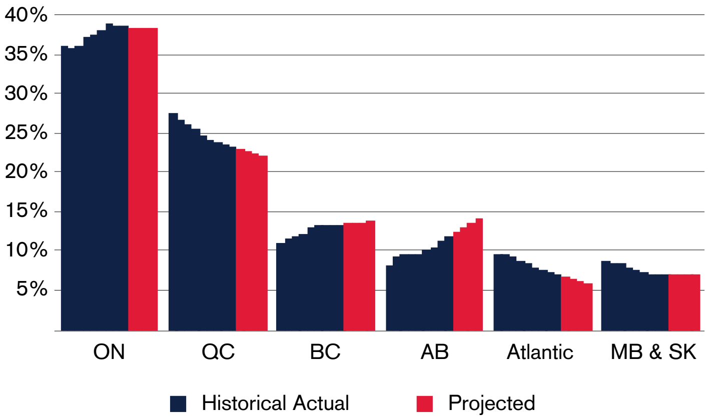


Note: Population Projections for Canada (2013 to 2063), M1
Youth dependency ratio = Pop. ages 0 to 19 / Pop. ages 20 to 64
Seniors dependency ratio = Pop. aged 65+ / Pop. ages 20 to 64
Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Statistics Canada's most recent population projections based on the 2011 census suggest that the dependency ratio for Canada will rise from 63% currently to about 82% by 2035.

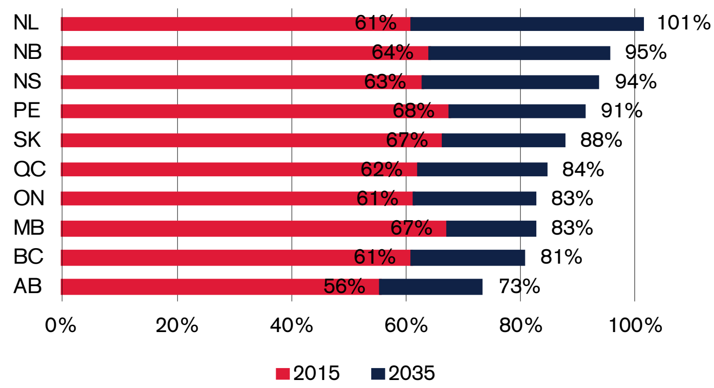
Among the provinces, the longer-term demographic outlook follows the near-term outlook. Most significantly:
- **Alberta and British Columbia** will continue to experience relatively stronger population growth, their share of the national population will rise, they will have the lowest dependency ratios.
- **Atlantic Canada** will age faster and grow slower than other regions. Its share of the national population will decline, and the region will have the highest dependency ratios.

Exhibit 59: Share of Canada Population, 1975 to 2035



Note: Population Projections for Canada (2013 to 2063), M1, 1975, 1980, 1985, …, 2035
Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Exhibit 60: Dependency Ratios by Province, 2015 and 2035



Note: Population Projections for Canada (2013 to 2063), M1
Youth dependency ratio = Pop. ages 0 to 19 / Pop. ages 20 to 64
Seniors dependency ratio = Pop. aged 65+ / Pop. ages 20 to 64
Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Labour Market

Canada has a diverse, highly skilled workforce that benefits from consistent population growth, publically funded secondary and post-secondary education, and relatively unhindered labour mobility.

Canada's labour market has seen a marked improvement through 2017 as excess slack in the economy is being absorbed. The economy is expected to reach full employment in 2018. Trends in the labour market in 2017 include the following:

- Labour force is growing in most provinces;
- Employment is stabilizing in the resource producing provinces and growth accelerating in most other provinces;
- Unemployment rates are falling in many provinces, with most approaching or falling below pre-recessionary levels; and
- Wage growth is relatively modest.

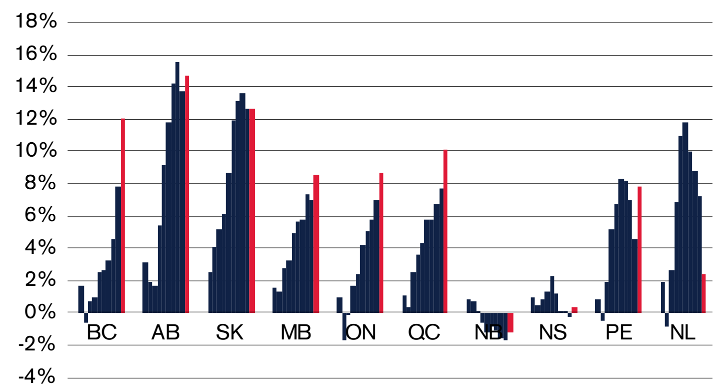
Labour Force

The size of the labour force is a function of the working age population and participation rates. Participation rates are influenced by a range of structural features and social/cultural norms. In Canada, labour force participation rates vary between 60.0% and 75.0%. The Atlantic provinces have the lowest participation rates, while Alberta and Saskatchewan have the highest.

Population growth and improving economic conditions have supported strong labour force growth in many provinces over the last decade, with resource-producing provinces seeing the strongest growth.

Exhibit 61: Employment Growth by Province since 2007

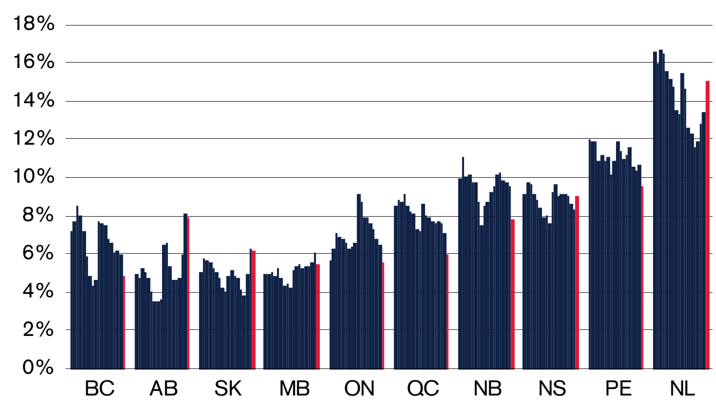
Annual NSA for 2007 to 2016. YTD average for 2017.



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Exhibit 62: Unemployment Rate, 2000 to 2017

Annual NSA for 2000 to 2016. September 2017 SA.



Source: Statistics Canada.

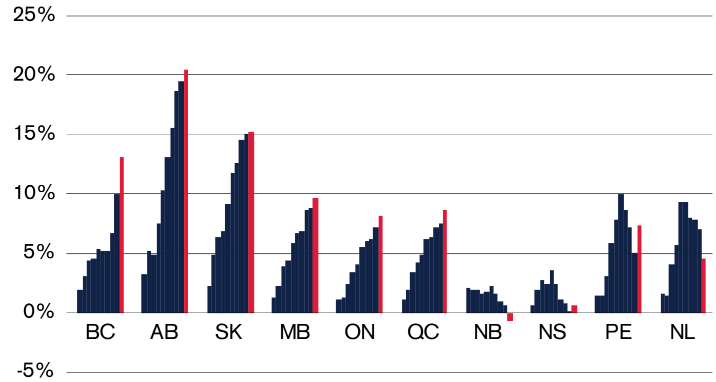
Employment

Employment growth has been strong in most provinces over the last two years, particularly in the large, diversified economies. Employment growth turned negative in resource-producing provinces following the oil price correction, but it now appears to be stabilizing.

New Brunswick and Nova Scotia have experienced weaker employment growth in recent years, primarily because of the age structure of those provinces and weak overall population growth.

Exhibit 63: Labour Force Growth by Province since 2007

Annual NSA for 2007 to 2016. YTD average for 2017.



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Exhibit 64: Labour Force Composition by Level of Education and Province, 2016

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
No high school	1%	1%	2%	2%	1%	3%	2%	2%	2%	2%
Some high school	7%	9%	10%	10%	7%	8%	9%	9%	10%	10%
High school graduate	22%	22%	25%	23%	19%	15%	23%	18%	22%	18%
Some postsecondary	8%	5%	6%	9%	7%	6%	6%	7%	5%	6%
Post-secondary certificate or diploma	32%	35%	34%	31%	33%	42%	38%	37%	36%	46%
University degree	29%	28%	23%	24%	33%	26%	22%	28%	24%	19%
Bachelor's degree	20%	20%	17%	18%	22%	18%	16%	17%	17%	13%
Above bachelor's degree	9%	8%	6%	6%	11%	8%	6%	11%	7%	6%

Source: Statistics Canada.

Skill Level

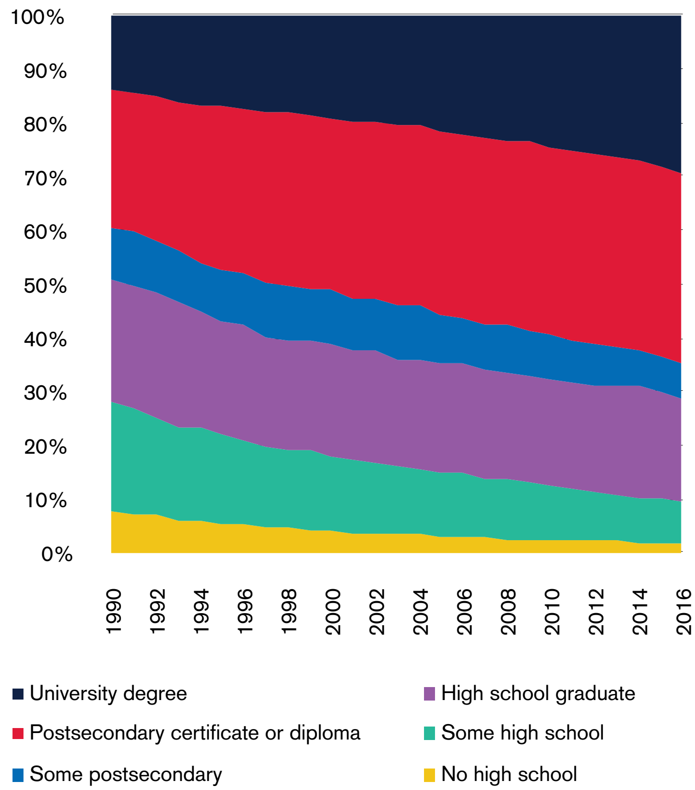
Canada has a publically funded primary, secondary and post-secondary education system, which has led to a highly skilled workforce. A growing share of the Canadian workforce has some form of post-secondary education.

The mix of skill sets varies across provinces, reflecting differences in economic opportunity and educational systems. Nevertheless, in all provinces, between 55% and 70% of labour force participants have some type of post-secondary education. Overall, Ontario and Québec have higher levels of educational attainment, while Manitoba and Saskatchewan have lower levels.

In addition to skill levels, DBRS also assesses how well the supply of labour matches labour demand. While skill levels have continued to improve, there continue to be structural issues and skill mismatches that result in permanently higher unemployment in some provinces.

DBRS notes that job vacancy rates are generally low in most provinces but have crept higher in recent quarters as the economic expansion has accelerated.

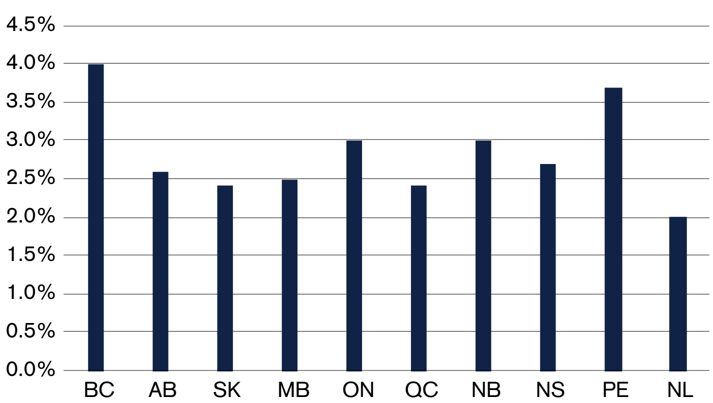
Exhibit 65: Labour Force Composition by Level of Education, 1990 to 2016



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

Exhibit 66: Job Vacancy Rate, Q2 2017

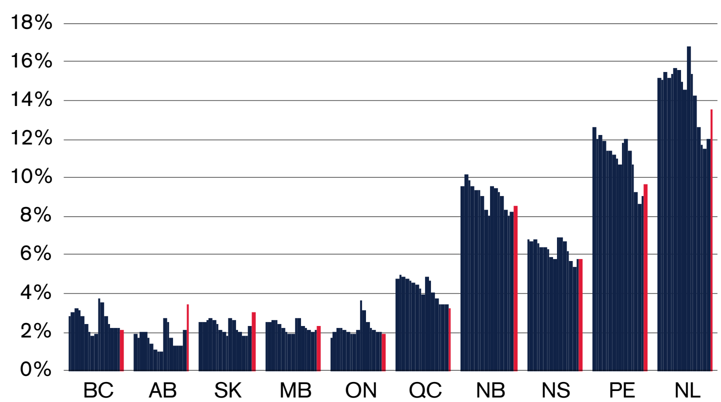
Q2 2017 NSA



Source: Haver Analytics/Statistics Canada.

Exhibit 67: Ratio of EI Recipients to the Size of the Labour Force, 2000 to 2016

Average Annual Employment Insurance Beneficiaries (regular benefits).



Source: Haver Analytics/Statistics Canada. DBRS Calculations.

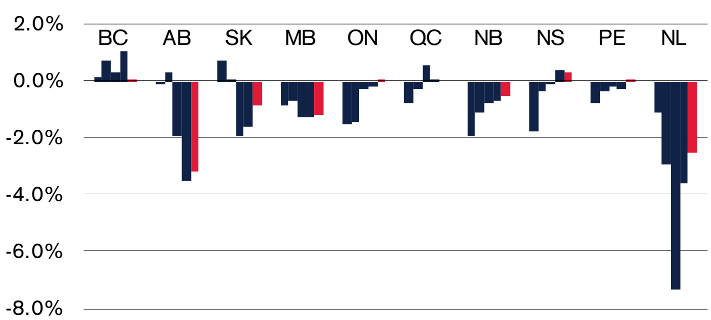
Fiscal Management

- **Budgetary results are generally stable or improving.**
- **Newfoundland and Saskatchewan have undertaken measures to address budget deficits, which should yield significant year-over-year improvements.**

The review of fiscal management assesses the government's commitment to fiscal sustainability, volatility of fiscal performance, budget management and prudence, relative tax competitiveness and the transparency, timeliness and quality of reporting.

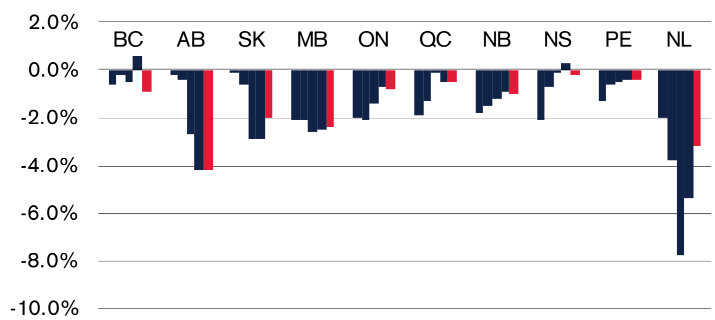
DBRS evaluates revenue potential, expenditure management capacity and the broader coherence and appropriateness of the strategies, policies and political processes governing the planning and allocation of public funds.

Exhibit 68: Reported Surplus (Deficit) as a Share of Nominal GDP, 2013-14 to 2017-18



Source: Provincial Budgets and public accounts.

Exhibit 69: DBRS-Adjusted Surplus (Deficit) as a Share of Nominal GDP, 2013-14 to 2017-18



Source: Provincial Budgets and public accounts.

Methodological Considerations

DBRS's scoring of the Economic Structure critical rating factor and the description for the sub-factors follows:

Critical Rating Factor: Fiscal Management

Fiscal management encompasses a range of considerations, including (1) fiscal policy, (2) budgetary practices, (3) fiscal capacity and (4) transparency and reporting. The scoring for the fiscal management factor follows.

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
AA (high)	AA (high)	AA	A (high)	AA (low)	A (high)	A (high)	A (high)	A (low)	A (low)

DBRS's scoring of provincial economic growth trends (real GDP growth rate) within the financial risk assessment section of the methodology follows:

Financial Risk Factor: DBRS-adjusted surplus/(deficit)-to-GDP

The ratio of DBRS-adjusted surplus/(deficit)-to-GDP is one of the primary metrics used by DBRS to determine the financial risk of provincial issuers. The scores are defined in the methodology: AAA (recurring surpluses > 2.0%), AA (-2% to 2%), "A" (persistent deficits of 2% to 5%) and BBB (persistent deficits greater than 5%).

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
AA (low)	A (low)	A (high)	A (high)	AA (low)	AA	AA (low)	AA	AA	A

Revenue

- **Revenues are rising with faster economic growth and a mix of policy measures.**
- **Divergence in provincial policy, with some provinces prioritizing tax cuts for low and middle income households, while others are raising taxes as part of general deficit-reduction initiatives.**
- **Tax reductions are made possible by economy-driven revenue gains or by increasing taxes on higher income earners or larger businesses.**

Canadian provinces have many revenue sources through their broad taxation powers, ownership of natural resources, business enterprises and various other sources of own-source revenue. In addition, the provinces receive significant transfers from the federal government in support of federal priorities.

In total, the provincial governments have projected to collect $402.7 billion in 2017–18, up 4.8% from 2016–17 on a DBRS-adjusted basis.

The distribution of revenues is largely unchanged from year to year, with taxes accounting for about 60% of total revenue. Investment income and natural resource revenue tend to be more volatile but account for a relatively small share of revenue in most provinces.

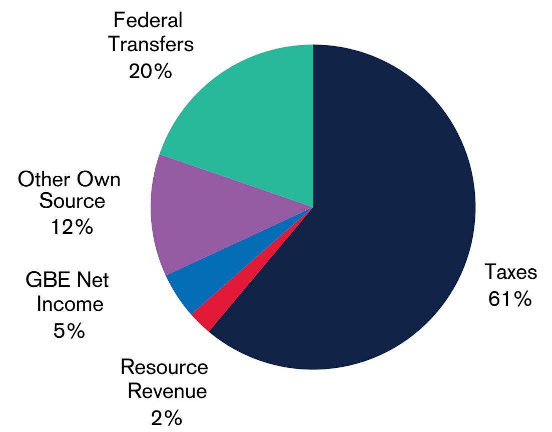
Total revenue growth weakened in 2014–15 and 2015–16 with the decline in commodity prices, but revenue growth is now accelerating, reflecting

- Faster economic growth,
- Tax and other policy changes to increase revenue,
- Modest recovery in commodity prices and
- Increases in federal transfers.

DBRS expects the pace of revenue growth to slow modestly in the coming years as fewer new revenue measures/tax increases are introduced and as the pace of economic growth slows to more sustainable levels.

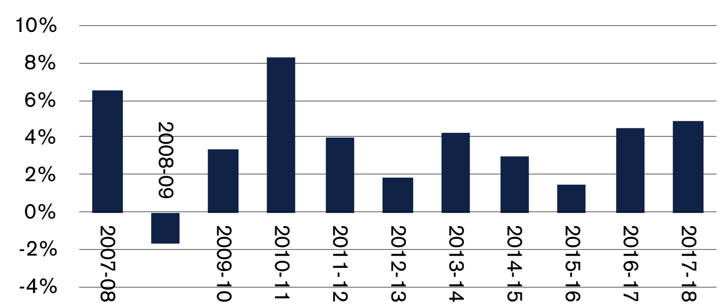
Exhibit 70: Distribution of DBRS-Adjusted Provincial Revenues, 2017–18

Proportion of own-source vs. federal transfers



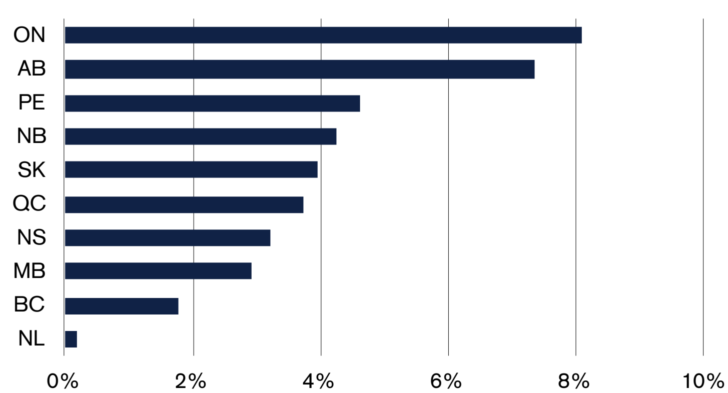
Source: Provincial budgets. DBRS Calculations.

Exhibit 71: Growth in DBRS-Adjusted Revenues, 2007–08 to 2017–18



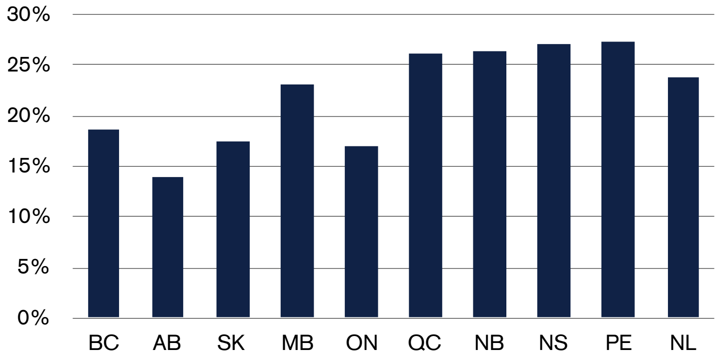
Source: Provincial budgets. DBRS Calculations.

Exhibit 72: Growth in DBRS-Adjusted Revenues, by Province, 2017–18



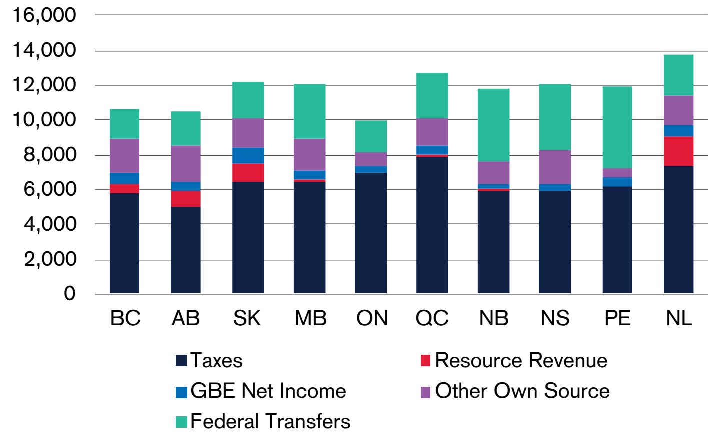
Source: Provincial budgets and public accounts. DBRS Calculations.

Exhibit 73: DBRS-Adjusted Revenues as a Share of Nominal GDP, 2017–18



Source: Provincial Budgets. DBRS Calculations.

Exhibit 74: Per Capita DBRS-Adjusted Revenues by Province, 2017–18



Source: Provincial Budgets. DBRS Calculations.

Taxes

- **Saskatchewan made policy changes/increases as part of its deficit reduction effort, while BC's new government made policy changes/decreases to align with their previous policy commitments around the level and distribution of the tax burden.**
- **Carbon taxes and cap-and-trade regimes are being rolled out by provincial governments, supporting the pan-Canadian effort to reduce greenhouse gas emissions.**
- **Federal changes to small business tax rules are unlikely to have a significant impact on provincial revenue (i.e., income sprinkling, etc.).**

Taxation is the most important source of revenue for the provinces, typically accounting for between 50% and 70% of revenue. The Canadian Constitution provides the federal and provincial governments with broad taxation powers, resulting in shared tax bases and the need for a degree of policy consistency.

The Constitution provides provinces with the ability to levy direct taxes, including income and general sales taxes, which are among the largest and most stable sources of revenue for provinces and generally track growth in the economy.

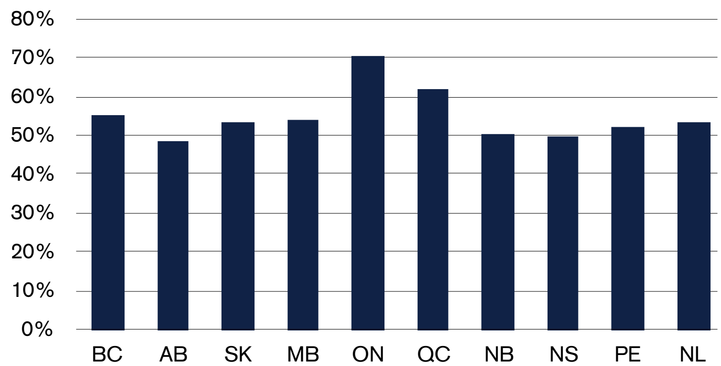
Provincial tax policy varies by province, reflecting the size and scope of government, the underlying revenue capacity of the economy, the availability of other revenue sources (e.g., natural resources) and general political or policy preferences (e.g., distributional issues).

The intensity of the tax burden varies considerably across provinces. Provincial taxes typically account for between 10.0% and 15.0% of GDP and range between $6,000 and $7,000 per capita. Québec has the highest tax burden on both measures, though this reflects a unique arrangement between the federal and provincial government whereby the federal government vacates income tax space in favour of the province. In return, the province assumes greater responsibility for directly funding social programs in the province. At the other end of spectrum, Alberta has the lowest tax burden among provinces, reflecting the abundance of resource revenue over the preceding three decades. High resource revenue enabled Alberta to offer a comparable or better level of public services with lower taxes.

Total provincial tax revenue growth is projected to be moderate in 2017–18 (+4.8%) and follows similarly strong growth in the prior year (+4.5%). Revenue growth is being driven by the following:

- Policy measures to increase revenue (e.g., tax increases to fund affordability measures or deficit reduction, and the introduction of new revenue sources such as carbon pricing).
- Improving economic conditions.
- Rising commodity prices.

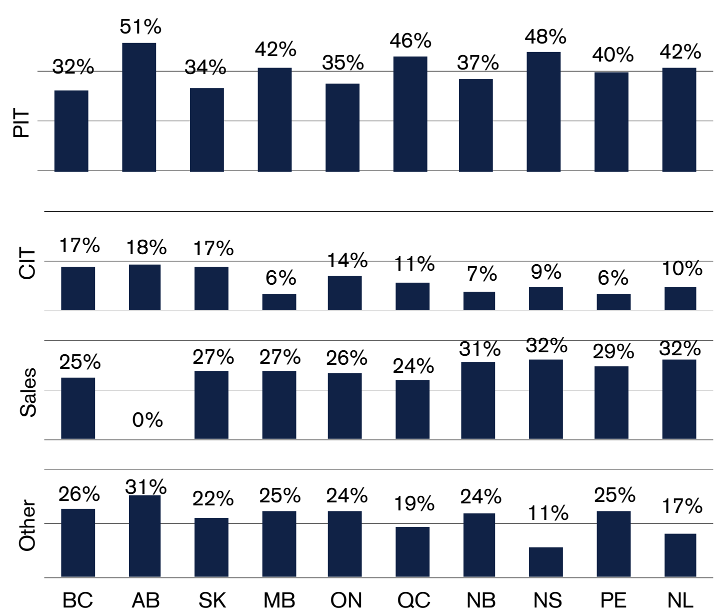
Exhibit 75: Taxes as a Share of Total Revenue, 2017–18



Note: Total revenue and total tax revenue on a DBRS-adjusted basis.
Source: Provincial budgets. DBRS calculations.

Exhibit 76: Tax Revenue Mix, 2017-18

Share of total tax revenue



Note: Total revenue and total tax revenue on a DBRS-adjusted basis.
Source: Provincial budgets. DBRS calculations.

Revenue growth is being partly offset by some affordability measures (e.g., modest tax reduction) and pro-growth policy changes (i.e., shifting the tax burden from income to consumption taxes).

The recent trends in provincial tax policy continue to revolve around three central themes:

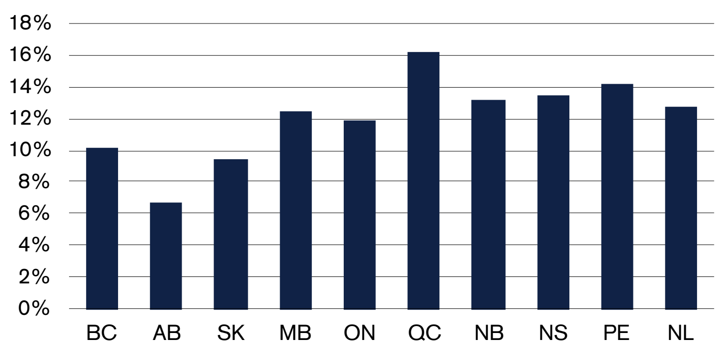
1. Redistribution: Tax increases for higher income households and tax cuts for lower income households.

2. Environment: Increasing or imposing carbon/fuel taxes and levies.

3. Efficiency: Eliminating ineffective or inefficient tax credits.

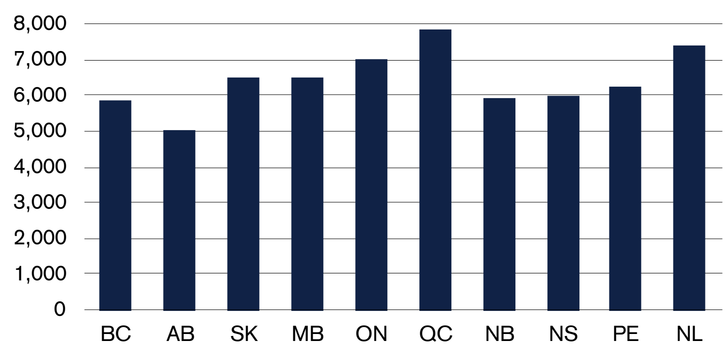
For a full list of major tax policy changes announced in the 2017 provincial budgets, see exhibit 92 (page 65).

Exhibit 77: Tax Revenue as a Share of the Economy, 2017–18



Note: Tax revenue on a DBRS-adjusted basis.
Source: Provincial budgets. DBRS calculations.

Exhibit 78: Tax Revenue per Capita, 2017–18



Note: Tax revenue on a DBRS-adjusted basis.
Source: Provincial budgets. DBRS calculations.

Personal Income Tax

Personal income tax is the most important source of own-source revenue for the federal and provincial governments. The two orders of government share the tax base, with the federal government accounting for about 60% of total personal income tax revenue.

The federal government administers the provincial income tax systems for all provinces except Québec, which has opted for its own administration. Under this framework, the federal government administers the personal tax system free of charge for the provinces, providing the provinces adhere to the federally defined common tax base. The provinces must use the federal government's definition of taxable income (line 260) as the starting point for provincial tax calculations. In exchange, the federal government assumes complete responsibility for administration and enforcement of provincial personal income taxes, including bad debt.

Total personal income tax revenue growth is projected to be relatively strong in 2017–18, reflecting stronger investment markets and the underlying growth in provincial economies that have supported stronger growth in employment (albeit more modest wage growth). In addition, there were a number of policy changes propelling revenue higher:

- Newfoundland and Labrador's rate increases effective July 1, 2016.
- British Columbia's re-establishment of a high income bracket (previously a temporary deficit reduction measure) effective January 1, 2018.

Saskatchewan was the only province to announce a notable reduction to personal income tax rates in 2017, though Québec is reducing its health contribution, and some provinces have moved to increase their basic personal amounts.

- Saskatchewan will reduce all personal income tax rates by 0.5 percentage points effective July 1, 2017, and by a further 0.5 percentage points effective July 1, 2019.
- Québec eliminated the health contribution for low and middle income earners retroactive to 2016.

In addition to the more substantive policy changes, the provinces have also continued to make changes to their tax credits. While most of these changes were modest, a number of provinces have sought to eliminate various tuition and education credits as part of broader reforms to student financial assistance programs.

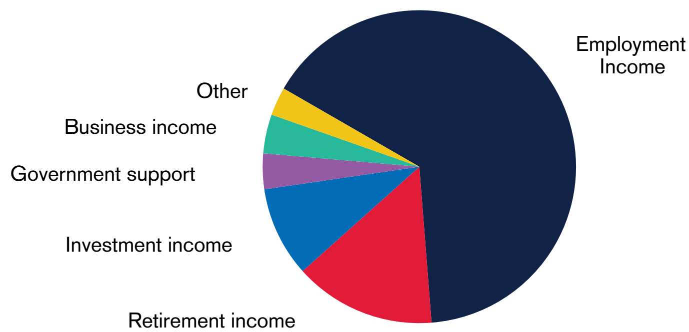
The federal government is consulting on proposed changes to address the use of Canadian-controlled private corporations (CCPCs) for tax planning. The proposed changes address three principal issues:

- Income sprinkling
- Holding passive investments inside private corporations
- Converting income into capital gains

Following formal consultations, the federal government has announced changes to the scope of the proposed changes and committed to lowering the federal small business tax rate.

The proposed changes to the tax rules affect the shared tax base. If implemented, the changes are likely to increase provincial personal and corporate income tax revenue modestly. The federal government has indicated that it expects the changes for income sprinkling to provide $250 million in incremental federal revenue. The federal government has not provided revenue guidance regarding the other two elements.

Exhibit 79: Components of total income for tax purposes, 2014.



Source: Canada Revenue Agency. DBRS Calculations.

Fiscal Capacity

As noted elsewhere in this report, DBRS seeks to understand how much fiscal capacity exists in each province and how heavily each province uses that fiscal capacity.

Provinces with higher median incomes generally have greater revenue-generating capacity, particularly as provincial income tax systems are progressive in nature. Alberta, Saskatchewan, Ontario and British Columbia tend to have more revenue potential from their underlying tax bases, reflecting relatively more income in upper tax brackets and less income attributable to individuals in lower brackets.

The level of taxation differs across provinces at varying income levels. Differences in rate structures, tax credits, surtaxes and low-income tax reductions make direct comparisons of provincial income tax systems challenging. Nevertheless, DBRS makes simplistic comparisons to understand roughly how much tax is payable at various income levels. DBRS estimates the tax payable for a single individual earning only employment income, making the maximum contribution to RRSPs and claiming only the basic personal amount, EI and CPP amounts. While DBRS acknowledges this is a limited comparison and a variety of other considerations will influence taxes payable, the results are instructive and generally consistent with the messaging provided by provinces regarding their tax competitiveness.

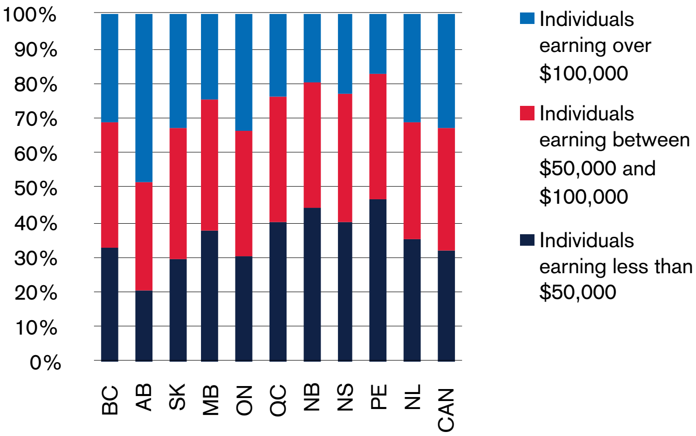
Exhibit 80: Population vs. Taxable Assessment Shares, 2014

	Population	Taxable Income
BC	13.1%	12.9%
AB	11.4%	15.4%
SK	3.1%	3.2%
MB	3.6%	3.1%
ON	38.6%	38.0%
QC	23.2%	20.6%
NB	2.1%	1.8%
NS	2.7%	2.4%
PE	0.4%	0.3%
NL	1.5%	1.5%

Source: Statistics Canada and the Canada Revenue Agency. DBRS Calculations.

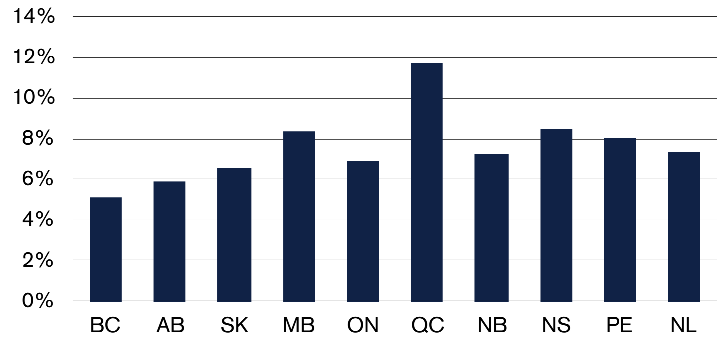
- British Columbia, Alberta, Saskatchewan and Ontario have comparatively lower effective tax rates at most income levels.
- Québec and the Atlantic provinces have relatively higher effective tax rates at most income levels.

Exhibit 81: Share of Taxable Income by Individual Income levels, 2014 Tax Year



Source: Canada Revenue Agency. DBRS Calculations.

Exhibit 82: Net Provincial Tax as a Share of Taxable Income, 2014 Tax Year



Note: Québec net provincial tax is total provincial individual income tax revenue as revenue by the province for the 2014–15 fiscal year. No adjustment for the federal abatement.
Source: Canada Revenue Agency and Province of Québec. DBRS calculations.

Exhibit 83: Personal Income Taxes, Effective Tax Rates, 2017

Estimated effective personal income tax rates (provincial tax payable divided by total income)

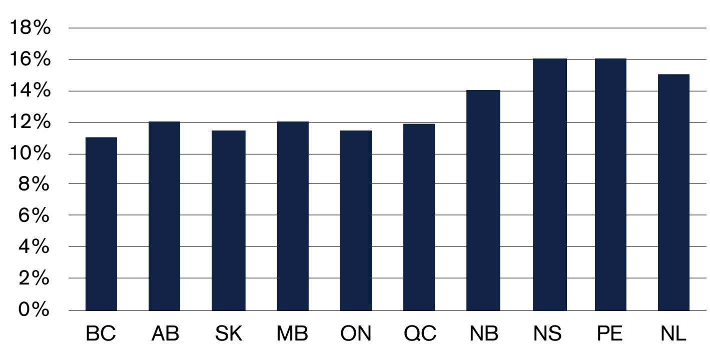
Note: Calculations assume a single individual, only employment income, maximum RRSP contributions and only the basic personal amount, CPP and EI tax credits. Québec effective tax rate adjusted for federal abatement.
Source: Provincial budgets

Corporate Income Tax

Corporate income tax tends to comprise a relatively smaller share of total tax revenue, accounting for between 3.0% and 10.0% of total revenue in 2017–18. Similar to the personal income tax, the corporate income tax base is shared by the federal and provincial governments. The federal government administers provincial corporate income taxes for all provinces except Alberta and Québec under similar terms and conditions. While Alberta and Québec maintain their own tax systems, they are largely consistent with the federal system.

Corporate income tax revenue tends to be among the more volatile revenue sources for the provinces because of the sensitivity of corporate profits to economic conditions and the ability to shift income/losses across time and geographies (e.g., tax loss carry-forward/back).

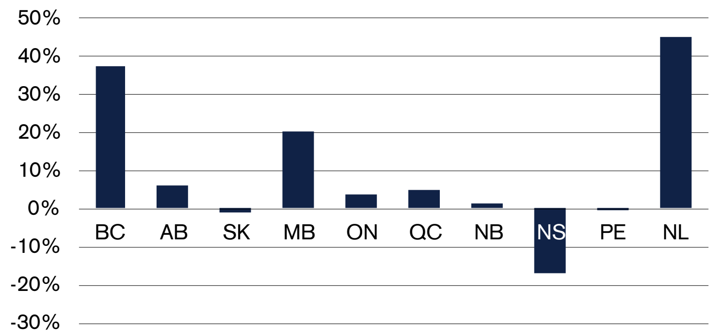
Exhibit 84: General Corporate Income Tax Rate, 2017



Note: Tax revenue on a DBRS-adjusted basis
Source: Provincial Budgets. DBRS calculations.

With provincial economies in an upswing and the resource-producing economies recovering from the oil price correction, the outlook for corporate income tax revenue is positive in 2017–18. Corporate income tax revenue is projected to rise, in aggregate, by about 8.0%.

Exhibit 85: Corporate Income Tax Revenue Growth, 2017–18



Note: Tax revenue on a DBRS-adjusted basis
Source: Provincial Budgets. DBRS calculations.

The consensus on corporate income taxation policy appears to have shifted over the last decade. After sustained corporate income tax rate reductions at the federal and provincial levels, a number of provinces have now sought to increase general corporate income tax rates. Some provinces have done so as part of broader deficit reduction initiatives, while others have done so because of a shift in the political party in power. Recent and planned increases include the following:

- British Columbia's plan to increase its general corporate income tax rate to 12.0% from 11.0% in 2018.
- Alberta's increase of its general corporate income tax rate to 12.0% from 10.0% in 2015.
- New Brunswick's increase of its general corporate income tax rate to 14.0% from 12.0% in 2016.
- Newfoundland and Labrador's increase of its general corporate income tax rate to 15.0% from 14.0% in 2016.

While most other provinces have maintained their general corporate income tax rates, Saskatchewan announced corporate income tax reductions as part of a broader effort to increase revenue and introduce pro-growth tax policy changes. Saskatchewan reduced its general corporate rate by 0.5 percentage points effective July 1, 2017, and will reduce the rate by a further 0.5 percentage points effective July 1, 2019.

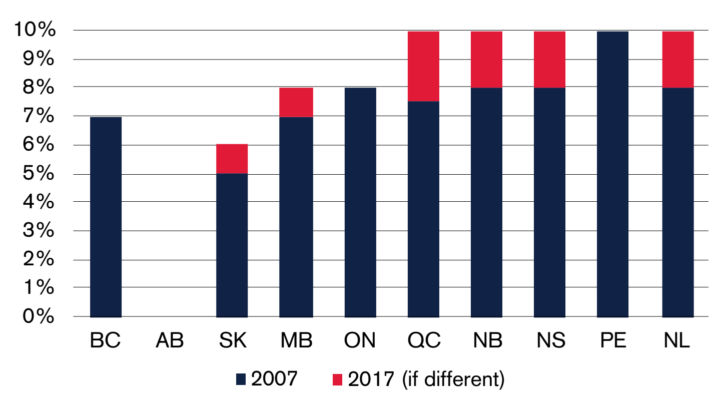
At the same time, a number of provinces also continued to lower to their small business rates, though these changes tend to have a modest impact on provincial revenue. Recent and planned decreases to the small business income tax rates include the following:

- Ontario's plan to reduce the small business tax rate by 1% to 3.5% effective January 1, 2018.
- British Columbia's plan to reduce its small business rate to 2.0% from 2.5% in 2018.
- Alberta's reduction of its small business rate to 2.0% from 3.0% in 2017.
- New Brunswick's reduction of its small business rate to 3.0% from 3.5% in 2017.
- The federal government commitment to reducing its small business tax rate to 9.0% by 2019 from the current rate of 10.5%.

Sales Taxes

Sales taxes are the second most important revenue source to provinces, typically accounting for between 15% and 20% of total revenue in 2017–18. There is widespread consensus among tax economists that broad-based sales taxes, particularly value added taxes (VAT) like the GST/HST, are among the least damaging forms of taxation. Six provinces have VATs, three have other forms of broad-based sales taxes, and Alberta does not have a broad-based sales tax.

Exhibit 86: Sales Tax Rates, 2007 and 2017



Note: BC, SK, and MB levy retail sales taxes, while the remaining provinces has valued added taxes.
Source: Provincial Budgets.

Over the last decade, the fundamental trend in sales taxes has been one of convergence, both in rates as well as in tax bases. The changes have been prompted by federal financial assistance and by challenging budget circumstances.

- **Harmonization of sales taxes.** Ontario and Prince Edward Island replaced their retail sales taxes with the federal VAT (GST/HST), joining Nova Scotia, New Brunswick and Newfoundland and Labrador, which adopted the HST in 1997. Québec, which already had a VAT, made modest changes to better align with the federal VAT.
- **Base changes.** The provinces with retail sales taxes have introduced a variety of changes that expand the base (e.g., taxing restaurant meals) or effectively reduce the amount of tax cascading through the production process (e.g., eliminate sales tax on specific business inputs).
- **Rate increases.** A number of provinces have increased rates as part of their deficit-reduction efforts.

The most significant sales tax policy announcements for 2017–18 were as follows:

- British Columbia's phase out of PST on the electricity purchases by businesses.
- Saskatchewan's rate increase to 6.0% from 5.0% and base expansion to include children's clothing, restaurant meals, snack foods, insurance premiums, etc.
- Ontario's elimination of the HST on electricity purchases by households as part of its Fair Hydro Plan.

Real Property Taxes

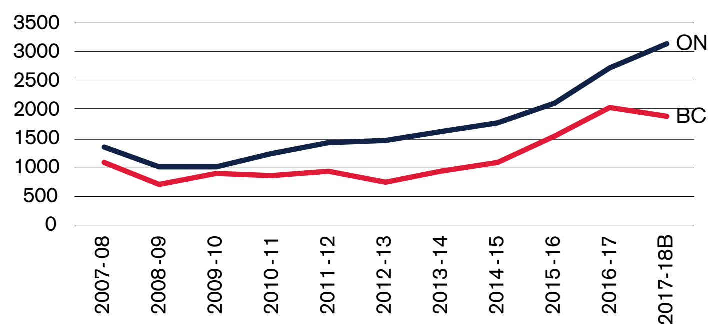
Some provinces levy property taxes and property transfer taxes/fees.

Property tax revenue is stable and predictable. The property tax is often a shared tax base used to fund local government and education. Municipal governments account for much of the property tax revenue collected in Canada.

Provincial collection of property taxes is generally connected to education funding, which has become increasingly centralized as provinces have sought to equalize funding/academic opportunity. Provinces generally set their total revenue requirement based on an approximate share of total education spending, tax levels or objectives for tax rates. Once the total revenue requirement is set, the tax is allocated to property owners based on the assessed value of properties.

Exhibit 87: Property Transfer Tax Revenue, 2007-08 to 2017-18

CAD millions



Source: Provincial Budgets and public accounts.

Property or land transfer taxes and fees vary considerably. In most provinces they account for a negligible share of total revenue. Ontario and British Columbia levy more substantial taxes, and each has experienced strong revenue growth in recent years. Despite the sharp increases, the taxes continue to account for relatively small shares of provincial revenue – about 2.0% of revenue in Ontario and 4.0% in British Columbia. Both provinces have budgeted for moderation in property transfer tax revenue in the coming years.

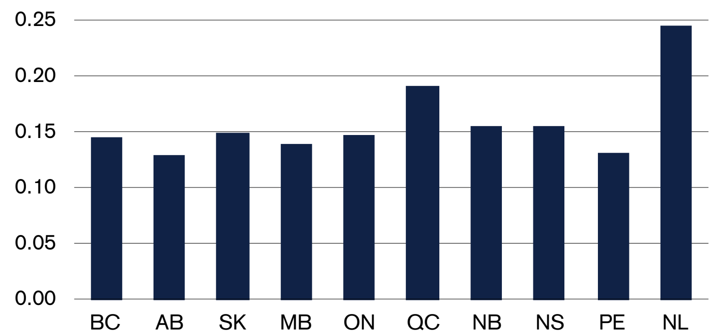
Fuel Taxes

Fuel taxes are excise taxes generally levied on fuels used for transportation (e.g., gasoline, diesel, jet fuel, etc.). Tax rates vary based on the type and use of the fuel, with gasoline and diesel often subject to differing rates. In addition, the provinces offer a variety of preferential rates or exemptions for specified fuel uses (e.g., farm, off-road, industrial).

Fuel tax revenue tends to be relatively stable, though it can exhibit some of the volatility in the underlying economy. For instance, in the resource-oriented provinces, a significant slowdown in activity can have a noticeable impact on fuel tax revenues.

Exhibit 88: Fuel Taxes, October 2018

Dollars per litre of gasoline



Note: Base tax rate for gasoline. Excludes sales and carbon taxes.
Source: Provincial budgets

Gasoline and other fuel products are also subject to a range of other taxes:

- Harmonized sales tax (ON, NB, NS, PE, NL)
- Provincial sales tax (QC)
- Carbon taxes/levies (BC, AB, ON, QC)

In addition, some provinces apply higher or lower rates based on geography or use. For instance, in the Metro Vancouver region, BC levies an additional $0.11 per litre of gasoline to subsidize South Coast British Columbia Transportation Authority (Translink), the regional transportation authority.

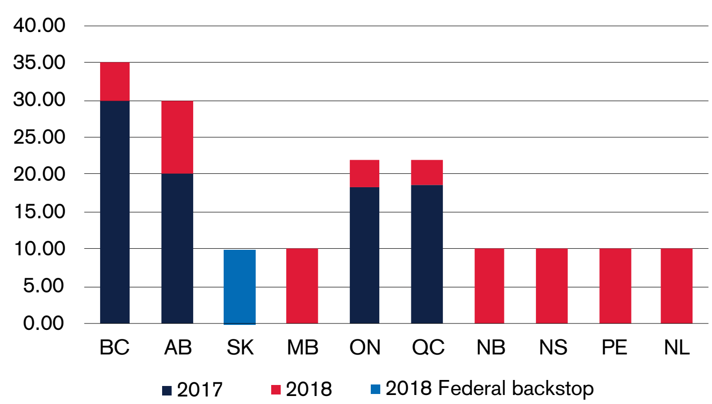
Rates are generally stable despite volatility in fuel prices. There have been relatively few changes over the last two years. Newfoundland and Labrador introduced a temporary deficit reduction fuel tax (16.5 cents per litre) in 2016, which doubled the provincial excise tax on gasoline to 33 cents per litre. The province has subsequently lowered the fuel tax and will make a further reduction on December 1, 2017, to 20.5 cents per litre.

Carbon Taxes

Carbon taxes and cap and trade systems are forms of carbon pricing intended to address the negative externalities associated with greenhouse gas emissions. By raising the cost of producing carbon emissions, carbon pricing internalizes the cost of the externality and thus alters household and firm behaviour. Similar to other forms of taxation, the higher the cost, the more effective the tax is at altering behaviour.

Exhibit 89: Carbon tax rates or other charges, 2017 and 2018

Dollars per tonne of CO2 equivalent



Note: Carbon prices for Ontario and Quebec are the settlement prices from the most recent auctions and the target for reserve prices in 2018.
Source: Provincial budgets and auction result summaries.

Four of ten provinces have broad-based carbon pricing in place. British Columbia and Alberta have carbon taxes, while Ontario and Québec have cap-and-trade systems.

British Columbia introduced a broad-based carbon tax in 2008. The tax was introduced at $10 per tonne on a revenue-neutral basis. The province has since raised the tax to $30 per tonne and has committed to raising it by a further $5 annually in the coming years. In addition, the new government has indicated that subsequent increases will not be revenue neutral. The province will spend the incremental revenue on initiatives to reduce GHG emissions. BC's carbon tax covers approximately 70% of the province's total greenhouse gas emissions.

Alberta introduced its carbon tax in 2017 with an initial rate of $20 per tonne, rising to $30 per tonne in 2018 (equivalent to 7.74 cents per litre of gasoline). Alberta committed to spend the proceeds of the new tax on various programs/rebates to aid in the province's efforts to reduce GHG emissions.

Ontario (2017) and Québec (2013) have introduced cap-and-trade systems and are now linking their systems with that of the State of California. Auctions during the summer yielded prices of about $18.70 per tonne for the 2017 vintages. Under the linked system, auction reserve prices are set to rise 5.0% annually.

The federal government is mandating provinces to introduce and raise existing carbon prices as part of the Canadian effort to reduce GHG emissions. The federal government has indicated that it will introduce legislation that will impose a carbon tax backstop in those jurisdictions that fail to meet the level mandated by the federal government. The federal government has directed provinces without a price on carbon to introduce one at $10 per tonne in 2018, rising by $10 annually to $50 per tonne by 2022.

The remaining provinces have indicated that they will introduce either a tax or a cap-and-trade system, with the exception of Saskatchewan, which remains firmly opposed to carbon pricing.

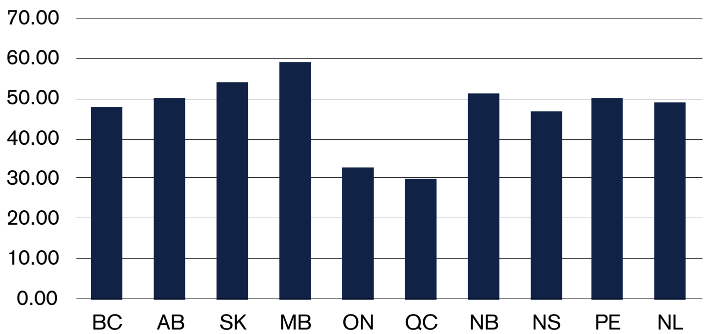
Tobacco Taxes

Tobacco taxes continue to provide provinces with stable revenue despite declining consumption rates. While taxation of tobacco products has historically been a relatively simple and stable source of revenue, provinces have used these taxes as a public health measure in recent decades. Most provinces continue to raise tobacco tax rates to reduce affordability for youth and deter consumption by adults.

Tobacco tax revenue is likely to fall in relative importance over the coming decades as consumption declines further, both in response to public health policy initiatives, as well as from the advent of new tobacco-like products.

Exhibit 90: Tobacco tax rates, October 2018

Dollars per carton of 200 cigarettes



Note: Provincial sales or the HST applies to tobacco products in all provinces except for British Columbia and Quebec.
Source: Provincial budgets

Health Premiums

Health care costs represent a large share of provincial spending. To offset and defer some of those costs, certain provinces impose dedicated health taxes or levies. These include health-termed payroll taxes, income tax components and outright health fees/charges.

British Columbia announced a 50% reduction in its Medical Services Premiums in 2017–18 with a view to full elimination over the medium term. Alberta eliminated its equivalent in 2009. Manitoba has floated the idea introducing a health premium or charge in the media, but there is no indication this is immediately forthcoming.

Ontario and Québec have health premiums as part of their provincial income tax systems. As noted, Québec eliminated the health contribution for low and middle income earners retroactive to 2016.

Capital and Payroll Taxes

Capital taxes are levied on a corporation's taxable capital, which is defined in legislation. Capital taxes are generally viewed as one of the more economically harmful forms of taxation and tend to discourage investment. All provinces have eliminated their general corporate capital taxes, though the six smaller provinces continue to levy a capital tax on financial institutions. Capital taxes are relatively stable sources of revenue but account for a small share of total revenue.

Payroll taxes are levied on companies and are based on the size of their payroll. Like the capital tax, payroll taxes tend to be one of the more economically harmful taxes, as they raise the cost of employment but do not consider the employer's profitability or value creation. Payroll taxes are levied by Ontario, Québec, Manitoba, and Newfoundland and Labrador. They account for a small share of provincial revenue.

Cannabis Taxes

The federal government has introduced legislation that will legalize the production, distribution, sale and consumption of cannabis effective July 1, 2018. Initial indications suggest that cannabis will be subject to the HST/GST and a federal excise tax, with the proceeds of the latter split with provinces. The federal government has a released a proposal for consultation for an excise tax not to exceed the higher of $1 per gram or 10% of the sale price of the product, with revenues to be split equally between the federal and provincial government. The federal government has stated that taxation levels will be set such that legal cannabis will be competitive with illicit cannabis.

A study released by the Parliamentary Budget Officer (PBO) in December 2016 suggested that a cannabis tax would be unlikely to raise more than $600 million nationally through HST/PST/GST. Given the various expense pressures associated with the legalization, the net fiscal impact appears neutral for the provinces.

Exhibit 91: Selected Tax Rates, 2017

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
Personal Income Tax										
Top provincial marginal rate[1]	14.7%	15.0%	14.8%	17.4%	20.5%	25.8%	20.3%	21.0%	1840.0%	18.3%
Top marginal rate threshold	$108,460	$303,900	$129,214	$68,005	$220,000	$103,915	$152,100	$150,000	$63,969	$179,214
Basic personal amount	$10,208	$18,690	$16,065	$9,271	$10,171	$14,890	$9,895	$9,895	$8,160	$8,978
Sales Tax										
General rate	7.0%	Nil	6.0%	8.0%	8.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Corporate Income Tax										
General rate	11.0%	12.0%	11.5%	12.0%	11.5%	11.9%	14.0%	16.0%	16.0%	15.0%
Manufacturing and Processing rate	11.0%	12.0%	9.5%	12.0%	10.0%	11.9%	14.0%	16.0%	16.0%	15.0%
Small business rate	2.5%	2.0%	2.0%	0.0%	4.5%	8.0%	3.0%	3.0%	4.5%	3.0%
Capital Tax										
Financial Institutions (max. rate)	nil	nil	4.0%	6.0%	nil	nil	5.0%	4.0%	5.0%	6.0%
Other Taxes										
Payroll tax (max. rate)	nil	nil	nil	2.2%	2.0%	4.3%	nil	nil	nil	2.0%
Gasoline ($/L)[2]	$0.145	$0.130	$0.150	$0.140	$0.147	$0.192	$0.155	$0.155	$0.131	$0.245
Tobacco ($/carton)	$47.80	$50.00	$54.00	$59.00	$32.95	$29.80	$51.04	$47.04	$50.00	$49.00
Health premium	Yes	No	No	No	Yes	Yes	No	No	No	No
Carbon price ($ per tonne)	$30.00	$20.00	nil	nil	$18.30	$18.74	nil	nil	nil	nil

1. Ontario and Prince Edward Island levy a surtax on the top statutory rates of 13.16% and 16.7%. Actual top marginal threshold will vary depending on credits. Québec residents receive a 16.5% abatement on federal income tax. Top federal marginal tax rate is 33.0%.
2. Gasoline tax is the general rate in the province. It excludes carbon tax and other surcharges/reductions.

Source: Provincial budgets.

Exhibit 92: Major Tax Announcements, 2017 Budgets

BC	• Introduced a higher income tax bracket for 2018 (16.8% for taxable income in excess of $150,000) • Increased the general corporate income tax rate to 12.0% in 2018 from 11.0%. • Announced carbon tax increases of $5.00 per tonne per year for four years beginning April 1, 2018. • Reduced the small business tax rate to 2.0% in 2018 from 2.5%. • Announced phase out of sales tax on electricity purchases by businesses. • Various changes to income tax credits.
AB	• No tax changes
SK	• Announced 0.5 percentage-point reductions to personal and corporate income tax rates effective July 1, 2017, and July 1, 2019. • The provincial sales tax was increased by 1.0 percentage point to 6.0% on April 1, 2017. • The provincial sales tax was expanded to include children's clothing, restaurant meals, snack foods, insurance premiums, etc. • The tobacco tax was increased to $54.00 per carton from $50.00 per carton of cigarettes. • The corporation capital tax on large financial institutions was increased to 4.00% from 3.25%.
MB	• Various changes to income tax credits.
ON	• Announced a tax system review. • Eliminated the provincial portion of the HST on electricity sales. • Increased tobacco taxes by $10.00 per carton to $32.95 per carton. • Various changes to income tax credits. • Provided municipalities with the authority to levy a hotel room tax.
QC	• Elimination of health premiums (previously announced) and refunds for low and middle income individuals in respect of 2016. • Various changes to tax credits.
NB	• Reduced the small business tax rate to 3.0% from 3.5%. • Various changes to tax credits.
NS	• Modest increases to personal income tax credits for 2018 (basic personal amount, amount for eligible dependents and the age amount).
PE	• Various changes to income tax credits.
NL	• Reducing the temporary gas tax increase by 8.5 cents per litre on June 1, 2017, and by a further 4.0 cents per litre on December 1, 2017.

Source: Provincial budgets.

Resource Revenue

- **Energy prices have improved since the summer, and there appears to be some modest growth in production, which should support near-term revenue growth.**
- **The price outlook for the medium term remains challenging for oil-producing provinces and suggests resource revenue growth may be weaker than previously anticipated.**

Provinces own most of the natural resources in Canada. While the tax bases are shared with other levels of government, resource revenue is distinctly provincial, and for some provinces it accounts for a material share of revenue.

The provinces generate revenue from a mix of renewable resources:

- Non-renewable resources include oil (conventional and non-conventional), natural gas and liquids, iron ore, uranium, minerals (e.g., potash), etc.
- Renewable resources include forestry, water rentals, etc.

Outside of Alberta, Saskatchewan, and Newfoundland and Labrador, resource revenue tends to be modest.

Resource revenues tend to comprise a mix of revenue streams:

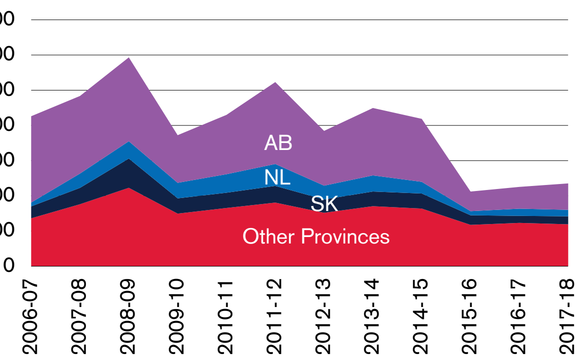
- Royalties
- Leases/rentals
- Bonuses and bids
- Taxes

Resource revenue, particularly from non-renewable resources, is volatile because of the variability of commodity prices. Resource revenue volatility is greater than that of the underlying price volatility because royalties are generally based on a defined measure of profit (prescribed revenue less costs), and royalty rates may vary based on price levels or profitability. Essentially, when economic rents are high, the provinces seek to capture more of the excess profits.

During boom periods, the provinces are also able to capture significant revenue in the form of bonuses/bids. When energy companies have strong cash flows and the outlook for prices is strong, there tends to be strong bidding for land and resources. During down periods, however, bonus bids can contract sharply.

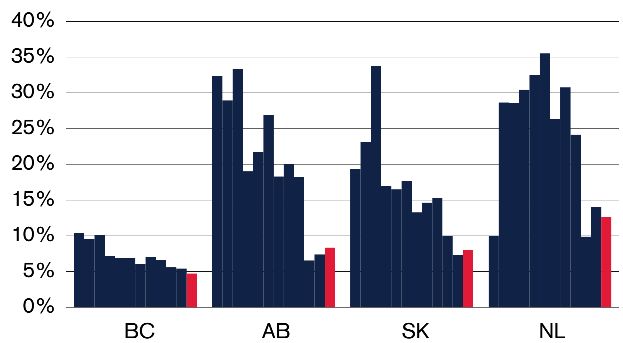
The provinces may also use taxes to capture some of the excess returns in the commodity sector, levied on production or excess profits.

Exhibit 93: Resource Revenue, 2006–07 to 2017–18
DBRS-adjusted basis (CAD millions)



Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 94: Resource Revenue as a Share of Total Revenue, 2006-07 to 2017-18
Select provinces, DBRS-adjusted basis



Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 95: Fiscal Sensitivities, 2017-18
Revenue impact of a change in key assumptions

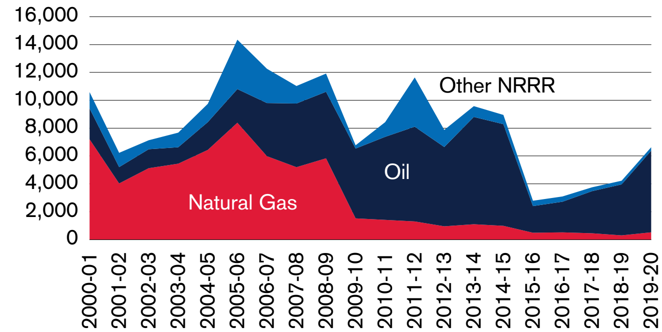
	AB	SK	NL
USD 1 change in the price of a barrel of oil	$310 million	$16 million	$21.9 to $23.4 million
US 1 cent change in the CAD-USD exchange rate	$215 million	$22 million	$16.2 to $17.8 million
USD 1 change in the light-heavy differential	$285 million		
USD 10 change in the price of KCl/tonne (potash)		$37 million	

Source: Provincial budgets.

Resource revenue has a distinctly positive impact on most provinces. It results in greater fiscal capacity and enables a lower level of taxation than would otherwise be required to fund a similar level of services. Despite this, resource-oriented provinces do face more pronounced challenges managing the economic and revenue volatility that results from a large extractive industry. This includes the following:

- Expense pressures resulting from broader inflationary pressures in the economy (e.g., wages, materials, etc.).
- Political pressure to reduce taxes when resource revenues are high.
- Political pressure to expand program spending as the budget constraint weakens, which can lead to a possible misallocation of resources.
- Revenue risk emerging as a growing share of revenue is tied directly to extractive industries, which may be susceptible to shocks/changes in a particular industry (e.g., Alberta's natural gas revenue fell sharply with the emergence of hydraulic fracturing and horizontal drilling).

Exhibit 96: Alberta's Non-Renewable Resource Revenue, 2001–00 to 2019–20
CAD millions



Source: Alberta 2017 budget and public accounts.

The outlook for resource revenue is mixed. While production volumes are expected to rise over the medium term because of past investment decisions in the oil sands and recent extensions in offshore oil and gas, the pricing outlook remains relatively weak.

Energy prices have since moved higher through the fall, though most forecasters now expect a more gradual rebalancing with oil prices rising more slowly over the medium term than previously expected. Revenue projections were based on the assumption that the price of WTI would rise to USD 65 and Brent would rise to USD 69 in 2019–20. The consensus outlook now suggests that prices may remain in the USD 50 to USD 60 range.

The weaker outlook for commodity prices may challenge the finances of the resource-producing provinces. Better-than-expected economic conditions are likely to help offset some of the revenue shortfall resulting from the weaker price outlook.

Government Business Enterprises

- **The outlook for the major hydroelectric projects in NL and MB are improving, which should ease pressure on their respective provincial credit profiles.**
- **A rate freeze, strategic review and possible cancellation of the Site C project could put pressure on BC Hydro's earnings.**
- **While DBRS considers most GBEs to be self-supporting, the self-supporting entities do pose some risk to provincial revenue and debt burdens.**

The provinces own and operate business enterprises that serve specific public policy roles and, in many instances, contribute meaningfully to provincial revenue. The scope of government business enterprises varies across provinces. Some provinces have relatively few (e.g., New Brunswick), while others continue to maintain an extensive list of business enterprises (e.g., Saskatchewan). In addition, there are services delivered by GBEs in some provinces that are delivered directly by provincial governments in others.

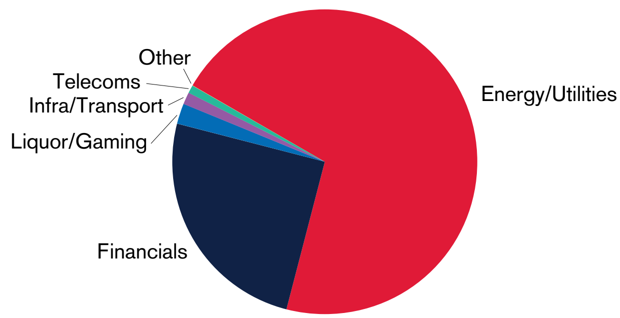
While there are a range of businesses held by the provinces, there is also much commonality. The most significant sectors from an income statement or balance sheet perspective are as follows:

- Energy/utilities
- Liquor and gaming
- Financial services

Historically, provincial telecommunications companies were also significant, but they have diminished in importance over the last three decades. Saskatchewan is the only province that continues to have a provincially owned telecom.

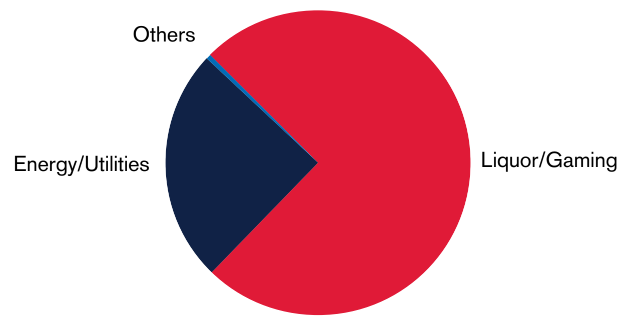
The provinces own businesses in other areas, but these tend to be relatively small in terms of the income, assets and debt they generate.

Exhibit 97: Government Business Enterprises by Assets, 2015–16
Total assets of GBEs as reported at March 31, 2016



Source: Provincial Public Accounts. DBRS Calculations.

Exhibit 98: Government Business Enterprises by Net Income, 2015–16
Net Income of GBEs as reported at March 31, 2016



Source: Provincial Public Accounts. DBRS Calculations.

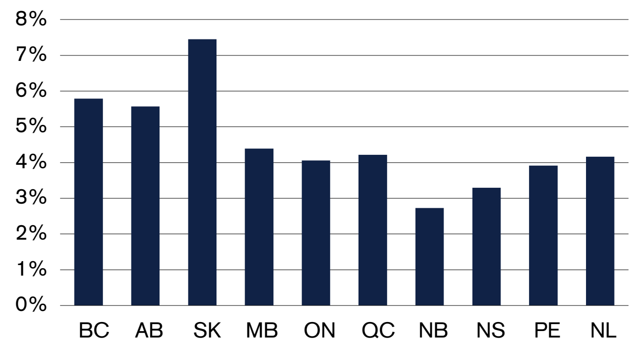
The Public Sector Accounting Standards (3070.03) define a government business enterprise as a government organization that has all of the following characteristics:

1. It is a separate legal entity with the power to contract in its own name and that can sue and be sued;
2. It has been delegated the financial and operational authority to carry on a business;
3. It sells goods and services to individuals and organizations outside of the government reporting entity as its principal activity; and
4. It can, in the normal course of its operations, maintain its operations and meets its liabilities from revenues received from sources outside of the government reporting entity.

Government business enterprises are accounted for using the modified equity method. As a result, the government includes the net income of its GBEs on its statement of operations as a distinct item and, accordingly, adjusts the government's equity investment in the GBEs on the statement of financial position.

The net income of the GBEs tends to be more volatile than many of the other sources of government revenue, reflecting the nature of the revenue (i.e., net income as opposed to gross revenue), the nature of the underlying businesses and, in some instances, the impacts of government policy.

Exhibit 99: Government Business Enterprises as a Share of Total Revenue



Source: Provincial Public Accounts. DBRS Calculations.

Liquor and Gaming

Federal legislation provides the provinces with near complete monopolies over gambling and the importation, distribution and sale of alcohol.[1] With broad regulatory authority, the provinces have significant control over their liquor and gaming revenue. Typically, liquor and gaming profits (and associated liquor/beer/wine taxes) account for between 2.0% and 5.0% of revenue. From an income perspective, liquor and gaming tend to be the most profitable GBEs because of government policy decisions around mark-up or tax levels and the extent of provincial lottery and gaming operations.

In recent years, there has been a modest weakening of this monopoly. Efforts by provinces and the federal government to improve internal trade have led governments to ease some of restrictions on the interprovincial movement and trade in domestically produced wine.

There is some uncertainty in the near term for liquor monopolies as the Supreme Court has agreed to hear the Comeau appeal, which questions the constitutionality of New Brunswick's law that limits the importation of alcoholic beverages by individuals from other provinces.

Power Generation/Utilities

Most provinces have a GBE involved in power generation (hydroelectric, thermal and nuclear), transmission or distribution. While utilities are subject to a regulatory body, the extent and robustness of the regulatory framework does vary. Some provinces experience greater political intervention, which has given rise to weakness in operating results in certain instances.

While utilities are large operations with extensive capital requirements, earnings tend to be lower because of regulatory bodies that limit expansion or rate increases within the prescribed regulatory framework.

A number of the utilities are in the process of developing major capital projects that are either behind schedule or over budget. At a time when export prices have weakened, these large projects are putting pressure on the utilities' earnings and capital structures. These projects include

- **Nalcor Energy's** 824 MW Hydroelectric Generating Facility and transmission facilities ($12.7 billion).
- **Manitoba Hydro's** Bipole III Transmission Reliability Project, the Keeyask Infrastructure and Generating Station Project and the Manitoba-Minnesota Transmission Projects ($13.0 billion).
- **BC Hydro's** Site C Project ($10. billion).

The Province of British Columbia is now in the process of reviewing whether or not to proceed with the Site C Dam development. The province has indicated that it intends to make a decision in late 2017, and work on the project will continue in the interim. BC Hydro is currently spending about $60 million per month and employing more than 2,600 people on the project. Generally, the outlook for net income in this sector is weak or stable in most provinces.

1 *Importation of Intoxicating Liquors Act (1985)* and the Criminal Code of Canada (1985).

Financials

The third group of provincial GBEs are the financial institutions. A number of provinces have insurance companies, entities that guarantee deposits held by credit unions, and Alberta has a bank (ATB Financial).

These entities tend to have limited debt requirements but can experience greater volatility in earnings and have greater contingent liabilities. The insurance companies, in particular, have experienced more pronounced challenges in recent years with rising claim and volume pressures that have put subsequent pressure on operating results. As an example, the Insurance Corporation of British Columbia has reported large losses in each of the last two years ($293 million and $612 million, respectively), and the current outlook suggests large losses will continue through the medium term.

Earnings for the entities that guarantee credit unions and for ATB Financial have been relatively stable and represent a small share of total government revenue. The provinces have extensive guarantees in place for the deposits at these institutions.

Other Own Source Revenue

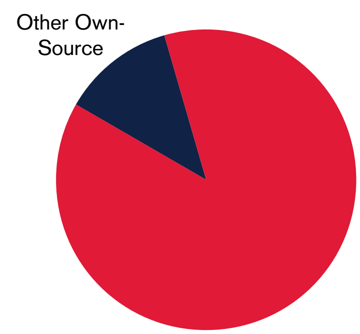
- **Other own-source revenue tends to be stable.**
- **Introduction of cap-and-trade may give rise to faster growth in own-source revenue in the coming years.**

Other own-source revenue accounts for about 10% to 15% of total DBRS-adjusted revenue and includes a range smaller revenue items:

- Investment earnings (e.g., endowments, sinking funds, etc.)
- Environmental charges and fees (e.g., recycling charges, cap and trade)
- Fees, licenses and similar charges (e.g., motor vehicle licensing and registration)
- Broader public sector services, rentals and sales (e.g., hospital fees, tuition revenue, etc.)
- Fines and penalties

Other own-source revenue generally exhibits stable growth in most provinces. Over the coming years, own-source revenue may experience modestly faster growth with the introduction of additional environmental charges (cap-and-trade) in some provinces. Otherwise, DBRS expects little change in this revenue stream.

Exhibit 100: Other Own-Source Revenue as a Share of Total Revenue, 2017–18



Source: Provincial budget. DBRS calculations.

Federal Transfers

- **Federal transfers are a fundamental component of the federal-provincial system in Canada.**
- **No changes to the major federal transfer programs are expected in the next two fiscal years.**
- **Increases in targeted transfers that align with federal priorities now taking place (homecare, mental health and infrastructure).**

The federal government provides provinces with financial assistance for the delivery of programs and services. While some of these transfers relate to federal priorities in provincial or shared jurisdictions, others are broader in nature and are intended to enable all provinces to provide comparable services. Federal transfers as a share of provincial revenue is relatively stable but can differ significantly between provinces depending on their ability to raise revenue (fiscal capacity).

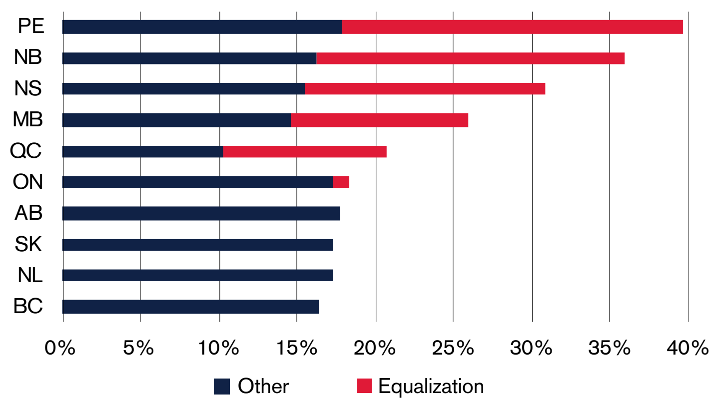
In rating Canadian provinces, DBRS considers the extent of federal support and the reliance of individual provinces on federal transfer programs. DBRS recognizes that the major transfer programs are well-established institutional features of the federal-provincial system in Canada. However, DBRS views a relatively high reliance on transfers programs as a weakness to provincial credit profiles, as this tends to reflect diminished fiscal capacity and results in less control over provincial revenue.

The major federal transfer programs amount to $72.9 billion in 2017–18. In addition, the federal government has many smaller, more targeted transfers that flow to or through the provincial governments.

Notable developments to the federal transfer programs over the last year include the following:

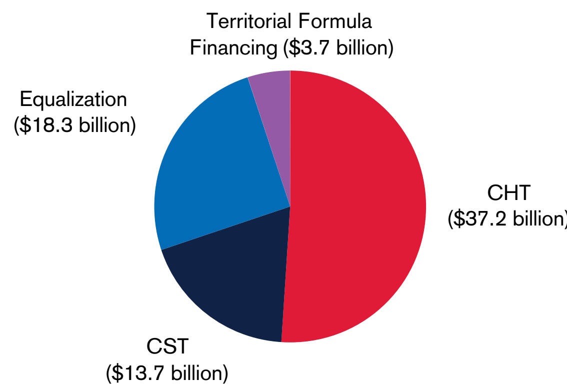
- $8.0 billion in funding over ten years for homecare and mental health. All provinces except Manitoba have signed onto the accord.
- New federal infrastructure funding announced in Canada's 2016 budget is now flowing to provinces, municipalities and other public-sector entities.

Exhibit 101: Federal Transfers as a Share of Provincial Revenue, 2017-18



Source: Provincial budget. DBRS calculations.

Exhibit 102: Major Transfers Programs, 2017-18



Source: Government of Canada.

Canada Health Transfer (CHT)

The CHT is a major legislated transfer program that provides stable and predictable funding to provinces for health care. The CHT is the largest federal transfer to provinces, totalling $34.0 billion in 2017–18. Highlights of the CHT include the following:

- The pool of funds is legislated to grow in line with national nominal GDP (measured using a three-year moving average). The legislation further guarantees growth of no less than 3.0% annually.
- Funds are allocated among provinces on an equal per capita basis.

The outlook for the program remains stable. The federal government will also provide an additional $8.0 billion over ten years for home care and mental health. This funding is separate and in addition to the CHT.

Canada Social Transfer (CST)

The CST is a major, legislated transfer program that provides provinces with financial support for post-secondary education, social assistance, social services, early childhood development, and early learning and childcare. The CST amounts to $13.0 billion in 2017–18.

- The pool of funds is legislated to grow by 3.0% annually.
- Funds are allocated among provinces on an equal per capita basis.

The outlook for the program remains stable.

Equalization

The equalization program seeks to address differences in fiscal capacity among provinces, thus enabling less prosperous provinces to provide reasonably comparable levels of services at similar levels of taxation. The transfers are unconditional and funded with federal tax revenue.

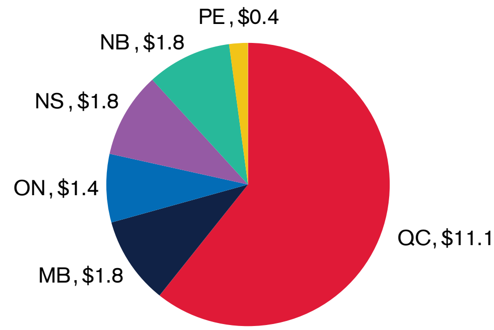
The program is enshrined in the Canadian Constitution, but the details pertaining to annual growth in equalization transfers and its distribution among provinces are in federal legislation. Details include the following:

- The annual aggregate equalization transfer is legislated to grow in line with national nominal GDP (measured using a three-year moving average with a two-year lag).
- The allocation formula is inherently complex. The federal government assesses how much revenue each province *could* raise if it levied the average tax burden and includes other sources of revenue to varying degrees.

The outlook for the program remains stable. The next review of the program is scheduled for 2019. The federal government solicits input from the provinces but retains full control and discretion over the program.

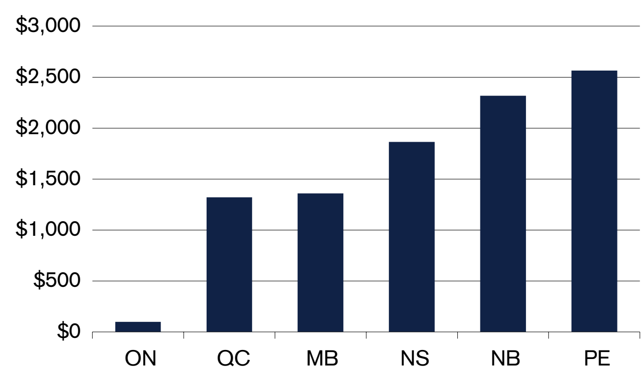
The use of lagged data in the equalization formula suggests that any change to the formula in 2019 would be unlikely to have a significant impact on provincial allocations before the mid-2020s.

Exhibit 103: Distribution of Equalization by Recipient Province, 2017–18 (CAD billions)



Source: Government of Canada.

Exhibit 104: Per Capita Equalization Allocation by Province, 2017–18



Source: Government of Canada. DBRS Calculations.

Other Federal Transfers

The federal government provides a number of other transfers to provinces that are targeted in nature. The most significant of these are infrastructure-related (e.g., Public Transit Infrastructure Fund, Clean Water and Wastewater Fund, New Building Canada Fund, Gas Tax Fund) and labour-market related (e.g., Labour Market Agreements). Infrastructure transfers are usually tied to specific projects, which results in some variability in annual transfer amounts.

The federal government has increased infrastructure spending in recent years, leading to increased transfers to the provinces. The funding increases in some instances require matching contributions from the provinces, or may simply be flowing through the provinces to municipalities or other entities.

Disaster Financial Assistance

The federal government provides provinces with financial assistance for the unexpected costs associated with major natural disasters. The provinces determine how to respond to the disaster but can subsequently make claims to the federal government for assistance. The federal government has well defined parameters regarding what costs are eligible to be shared.

The cost sharing formula is based on eligible expenses on a per capita basis, with thresholds adjusted annually for inflation.

Since the program was introduced in 1970, it has provided more than $4.0 billion in funding to the provinces. The following are recent examples of disasters that have received funding under the program:

- The Alberta 2016 Wood Buffalo wildfire ($500.0 million)
- The Saskatchewan 2014 rainstorm ($100.0 million)
- The Alberta 2013 floods ($600.0 million)
- The Manitoba 2011 flood ($350.0 million)

The outlook for the program remains stable.

Exhibit 105: Disaster Financial Assistance Cost Sharing Formula, 2017–18.

Eligible provincial expense (per capita)	Government of Canada Share
First $3.07	0%
Next $6.15	50%
Next $6.15	75%
Remainder	90%

Source: Government of Canada.

Expenditures

- **Expenditure growth is accelerating in most provinces as provincial economies gain momentum and provide governments with additional revenues to meet spending pressures.**
- **Capital budgets are expanding with a renewed focus on public infrastructure among federal and provincial governments.**
- **Debt service costs remain contained as high cost debt continues to be replaced with lower cost debt while interest rates remain low.**

Provincial governments in Canada have broad responsibilities, including providing publically funded health care, education and infrastructure, along with a number that are shared with federal and municipal governments (e.g., policing, courts and jails, environment, energy, agriculture, etc.).

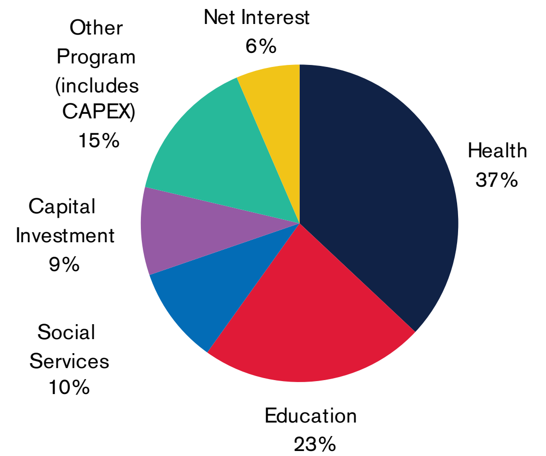
In total, the provincial governments have budgeted to spend $432.6 billion in 2017–18, up 5.9% from 2016–17, on a DBRS-adjusted basis.

DBRS makes a number of adjustments to reported income and expense to better reflect the underlying budgetary position of governments on a cash basis. The most significant adjustments are to include capital investment (and exclude amortization) in expenditures and to reduce interest expense using sinking fund earnings.

The distribution of expenditures by function remains largely unchanged from year to year; health, education and social services continue to account for about 70% of total DBRS-adjusted expenditures.

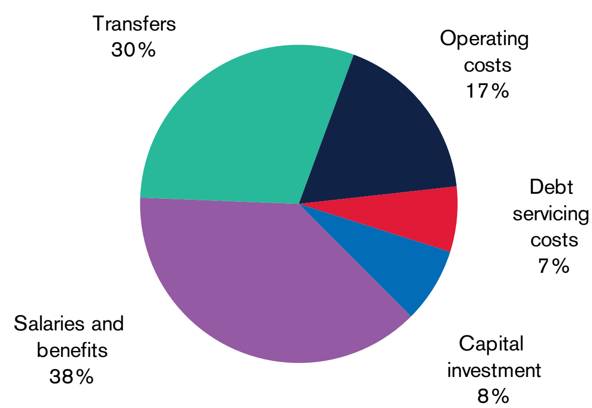
The distribution of expense by object also remains largely static, with public-sector salaries and benefits accounting for about 40% of expenditures and transfers to third parties accounting for another 30%. Transfers to third parties represent transfers to individuals, corporations and not-for-profit entities.

Exhibit 106: Distribution of DBRS-Adjusted Provincial Expenditures, 2017-18



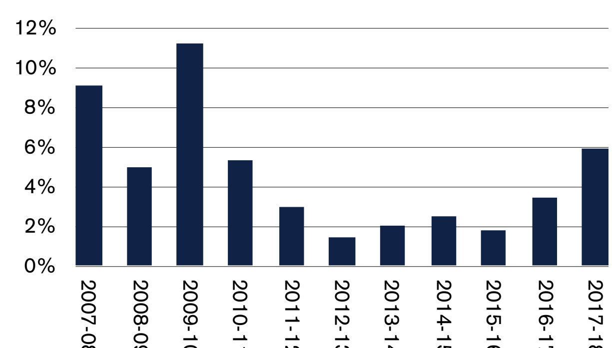
Source: Provincial budgets. DBRS Calculations.

Exhibit 107: Distribution of DBRS-Adjusted Provincial Expenditures by Object, 2015-16



Source: Provincial public accounts. DBRS Calculations.

Exhibit 108: Growth in DBRS-Adjusted Expenditures, 2008-09 to 2017-18

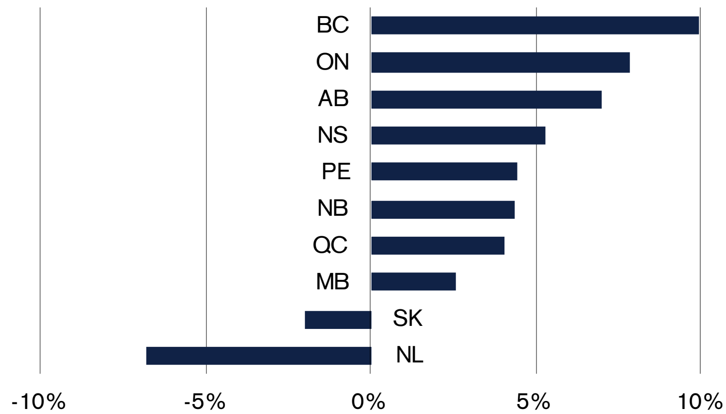


Source: Provincial budgets and public accounts. DBRS Calculations.

In recent years, total DBRS-adjusted provincial expenditures have risen modestly year to year, typically in the range of 2.0% to 3.5% annually. However, this masks significant differences across provinces and obscures some one-time adjustments resulting from policy changes. These include the following:

- Significant deficit reduction measures in Saskatchewan and Newfoundland and Labrador;
- Increased spending in Ontario and British Columbia while these provinces maintain balanced or modestly positive operating results; and
- The introduction of carbon pricing, often with offsetting spending programs that target reductions in greenhouse gas (GHG) emissions.

Exhibit 109: Growth in DBRS-Adjusted Expenditures by Province, 2017-18

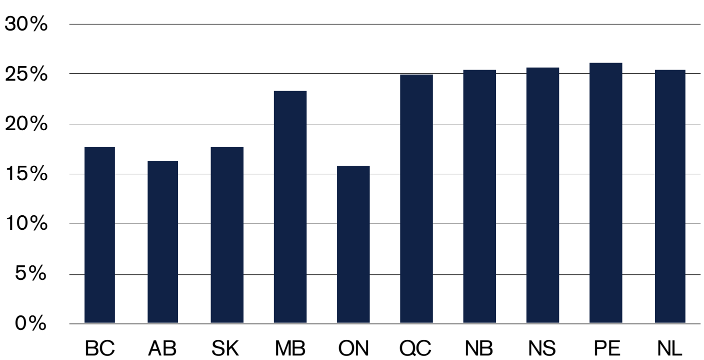


Source: Provincial budgets. DBRS Calculations.

DBRS expects the pace of expenditure growth to remain elevated over the next year.

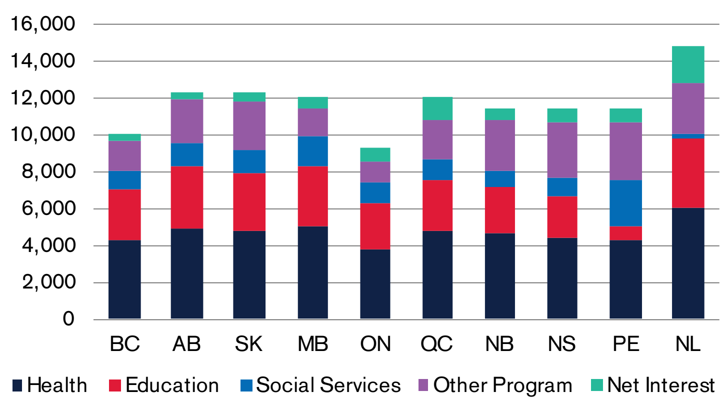
- Provincial economic growth is gaining momentum and generating stronger-than-expected tax revenues, enabling governments to ease some of the pressures that have emerged in health and social systems over the last decade, as well as allocate funds to political priorities.
- Provincial elections will be held in Ontario and Québec in 2018, and in Alberta in 2019.
- Provinces are allocating some or all of the new revenues from carbon levies to new programs to reduce GHG emissions.
- The legalization of cannabis, including new tax revenues, are likely to require new spending in justice, health, social services and education departments.

Exhibit 110: DBRS-Adjusted Expenditures as a Share of Nominal GDP by Province, 2017-18



Source: Provincial budgets. DBRS Calculations.

Exhibit 111: Per Capita DBRS-Adjusted Expenditures by Province, 2017-18



Source: Provincial budgets and Haver Analytics/Statistics Canada. DBRS Calculations.

Health

- **Modest acceleration in health care spending following years of restraint.**
- **Provinces are providing incremental funding to hospitals, and recent public-sector bargaining in other sectors suggests some growth in wages may be forthcoming.**
- **Major policy priorities include mental health and addiction programming (especially, opioid-related), home and community-based care expansions, and the maintenance and improvement of health-related capital infrastructure.**

Health care remains the largest program area for all provincial governments and typically accounts for between 36% and 40% of total DBRS-adjusted expenditures. Over the last decade, health expense has accounted for a relatively stable share of total spending.

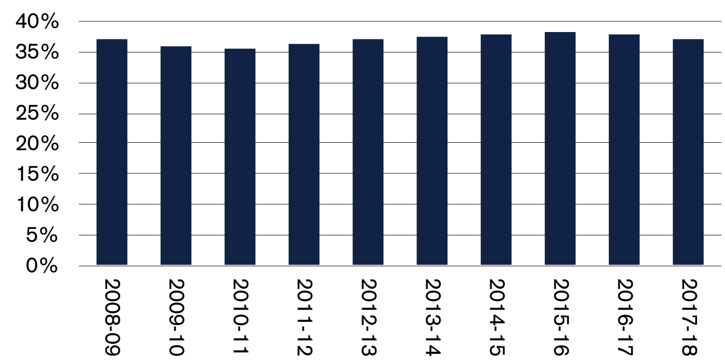
Health care is predominantly a provincial jurisdiction, though the federal government does provide provinces with considerable annual funding to support the goals outlined in the Canada Health Act. In 2017–18, the federal government will provide provinces with $34.0 billion through the legislated Canada Health Transfer. By comparison, the provincial health expense, as classified by DBRS, is expected to exceed $160 billion.

Provincial health spending encompasses a mix of program areas and priorities. The largest program areas are as follows:
- Hospitals
- Drug Programs
- Physician compensation
- Other institutions (long-term care, nursing homes, etc.)

Provincial health ministries have additional responsibilities, which typically include public health, education and social supports.

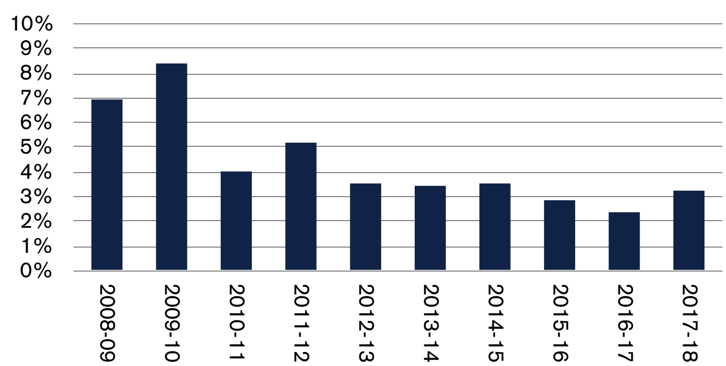
The notable developments in health budgets over the last year include the following:
- Modest base funding increases for hospitals after years of restraint to address volume pressures and increasing wait times for some procedures. Funding increases are both general, base funding increases, as well as targeted funding for specific priorities.

Exhibit 112: Health Expense as a Share of Total DBRS-adjusted Expenditures, 2008-09 to 2017-18



Source: Provincial budgets and public accounts. DBRS Calculations.

Exhibit 113: Growth in Total Provincial Health Expense, 2007-08 to 2017-18



Source: Provincial budgets and public accounts. DBRS Calculations.

- Supported by increased federal support, most provinces announced significant new funding for mental health and addictions programing, which was often split across multiple program areas (i.e., health, education, social services and protective services).
- Significant new funding and emergency measures to address the opioid epidemic. Alberta and British Columbia are also receiving targeted new federal money to address the crisis.
- New capital and operating funding for home and community care, which align with most provinces' efforts to ease pressure on hospitals and to address the consequences of a rapidly growing senior population. The federal government has also announced targeted new funding for provinces to support these initiatives.
- Ontario is introducing pharmacare for children and young adults (under 25) effective January 1, 2018.

- Québec is introducing a bidding system for generic drugs that it expects will significantly reduce prices for major drugs in the province.

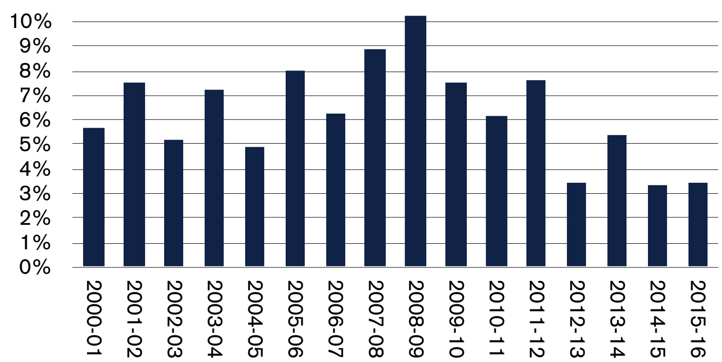
Over the last decade, the provinces slowed health care spending considerably, as many sought to address their post-financial crisis budgetary challenges. Broadly, this was achieved by (1) slowing funding to public-sector hospitals and health networks, (2) limiting growth in public-sector wages and physician compensation and (3) addressing inefficiencies in the health care system (e.g., shifting patients with reduced medical needs out of hospitals to community care).

While many provinces contend that the tension in the health care system has been effective in driving efficiency, many also note that after years of constraint, pressures are emerging. A number of provinces have now begun to modestly increase funding to hospitals to address some of these volume-related pressures. In addition, the provinces are continuing to increase funding for community/alternative care in an effort to ease pressures on the hospital sector.

Hospitals

Hospital funding has been constrained over the last decade. The provinces have generally sought to create tension in the system to drive efficiencies. Hospitals have responded by making a variety of changes to their operations, and the provinces have sought to support these efficiency measures by putting more resources into long-term and community-based care.

Exhibit 114: Growth in Total Clinical Payments to Physicians, 2000-01 to 2015-16



Source: Canadian Institute for Health Information. DBRS calculations.

These shifts have enabled hospitals to shift the patient mix: Individuals with less complex needs are being treated, increasingly, as outpatients. As a result, the average complexity of inpatients is increasing – essentially, the efficiency and use of resources is being improved in the health care sector.

At the same time, the provinces generally bargain with labour groups at the sector level on behalf of the hospitals. This ensures greater consistency in wage outcomes across the sector and reduces the opportunities for ratcheting up wages. Since the financial crisis, the provinces have generally been successful in constraining wage growth across most public-sector bargaining groups.

Resource utilization within the hospitals is also changing with advances in technology. Some have moved further to make adjustment to staffing ratios and staffing premiums.

The hospitals have become increasingly efficient, and resources are being targeted more effectively in recent years. Nevertheless, after years of constraint, a number of provinces are moving to increase base funding for hospitals and provide incremental funding for specific priorities to ease some pressures that are now building across the sector.

Drug Programs

The cost of provincial drug programs has increased over the last decade. This reflects a number of factors, not least of which is the increased use of drugs and the advent of new high-cost drugs. The provinces have sought to limit cost pressures with various measures, the most significant of these being their focus on generic drugs and the use of their considerable bargaining power.

Drug programs vary across provinces but generally seek to heavily subsidize the cost of prescription drugs for low income or disabled individuals, and for seniors.

Physician Compensation

Most physicians in Canada are effectively self-employed: They have their own practices and bill the province for their services. Each province has a billing schedule that is negotiated by the province and its medical association. In recent years, the provinces have sought to rebalance and limit the overall growth in physician billing.

Total clinical payments to physicians in Canada amounted to $25.7 billion in 2015–16. Timely comparisons across provinces are difficult given significant interprovincial differences. The Canadian Institute for Health Information (CIHI) compiles comprehensive data on payments to physicians. In recent years, CIHI data demonstrates slowing growth in the overall physician compensation envelope.

The average gross clinical payment per physician was $338,727 in 2016–17. Interprovincial and temporal comparisons are not straightforward, as changes and levels are influenced by a range of factors, including the mix of physicians, the intensity of their operations, policy changes related to physician compensation and a variety of other factors. While there exist some notable differences in levels across the provinces, the key observation is that growth in billings has generally been slow in most provinces.

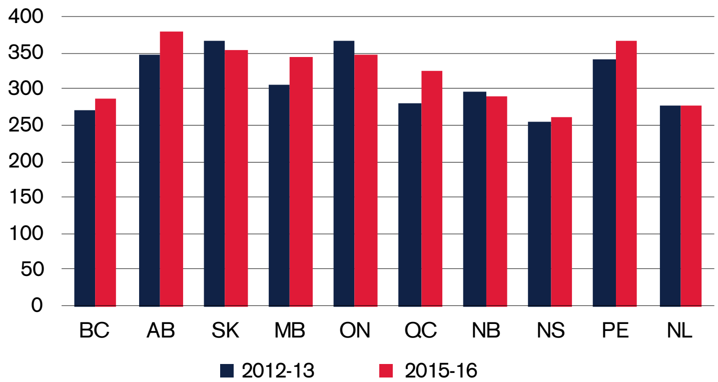
The federal government's proposed changes to small business taxation are widely expected to reduce after-tax income for physicians (along with other professional corporations). If enacted as proposed, DBRS expects the medical associations representing physicians will likely look for offsetting fee increases from the provinces.

Health Care Cost Drivers

Health care spending growth has varied considerably since the introduction of public medicare in Canada and tends to evolve in waves. In the 1990s, fiscal consolidation and weak public finances prompted many governments to slow health care spending. Once public finances improved, the pace of health care spending increased sharply. Until 2008, this increase led to concerns about longer-term sustainability and the implications of an aging population.

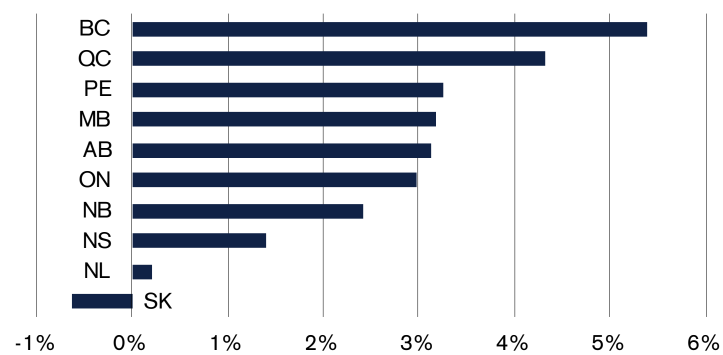
The financial crisis and ensuing recession caused most provinces to face pronounced budgetary challenges, which led to a prolonged period of retrenchment. Through aforementioned measures, the provinces sharply curtailed spending growth. Now, with strong economic growth and rising revenue, many provinces are increasing funding for health care. As such, it appears that Canada may be entering a period of renewed spending growth, albeit the current messaging from governments suggests it may occur at a more sustainable pace than in previous years.

Exhibit 115: Average Gross Clinical Payments per Physician, 2012-13 and 2015-16



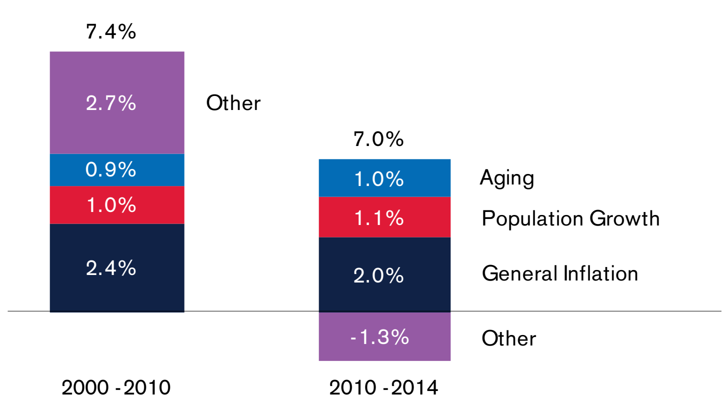
Source: Canadian Institute for Health Information. DBRS calculations.

Exhibit 116: Growth in Provincial Health Spending, 2017-18



Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 117: Cost Driver Shares of Total Health Expense Growth, 1998 to 2008



Source: Canadian Institute of Health Information (2011).

In 2011, CIHI released a study examining the principal health care cost drivers during the 1998–2008 period.[1] During that timeframe, public sector health care spending growth averaged 7.4% annually. While health care spending growth during that period outpaced revenue growth, this was made possible in part by increasing targeted federal transfers for health, as well as debt reduction in previous years.

The study had a few notable findings that may be instructive when considering the outlook for health care spending in the coming decade:

- **Population:** Population growth exerts a steady pressure on volumes in the health care system.
- **Age profile:** Population aging has been unfolding for decades, but with the baby boomers now approaching their later years, the effects of a larger seniors group will be more pronounced. Nevertheless, CIHI found that aging had a relatively limited effect on overall health spending growth.
- **General inflation:** General inflationary pressures (measured using the GDP deflator) tend to affect all costs.
- **Other pressures:** The remaining factor captures all other cost drivers. Among the most significant considerations are technological advances (which generally carry higher costs), changes in the mix and approach to health care, increased drug use, and the relatively rapid increase in compensation for physicians and health care workers that occurred over the period.

CIHI has continued to apply the methodology for more recent periods. The growth factors can be found on the previous page.[2]

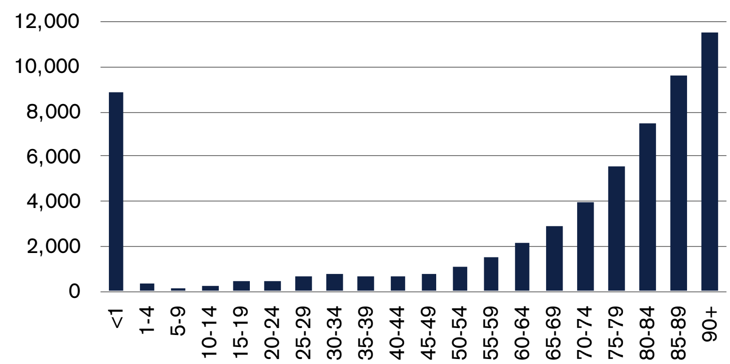
Health Costs by Age Group

CIHI also estimates health care costs by age group.[2] Broadly, the first year and final months of life have the most significant medical requirements.

CIHI has found that the direct impact of an aging population has generally been relatively modest – typically contributing about 1.0% to annual growth in health care spending. Between 2000 and 2014, the share of total health spending attributable to seniors rose to 46% from 44%. CIHI estimates the incremental annual cost for all provinces from aging to be about $2.0 billion.[2]

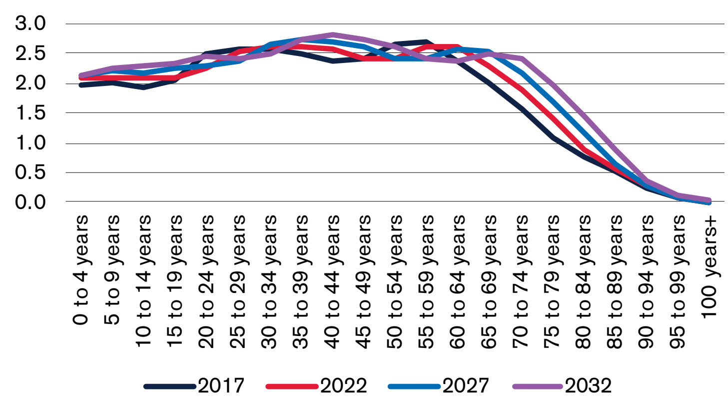
While aging will affect the trajectory for health spending, the current outlook does not suggest dire outcomes. The provinces continue to make adjustments to the pressures associated with an aging population. The most pronounced efforts largely relate to expanding home- and community-based care, which are more cost effective and desirable approaches for addressing the health needs of an aging population. The provinces continue to announce new program spending and investment in local facilities and resources. As noted above, this has helped to ease some of the pressures on hospitals, though further investments will be necessary to ensure patients receive care in the most appropriate and low-cost setting.

Exhibit 118: Per Capital Health Expenditures by Age Group, 2014
CAD Dollars



Source: Canadian Institute of Health Information (2016)

Exhibit 119: Population Projections by Age Group
Millions



Source: Statistics Canada. CANSIM 051-0001 and 052-0005 (M1).

1. Health Care Cost Drivers: The Facts. Canadian Institute for Health Information (2011). https://secure.cihi.ca/free_products/health_care_cost_drivers_the_facts_en.pdf
2. Canadian Institute for Health Information (2016). National Health Expenditure Trends. https://www.cihi.ca/en/national-health-expenditure-trends

Education

- **Public-sector compensation is likely to re-emerge as a primary driver of expense growth in the coming year following years of restraint and the upcoming provincial elections.**
- **Improving budget outlooks likely to prompt service/ funding improvements.**
- **Capital investment rising driven in large part by federal infrastructure support.**

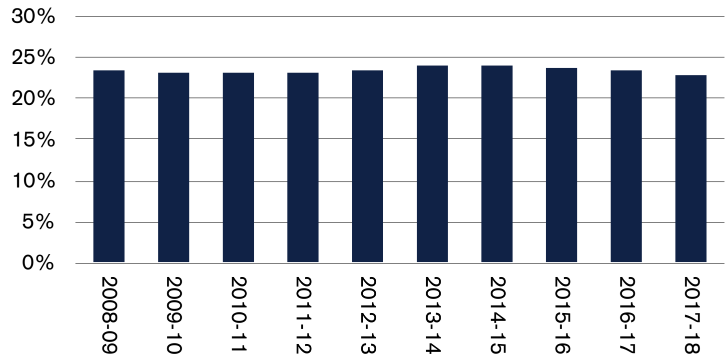
Education represents the largest share of provincial government spending after health care. Provinces are responsible for the provision of primary, secondary and post-secondary education and training, as well as various other labour-oriented training. The federal government is also active in delivering education and skills development, providing provinces with both general and targeted transfers, as well as research and capital-oriented funding for post-secondary institutions.

The provinces fully consolidate the results of the school boards, colleges and universities (Ontario does not consolidate universities). As a result, the provinces' revenues also include education property taxes, tuition and other revenue related to school boards and post-secondary institutions. However, there is not consistent reporting across provinces: Some will include additional revenue/expense to appropriately reflect revenue and expense in ministries, while others will use a broad line item to reflect the additional revenue and expense arising from full consolidation.

Over the last decade, education remained relatively stable as a share of total DBRS-adjusted spending, typically accounting for 20% to 25% of spending in most provinces. While post-recession spending growth has been constrained, spending is now rising more quickly. This is a reflection of the following:

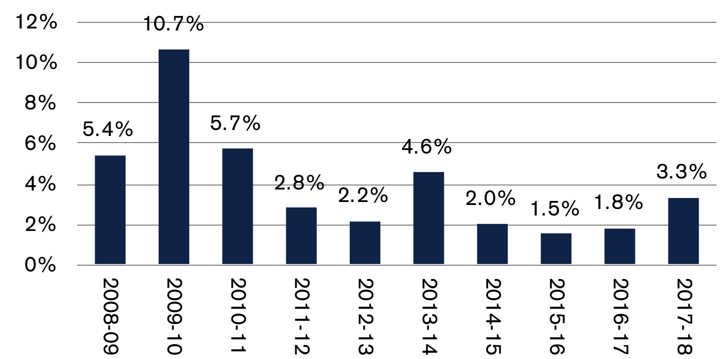
- Class size reductions;
- Targeted funding for literacy and math;
- New schools in AB and refurbishments elsewhere;
- Capital projects at post-secondary institutions (federal Strategic Investment Fund (SIF) funding); and
- Measures to increase affordability and accessibility of post-secondary education.

Exhibit 120: Education Expense as a Share of Total DBRS-Adjusted Expenditures, 2008-09 to 2017-18



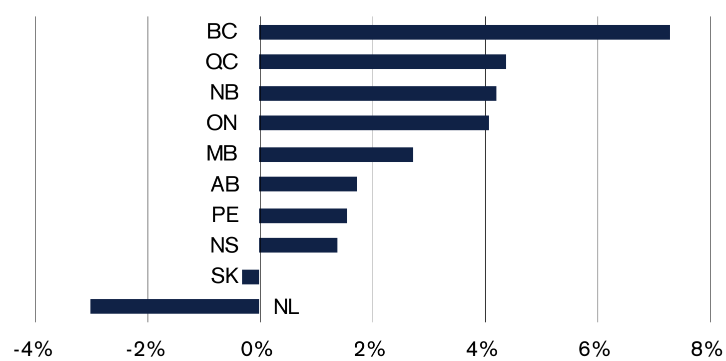
Source: Provincial budgets and public accounts. DBRS Calculations.

Exhibit 121: Growth in Education Expense, 2008-09 to 2017-18



Source: Provincial budgets and public accounts. DBRS Calculations.

Exhibit 122: Growth in Education Expense by Province, 2017-18



Source: Provincial budgets and public accounts. DBRS Calculations.

The most significant growth is occurring in British Columbia, which will see annual education spending rise sharply as it implements a recent Memorandum of Agreement (MoA) with the British Columbia Teachers' Federation. This stems from the November 2016 Supreme Court decision that found the *Education Improvement Act (2012)* violated the Canadian Charter of Rights and Freedoms. The MoA includes limitations on staff ratios and class sizes as well as a number of other standards. The implementation of the MoA will require the hiring of about 3,500 teachers (on a full-time equivalent basis), which works out to a 10% increase in the number of teachers. Incidentally, the province is also experiencing its first increase in K–12 enrolment after nearly 20 years of declines.

Primary and Secondary Education (K-12)

The K-12 system varies across provinces and is largely funded by provincial operating grants from general tax revenue and from specific education property taxes. The expense base is relatively stable and predictable driven primarily by the number of students and their distribution across the province, and by fundamental policy changes (e.g., class size targets) and teacher compensation.

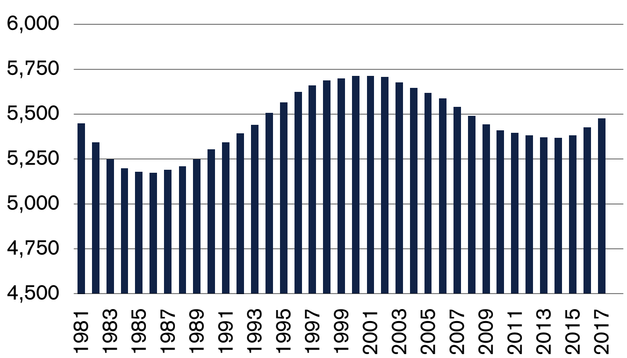
Over the medium term, the underlying expense drivers suggest moderate growth in education may be likely.

- Public-sector compensation pressures are likely to re-emerge given the prolonged period of compensation restraint, particularly as the largest provinces are now in balanced or surplus positions and elections are nearing.
- For similar reasons, a renewed push for class size reductions in some provinces and enhanced classroom supports may be forthcoming.

A number of provinces continue to experience relatively strong student-aged population growth, which is translating into rising operating budgets and new school construction. While not without challenges, this is a desirable problem to be faced with.

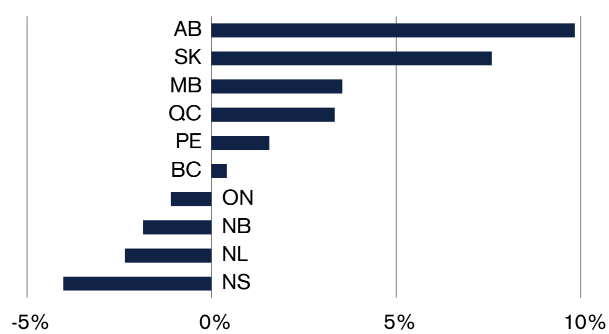
The more pronounced challenge facing provinces are regional population declines, which necessitate school closures or a reduction in the number of classrooms. This challenge is common to both the shrinking provinces in Atlantic Canada, as well as high growth provinces. While teacher attrition helps to scale down a school's operations, reallocation and consolidation of resources will be required in some instances.

Exhibit 123: School-Aged Population, 1981 to 2017
Ages 4 to 17, thousands



Source: Statistics Canada/Haver Analytics.

Exhibit 124: School-Aged Population by Province, 2012 to 2017
Ages 4 to 17, Total growth (%) over five-year period



Source: Statistics Canada/Haver Analytics.

Post-Secondary

Post-secondary education tends to consume a smaller share of provincial budgets than the K-12 system, reflecting the relatively smaller share of the population. This sector also tends to operate with greater autonomy than most entities in the broader public sector. This is particularly true of universities, which operate under well-defined legislation and are governed by independent boards. However, they are financially heavily dependent on the provinces, which provide the institutions with operating and capital funding, approve new programs/activities, and set the parameters for increases of tuition rates and other fees.

Similar to the health sector, many provinces have had limited funding for post-secondary education in recent years as they address budget imbalances. Institutions were provided with varying degrees of flexibility to raise tuition fees but were ultimately forced to constrain spending growth in order to maintain roughly balanced operating results.

The outlook for the post-secondary sector is now somewhat mixed. Many provinces continue to limit operating grant funding and tuition fee growth, which will ultimately lead to slower expense growth. Offsetting these forces are measures by some provinces to ease constraint and the national effort to invest in post-secondary institutional research and teaching capacity. In 2016, the federal government announced the creation of a new $2.0 billion SIF. The fund provides up to 50% of eligible costs for shovel-ready projects that enhance research and innovation capacity or improve environmental performance and can be completed ahead of the 2018–19 academic year. This funding has prompted provinces to match capital spending (expense and investment) and in many instances will increase the capacity and expense bases of eligible universities.

Over the medium term, the underlying expense drivers suggest moderate growth in post-secondary education may be likely. These drivers include the following:

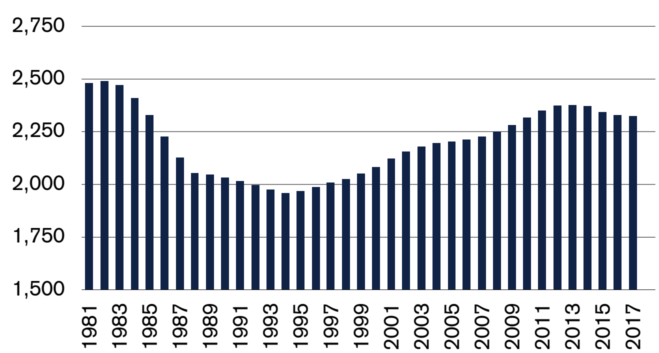
- Public-sector compensation pressures, which are likely to re-emerge given the prolonged period of compensation restraint, particularly as the largest provinces are now in balanced or surplus positions and elections are nearing.
- Student financial assistance costs, which are likely to rise as provinces introduce reforms such as the elimination of tax credits in favour of more direct and targeted assistance.
- Participation rates may continue to rise given changing labour market requirements and ongoing efforts by governments to encourage post-secondary education and continuous skill development.

Offsetting these pressures are the fundamental demographic characteristics of Canadian society. Nationally, the age group most closely associated with post-secondary education (18–22) is contracting. While the Canadian population continues to expand, the decline in the post-secondary-aged population reflects the lingering effects of the baby boomer generation on Canada's population structure. Over the next several years, the post-secondary-aged population is expected to decline modestly.

This trend, however, masks more significant differences across provinces. Québec and the Atlantic Provinces have experienced more pronounced declines in recent years, while the western provinces have typically fared better.

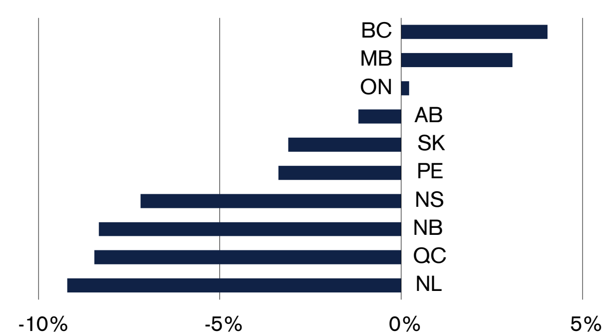
Across the country, many post-secondary institutions have sought to increase international enrolment to offset the financial pressures associated with provincial restraint and weakening domestic demographics, as well as to increase in their international profile. International students are largely self-funding and thus have little effect on the provinces' broader finances.

Exhibit 125: Post-Secondary Aged Population, 1981 to 2017
Ages 18 to 22, thousands



Source: Statistics Canada/Haver Analytics.

Exhibit 126: Post-Secondary Aged Population by Province, 2012 to 2017
Ages 4 to 17, Total growth (%) over five-year period



Source: Statistics Canada/Haver Analytics.

Social Services

- **Affordability and access to services are emerging as major policy priorities following years of constraint.**
- **Social services spending growth is likely to accelerate over the medium term.**

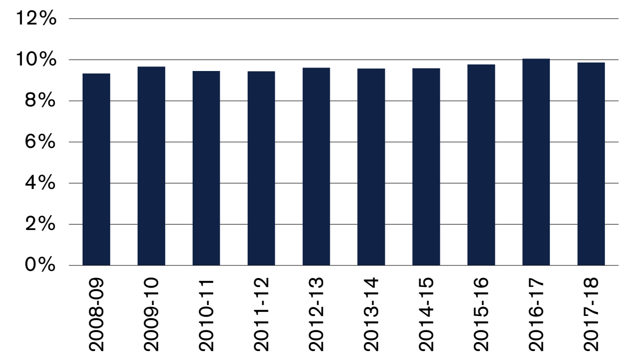
Social services encompass a range of activities carried out by provinces to provide a broad social safety net, as well as initiatives to address current pressures and needs. Social services spending is an area of shared jurisdiction with the federal government. The federal government provides significant transfers to individuals to address income needs while also providing transfers to the provinces to support shared federal/provincial priorities.

The structure of provincial governments and their reporting varies considerably. As a result, the figures are not fully comparable from province to province, or over time. However, DBRS does seek to make adjustments to provide some measure of the extent of supports and how they are evolving over time. Social services have remained a relatively stable share of total expenditures, typically accounting for between 8.0% and 10.0% of total DBRS-adjusted expenditure. The stability in the share reflects the stable nature of programs and the underlying populations that they serve. Through recessions there tends to be some pressure on provincial income support and training programs, but the federal government's employment insurance provides much of the financial support to individuals and households during a downturn.

Social services encompass a mix of programmatic areas:

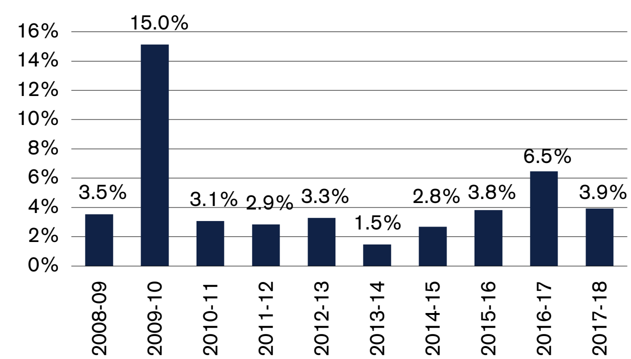
- Child intervention and foster care
- Child care subsidies, supports and accreditation
- Early childhood development
- Income support programs
- Disability support programs (financial and otherwise)
- Homelessness programming and shelters
- Family planning and community support programs
- Public guardian and trustee function
- Immigrant settlement and training programs
- Seniors financial assistance programs
- Affordable housing and rental assistance programs and subsidies
- Low- and middle-income financial assistance programs (e.g., refundable tax credits)

Exhibit 127: Social Services as a Share of Total DBRS-Adjusted Expenditures, 2008-09 to 2017-18



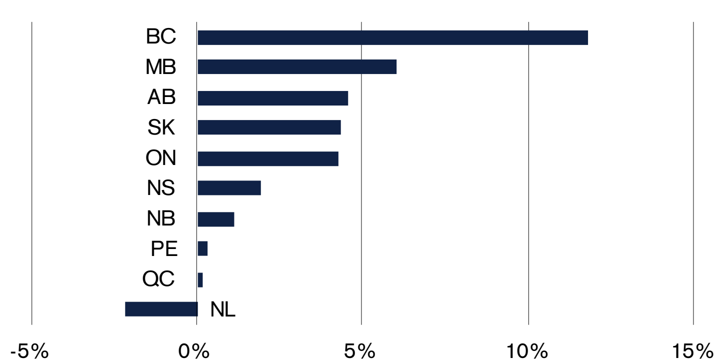
Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 128: Growth in Social Services Expense, 2008-09 to 2017-18



Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 129: Growth in Social Services Expense, 2008-09 to 2017-18



Source: Provincial budgets and public accounts. DBRS calculations.

DBRS's measure of total social services spending is projected to rise by about 4.0% in 2017–18. The increase reflects a mix of growth across program areas and a broader push by a number of governments to improve affordability and access to services. A few of the more common themes in this year's provincial budgets included the following:

- **Aging populations:** Strong growth in the number of seniors is prompting funding increases for seniors programming and the introduction of new health and social supports to ease pressures elsewhere in the system (e.g., introduction/enhancement of supports to enable seniors to remain independent longer).
- **Affordable housing:** Many provinces are expanding funding for affordable housing and rental supports. These increases are partially reflective of affordability concerns in some of the larger municipalities, as well as legacy issues related to the supply of affordable housing.
- **Childcare:** Some provinces are announcing new funding to subsidize an increase in the number of childcare spaces, which reflects limited supply and high costs in a number of regions.
- **Child protection:** More concerning, a number of provinces have cited pressures in child protection programs, requiring funding increases for new social workers, enhanced training, etc.
- **Disability support programs:** Some provinces have noted rising caseload volumes and costs in their disability support programs, which have prompted budget increases. In some instances, the provinces have initiated reviews to determine the underlying causes and potential reforms.
- **Opioid crisis:** Many provinces have increased funding sharply for the ongoing opioid/fentanyl crisis. This has included increased funding for front-line response, public health education, data collection and various harm reduction programs.

Over the next two years, DBRS expects the pace of spending growth in social services to remain elevated. This view reflects the current policy priorities for most governments and impending elections in largest provinces. Key themes emerging in recent years include household affordability and access to public services. For social services, this is likely to materialize in increases in financial assistance, increasing investments/subsidies for childcare and new housing measures.

Other Program Expense

- **The introduction of carbon prices is prompting growth in climate change-related spending in most provinces.**
- **Federal infrastructure transfers are flowing through provincial governments to municipalities and public-sector entities, resulting in growth in province expense figures.**

Other program expense and net capital investment accounts for about 15.0% of total DBRS-adjusted expenditures and includes a range of program areas:
- Agriculture, forestry and other resource development
- Culture, museums and historic sites
- Economic and regional development, and tourism
- Environment
- Protection of people and property (justice, courts, policing, jails/remand)
- General government
- Labour and immigration
- Transportation and infrastructure

Growth in other program expense varies and is influenced by a range of factors. While fundamental program areas like justice, environment and economic development tend to exhibit stable growth, other areas can experience greater volatility (e.g., disasters, crop failures, infrastructure spending).

Over the last two years, the most notable trends in other program expense include the following:
- The introduction of carbon pricing, which has prompted governments to allocate incremental revenues to climate change related programming.
- Federal infrastructure spending flows, in part, through provinces to broader public-sector entities and municipalities. In some instances this funding is being partially matched by provincial governments.
- Increased disaster spending in Alberta (Fort McMurray wildfire) and British Columbia (wildfires)

Disasters

Natural disasters and crop failures can give rise to significant deviation in provincial program spending and have done so in recent years. These events are not uncommon in Canada, but their frequency and severity appear to be increasing. The federal and provincial governments provide crop insurance to farmers. Provinces collect premiums, but payouts tend to be lumpy giving rise to some volatility in results. Crop failures tend to be regional and can arise from flooding, wet/dry growing conditions, early snowfalls and other events.

More significantly, major natural disasters can have a significant impact on budgetary results, though they tend to be one-time in nature. In addition to potential lost output and revenue, disasters can be a significant draw on provincial resources (e.g., firefighting, temporary housing/support) or may require rebuilding of public and private infrastructure and assets. Generally, most provinces set aside money in their budgets as contingencies — some explicitly for natural disasters and emergencies (e.g., Alberta budgets $200 million annually) — while others have general expense contingencies.

Provincial reporting of disaster costs varies. In most instances, a detailed accounting of disaster spending is not available. The table below provides a summary of recent disasters/emergencies as compiled by DBRS. The costs and economic implications of most were limited relative to the size of the broader economy and fiscal plan. The major disasters with significant financial implications for provinces in recent years include:

- BC Wildfires (2017) – current estimate for fire management and emergency response is $668 million.
- Fort McMurray Wildfires (2016) – public accounts suggest wildfire management and supports for Wood Buffalo amounted to about $1.0 billion in 2016–17. The wildfires also disrupted economic activity in Alberta's oil sands regions, adversely affecting tax and non-renewable resource revenue.
- Alberta Floods (2013) – public accounts for the last four years suggests costs related to the flood total nearly $3.0 billion.
- Slave Lake Wildfire (2011) – public accounts suggest the cost to Alberta to be excess of $200 million.
- Assiniboine and Red River Floods (2011) – public accounts suggest the cost to Manitoba to be in excess of $750 million.

Exhibit 130: Recent Disasters/Emergencies by Province

Province	Disaster	Province	Disaster
British Columbia	• Wildfires (2017) • White Spruce Creek Fire (2012) • West Kelowna Wildfires (2009) • Tatoosh Fire (2006) • Hanukkah Eve Windstorm (2006) • McLure Wildfires (2003)	**Québec**	• 2017 Québec floods • Hurricane Sandy (2012) • Ice Storm (1998)
Alberta	• Fort McMurray Wildfire (2016) • Airdrie Hailstorm (2014) • Alberta Floods (2013) • Alberta Hailstorm (2012) • Slave Lake Wildfire (2011) • Calgary Hailstorm (2010)	**New Brunswick**	• Saint John River Flood
Saskatchewan	• La Ronge Wildfire (2015) • Souris River Flood (2011)	**Nova Scotia**	• Hurricane Kyle (2008) • Hurricane Noel (2007) • Hurricane Juan (2003)
Manitoba	• Assiniboine and Red River Floods (2011) • Elie Tornado (2007)	**Prince Edward Island**	• Hurricane Juan (2003)
Ontario	• Toronto Flood (2013) • Hurricane Sandy (2012) • Goderich Tornado (2011) • Toronto Flood (2009) • Ice Storm (1998)	**Newfoundland and Labrador**	• Hurricane Leslie (2012) • Hurricane Igor (2010)

Capital Investment

- **Provincial capital investment is budgeted to rise in the coming years, supported in part by rising federal contributions.**
- **Largest provinces tend to underspend their capital budgets by 10% to 20%, while the smaller provinces generally meet their budget expectations.**

Provincial budgets vary in their presentation of capital spending, with some including both capital grants and investment in their capital plans. Capital grants to municipalities and other non-consolidated entities are included in expense, while capital investment reflects the province's capital expenditures in consolidated entities. The information reported in this section is limited to capital investment.

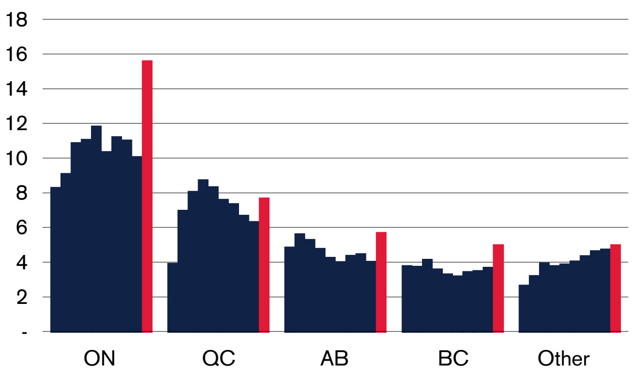
Capital investment is often considerable for the provinces because of their broad responsibilities. As a result, DBRS adjusts the provinces' reported budgetary balances to include capital investment (and exclude amortization) to better reflect total cash spending and changes in borrowing. This adjustment results in most provinces having DBRS-adjusted deficits.

The principal areas of capital investment include the following:

- Health facilities (e.g., hospitals, long-term care, etc.)
- Schools
- Post-secondary facilities (e.g., universities, colleges, etc.)
- Social housing and other social services-related infrastructure
- Highways, roads, bridges and other critical infrastructure

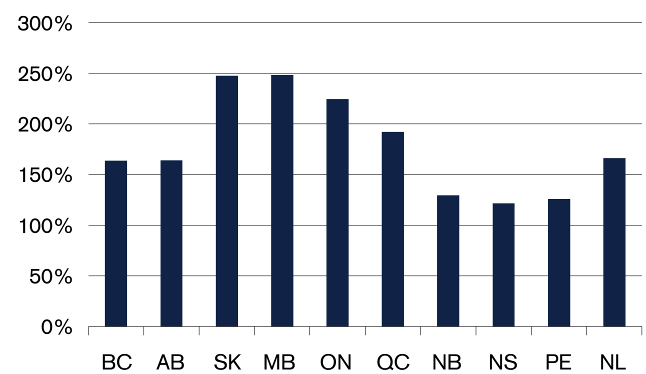
Capital spending — both grants and investments — is among the more volatile elements of provincial government spending. Capital investment tends to be pro-cyclical, with governments increasing investment in capital when revenue growth is strong and in many instances curtailing investment when revenue growth slows. In past periods of fiscal consolidation, capital spending has been sharply curtailed.

Exhibit 131: Capital Investment by Province, 2008-09 to 2017-18
Millions of CAD



Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 132: Ratio of capital investment to amortization, 2013-14 to 2016-17



Source: Provincial budgets, public accounts, DBRS calculations.

In addition, the nature of many large scale projects gives rise to lumpy expenditure profiles, particularly in smaller provinces.

Capital budgets are now expanding. Global policy makers are now stressing the importance of investing in public infrastructure to support longer-term productivity improvements. The federal government and many provincial governments have adopted this view and are now increasing budget allocations. The provinces have budgeted $38.8 billion for capital investment in 2017–18, up from $33.0 billion in 2015–16.

The federal government provides provinces with significant infrastructure funding in the form of permanent transfers (e.g., Gas Tax Fund) as well as through targeted transfer programs. The current transfer programs provide significant support for the following:

- Water and wastewater infrastructure
- Public transit infrastructure
- Trade and transportation infrastructure
- Post-secondary infrastructure
- Social infrastructure (housing, early learning and childcare, recreation)

In addition to government capital, many provinces have capital-intensive Government Business Enterprises (GBEs) (e.g., utilities and power generation). The GBEs are accounted for on a modified equity basis. As such, their capital investment is not included in reported provincial capital investment amounts. DBRS excludes these amounts from DBRS-adjusted expenditures.

Nevertheless, these expenditures can have a meaningful impact on provincial economies, borrowing requirements and credit profiles. At present, there are four provincial utilities with relatively large capital projects underway:

- Nalcor's Muskrat Falls Project ($12.7 billion)
- Hydro-Québec's Romaine Complex ($6.5 billion)
- Manitoba Hydro's Bipole III Transmission Reliability Project, the Keeyask Infrastructure and Generating Station Project and the Manitoba-Minnesota Transmission Projects ($11.6 billion)
- BC Hydro's Site C Project ($8.8 billion)

Underspent Capital Investment Budgets

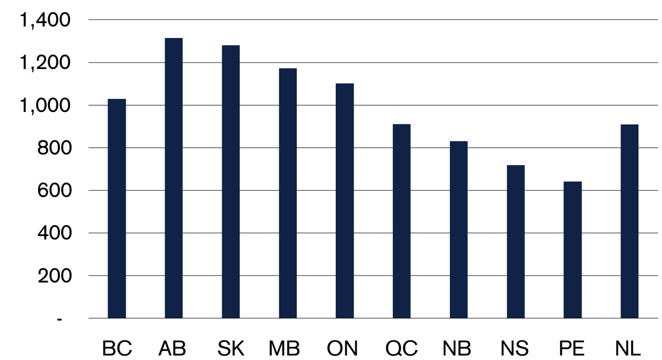
The provinces routinely underspend their capital investment budgets. Since governments must seek legislative authority for all expenditures, the budgeted amounts tend to reflect the maximum amount that is likely be spent on the individual projects, despite the fact that the likelihood of achieving that amount of investment is in many instances unlikely. Governments can exceed their budgeted amounts, but this requires subsequent legislative approvals.

The smaller provinces generally have greater success realizing their capital investment budgets, while the larger provinces generally underspend their capital investment allocations by 10% to 20%.

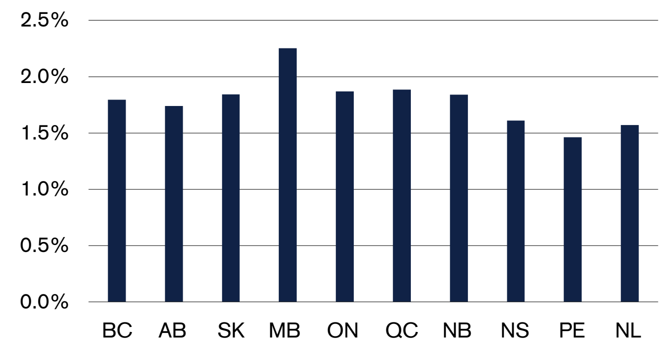
A number of provinces have budgeted for relatively strong growth in capital investment over the coming years. With increasing competition for labour and resources, DBRS expects the larger provinces will not be able to fully achieve their capital spending targets.

Exhibit 133 : Budgeted Capital Investment by Province, 2017-18

Capital Investment Per Capita



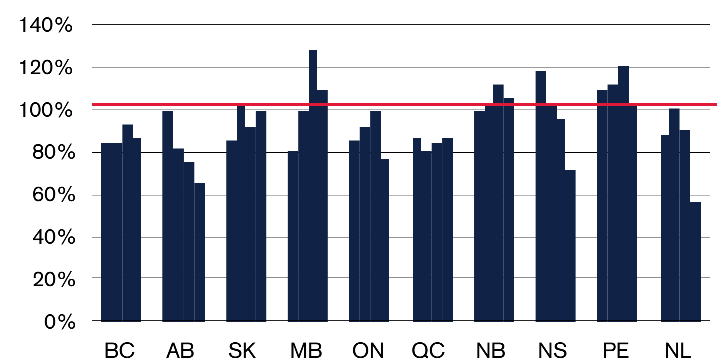
Capital Investment as a Share of Nominal GDP



Source: Provincial budgets, public accounts, DBRS calculations.

Exhibit 134: Capital Investment Realization, 2013-14 to 2016-17

Actual capital investment as a share of budgeted capital investment, 2013-14 to 2016-17



Source: Provincial budgets, public accounts, DBRS calculations.

Debt Servicing Costs

- **Net interest costs remain a relatively stable share of total revenue in most provinces.**
- **Interest rates are beginning to rise, but old high-coupon debt continues to fall off the debt stock in most provinces.**

Net interest costs have been a relatively stable share of total revenue at about 7.0% during the last decade. The stability reflects the offsetting effects of rising debt levels and declining borrowing costs.

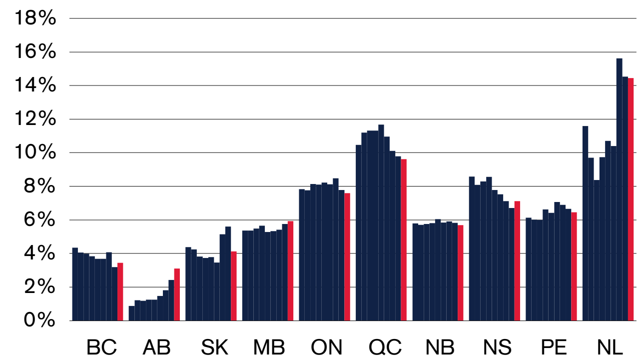
In most provinces, net debt servicing costs have fallen as a share of total revenue. The decline in interest rates and a return to balance has slowed debt growth.

In the resource-producing provinces, interest costs have risen sharply as borrowing needs have increased.

DBRS expects net debt servicing costs to remain a relatively stable share of total revenue over the next two to three years.

- Most provinces are experiencing moderate revenue growth in line with the broader economic expansion.
- Debt-financed deficit spending has been eliminated in most provinces, though borrowing for capital investment continues in all provinces.
- Coupon rates on new debt issuance are, in many instances, lower than the older vintages of debt that are being repaid.
- Provinces have generally extended the average weighted maturity of their debt stocks to lock in lower rates for longer periods.

Exhibit 135: Net interest costs as a share of Total Revenue, 2009-10 to 2017-18



Source: Provincial budgets and public accounts. DBRS calculations.

Financial Risk Factor: Interest Costs-to-Total Revenue

The ratio of net interest costs to total revenue is one of the primary metrics used by DBRS to determine the financial risk of provincial issuers. The scores are defined in the methodology: AAA (less than 15%), AA (15% to 35%), "A" (35% to 50%) and BBB (50% to 500%).

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
AAA	AAA	AAA	AA (high)	AA (low)	AA (low)	AA (high)	AA	AA	A

Financial Management

- **Debt growth has slowed in most provinces.**
- **No significant changes to debt structure. Most provinces have extended average term to maturity, and exposure to foreign currency and interest rate reset risk remain low.**
- **No major developments with respect to unfunded pension liabilities.**

Methodological Considerations

Critical Rating Factor: Financial Management

Financial management practices related to debt and liquidity management include (1) the sophistication of its borrowing practices, (2) access to capital markets, (3) debt structure and maturity profile, (4) liquidity and (5) unfunded pension and post-employment benefits. The scoring for the financial management factor follows.

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
AA (high)	AA	AA	AA (low)	AA (high)	AA	AA (low)	AA (low)	A	A

Financial Risk Factor: DBRS-Adjusted Debt-to-GDP

The ratio of DBRS-adjusted debt-to-GDP is one of the primary metrics used by DBRS to determine the financial risk of provincial issuers. The scores are defined in the methodology: AAA (less than 15%), AA (15% to 30%), “A” (30% to 50%) and BBB (50% to 80%).

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
AA (high)	AA (high)	AA	A (high)	A (high)	A (low)	A (high)	AA	AA	A

Debt

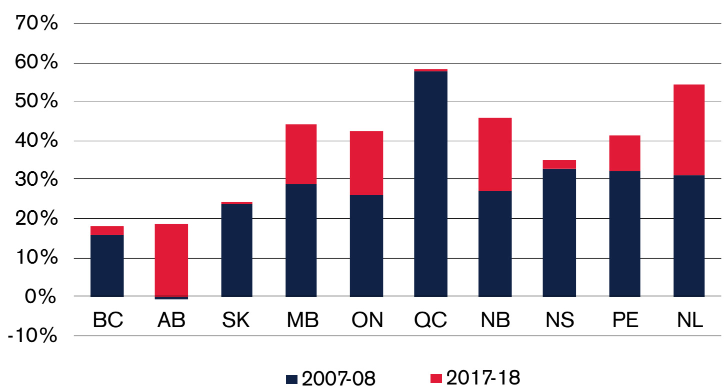
- **Total provincial debt growth is at its slowest pace since the outset of the financial crisis; the largest provinces are now balanced or posting modest operating surpluses.**
- **Resource-producing provinces continue to experience relatively rapid debt growth as they begin to bring their budget deficits under control.**
- **Provinces continue to maintain prudent debt profiles with relatively low floating and foreign currency exposure and having extended their average term to maturity to lock in low rates.**

Growth in total provincial debt has slowed now that the largest provinces have balanced their budgets or achieved modest surpluses. Debt as a share of the economy is now declining in most provinces, though still higher than levels seen before the financial crisis.

The outlook for debt and debt burdens (as a share of the economy) have not changed meaningfully over the last year.

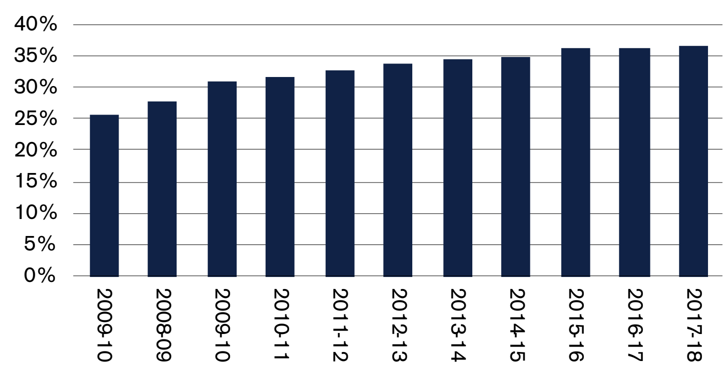
- The resource-producing provinces continue to borrow heavily as a consequence of the sharp fall in resource revenue. The debt burdens in Newfoundland and Labrador and Saskatchewan are expected to stabilize as deficit reduction plans advance, while debt continues to rise strongly because of large operating deficits in Alberta.
- Québec continues to generate moderate surpluses, which is leading to steady decreases in the province's debt burden.
- Manitoba's debt burden appears likely to stabilize around current levels as the province's deficit reduction initiatives begin to show results.
- The debt burdens in other provinces are stable or declining modestly with reduced borrowing needs and expanding economies.

Exhibit 136: DBRS-Adjusted Debt Burden, 2007-08 and 2017-18



Source: Provincial budgets and public accounts. DBRS Calculations.

Exhibit 137: DBRS-Adjusted Debt Burden, All Provinces, 2007-08 to 2017-18



Source: Provincial budgets and public accounts. DBRS Calculations.

Taxpayer versus Self-Supported Debt

DBRS distinguishes between debt supported by taxpayers and that which is issued or serviced by self-supporting government business enterprises (GBEs).

DBRS's primary focus is on tax-supported debt, which includes debt and long-term capital obligations issued by the government as well as the financial obligations of all related tax-supported organizations that are within provincial jurisdiction (e.g., universities, school boards, hospitals). Tax-supported also includes municipal debt and unfunded pension liabilities. Dedicated sinking funds, debt retirement funds and debt reserves are netted against debt, provided that they cannot be used for other purposes. In the case of Alberta, DBRS also nets the book value of the Heritage Savings Trust Fund against the province's debt.

Self-supported debt is that issued by or on behalf of GBEs and serviced by the entities' commercial operations. Debt or long-term capital obligations are considered self-supporting provided that the services are operated on a commercially sustainable basis and are highly unlikely to require government support. Self-supporting activities include electricity generation and distribution and transportation/transit infrastructure. Based on the proportion of the direct debt or long-term capital obligations that is serviced and repaid through a user fee, rate base, levy or otherwise distinct revenue stream, DBRS may, on a case-by-case basis, treat that proportion of the obligation as self-supporting. Debt-financed equity injections made by the provinces into the GBEs are reflected in the provincial tax-supported debt estimates.

DBRS Adjusted Debt (Taxpayer-Supported Debt)

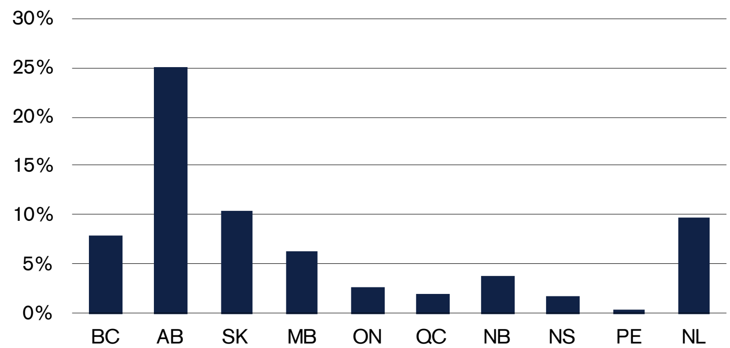
Growth in total DBRS-adjusted debt continued to slow, as the three largest provinces are now expecting to post balanced operating results or modest surpluses, limiting debt growth largely to fund capital investment. Total DBRS-adjusted debt is projected to rise by $34.2 billion (+4.5%) to $800.2 billion.

The resource-producing provinces are projected to see the strongest growth in their debt burdens as they contend with the lingering effect of lower commodity prices on budgets. Total DBRS-adjusted debt is set to rise by $15.2 billion across the three provinces.

- Alberta's debt burden is projected to rise by $11.9 billion (+24.9%) to $59.5 billion.
- Saskatchewan's debt burden is projected to rise $1.8 billion (+10.5%) to $19.4 billion.
- Newfoundland's debt burden is projected to rise by $1.5 billion (+9.7%) to $16.6 billion.

Exhibit 138: Growth in DBRS-Adjusted Debt, 2017-18

Change in DBRS-adjusted debt (y/y % change)



Source: Provincial budgets and public accounts. DBRS calculations.

In comparison, the remaining provinces' aggregate DBRS-adjusted debt is projected to rise by $19.0 billion (+2.8%), as they have largely balanced their budgets, and borrowing has generally been limited to funding capital investment.

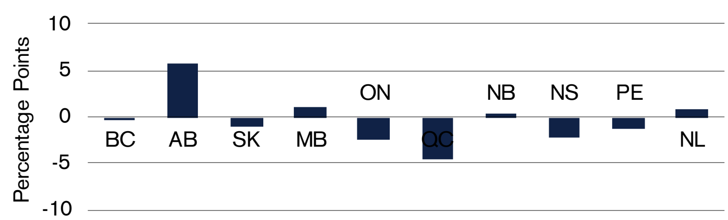
Outlook for Debt Burdens

Over the next three years, debt burdens in most provinces are projected to remain relatively stable. Resource-producing provinces are projected to experience larger increases in debt because of substantial operating deficits.

- **British Columbia's** debt burden is projected to remain stable around 18.0%. Modest surpluses and growth in the underlying economy are expected to fully offset the reclassification of self-supported debt as taxpayer-supported debt that resulted from the elimination of bridge tolls in the province.
- **Alberta's** debt burden is expected to rise sharply with the persistence of large operating deficits and significant capital pressures. At the time of the annual review, DBRS projected the debt burden rising to 24.0% over the next three years.
- **Saskatchewan's** debt burden is expected to rise modestly and then stabilize in the range of 20.0% to 23.0% as the province quickly eliminates its operating deficit and scales back capital investment.
- **Manitoba's** debt burden will continue to climb gradually with large deficits, but as efforts are introduced to slow expense growth and reduce the deficit, the debt burden should stabilize are around 45.0% of GDP.
- **Ontario's** debt burden is projected to decline modestly to about 45.0 % of GDP, as GDP growth outpaces borrowing

Exhibit 139: Projected Change in DBRS-Adjusted Debt Burden, 2017-18 to 2020-21

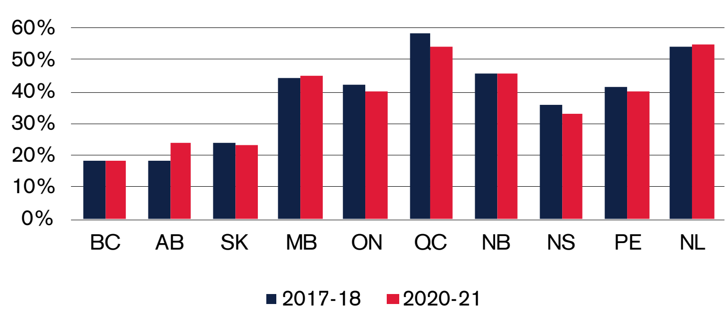
Change in DBRS Adjusted Debt-Burden as a share of Nominal GDP (+percentage points)



Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 140: Projected DBRS-Adjusted Debt Burden, 2017-18 and 2020-21

Share of Nominal GDP



Source: Provincial budgets. DBRS calculations.

requirements, which are now limited to capital requirements.

- **Québec's** debt burden is projected to fall more significantly and approach 55.0% of GDP, as the province targets multi-billion dollar operating surpluses for debt reduction.
- **New Brunswick's** debt burden is projected to rise modestly and stabilize around 46.0% of GDP, as the province continues to make progress in its deficit-reduction efforts.
- **Nova Scotia's** debt burden is projected to decline to roughly 33.0% of GDP, as the province continues to post positive operating results and limited borrowing for capital investment.
- **Prince Edward Island's** debt burden is projected to decline steadily and fall below 40.0% of GDP with the return to a balanced budget and modest debt-financed capital spending.
- **Newfoundland and Labrador's** debt burden is projected to stabilize at around 55.0% of GDP, as the province continues to incur relatively large, though shrinking operating deficits.

DBRS establishes expectations for provincial debt burdens using budget projections provided by the provinces. DBRS may make further adjustments at its discretion. The figures in the accompanying table are the debt projections established at the time of the annual reviews (mostly in the April to July 2017 period).

Self-Supported Debt

DBRS excludes a large portion of the debt issued by or on behalf of the self-supporting GBEs from DBRS's calculation of taxpayer-supported debt. Generally, DBRS begins by looking at the debt issued by the province in its own name and will then exclude debt that it believes will not be supported by the taxpayer. DBRS does not (generally) look through to the financial statements of the GBEs to include the debt issued in their own name as taxpayer-supported debt when not classified as self-supported enterprises.

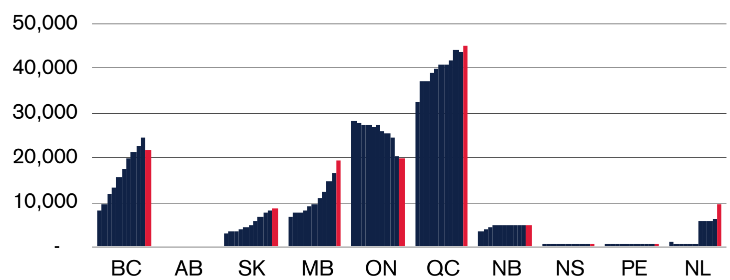
In most provinces, power generation and utilities account for the vast majority of the self-supported debt. In most instances, the provinces issue debt in their own name on behalf of their utilities, while in other instances the utilities issue in their own name. Regardless, DBRS excludes this debt from the measure of DBRS-adjusted, taxpayer-supported debt.

Self-supported debt has risen steadily over the last decade as provincial utilities and energy-related GBEs undertake significant capital projects. In total, self-supporting debt has risen by $45.5 billion (+54.3%) over the last decade.

While DBRS excludes the debt issued and on-lent to the GBEs from the measure of tax-supported debt, DBRS does include any debt required to fund provincial equity injections into the GBEs. Examples of this are as follows:

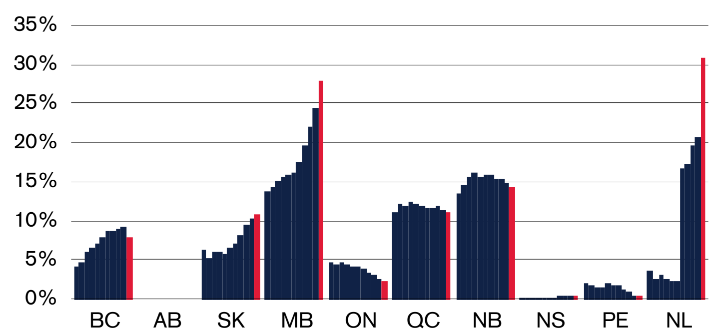
Exhibit 141: Self-Supporting Debt, 2007-08 to 2017-18

CAD millions



Source: Provincial budgets and public accounts. DBRS calculations.

Exhibit 142: Self-Supporting Debt as a Share of Nominal GDP, 2007-08 to 2017-18



Source: Provincial budgets and public accounts. DBRS calculations.

- Newfoundland and Labrador's debt-financed equity injections into Nalcor Energy.
- Ontario's annual debt-financed equity injections of $1.1 billion into Ontario Power Generation as part of the Fair Hydro Plan.

Exhibit 143: Self-Supported Debt of Large Government Business Enterprises, March 31, 2017
Selected GBEs. Public debt issued by the provinces and excluded from DBRS's measure of tax-supported debt (DBRS-adjusted debt).

Province	Self-Supporting Government Business Enterprise	Debt ($ millions)	Share of GDP (%)
BC	BC Hydro and Power	19,692	6.4%
SK	Saskatchewan Power Corporation	5,844	7.6%
SK	SaskEnergy Incorporated	1,210	1.6%
MB	Manitoba Hydro-Electric Board	19,329	28.8%
ON	Ontario Electricity Financial Corporation	20,400	2.6%
QC	Hydro-Québec	43,585	12.0%
NB	NB Power	4,892	14.8%
NL	Nalcor Energy	6,180	20.6%

Source: Provincial budgets and public accounts. DBRS calculations.

Alternative Measures of Debt

DBRS's measure of debt is based on the on- and off-balance sheet liabilities that DBRS believes may be ultimately borne by taxpayers. This measure requires judgement on the part of DBRS and often requires additional information to be provided by the Provinces.

More commonly, Provinces and commentators typically cite *net debt* or the *accumulated deficit* when discussing the provincial debt burden. These measures are well-defined accounting measures that appear on the Statement of Financial Position. These are summary measures that reveal whether a government's overall financial position is improving or deteriorating.

Net debt is the difference between a government's liabilities and financial assets. The standards describe net debt as a measure of the future revenues required to pay for past transactions and events (PS 1201.037).

- Financial assets include liquid investments in cash and short- and long-term marketable investments, as well as accounts and loans receivable, equity in GBEs (accounted for on an equity basis) and various other financial assets.
- Liabilities include accounts payable, unearned revenue, public debt, long-term financing arrangements (PPPs), pension liabilities, liabilities for remediation of contaminated sites and various other liabilities.

The accumulated surplus (deficit) is calculated as the sum of the net debt and the government's tangible capital assets.

Exhibit 144: Alternative Measures of Debt, 2016
Change in DBRS Adjusted Debt-Burden as a share of Nominal GDP (+percentage points)

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
Financial Assets	44.7	63.9	9.1	10.6	84.1	70.8	8.2	4.2	1.1	6.8
Liabilities	84.3	60.0	17.0	32.0	388.8	255.8	21.3	19.3	3.2	19.3
Net Debt	**(39.6)**	**3.9**	**(7.9)**	**(21.4)**	**(304.7)**	**(185.0)**	**(13.7)**	**(15.1)**	**(2.2)**	**(12.5)**
Non-financial assets	43.0	44.6	9.4	12.6	102.5	67.1	8.8	5.8	1.0	4.4
Accumulated Surplus (Deficit)	**3.4**	**48.5**	**1.5**	**(8.8)**	**(202.1)**	**(117.9)**	**(4.3)**	**(9.3)**	**(3.2)**	**(8.1)**
Shares of Nominal GDP (%)										
DBRS-Adjusted Debt	18.9%	10.3%	18.4%	41.6%	44.1%	60.1%	44.1%	36.4%	44.4%	48.2%
Net Debt	15.8%	-1.2%	9.9%	32.5%	39.9%	48.6%	41.3%	37.2%	35.1%	41.5%
Accumulated Deficit (Surplus)	-1.4%	-14.9%	-1.9%	13.4%	26.5%	31.0%	13.0%	22.8%	51.7%	26.8%

Source: Provincial budgets and public accounts. DBRS Calculations.

Debt Structure

The provinces have issued significant amounts of debt in U.S. and international markets, though the vast majority of this debt is swapped back to Canadian dollars, which results in a very low effective foreign currency exposure.

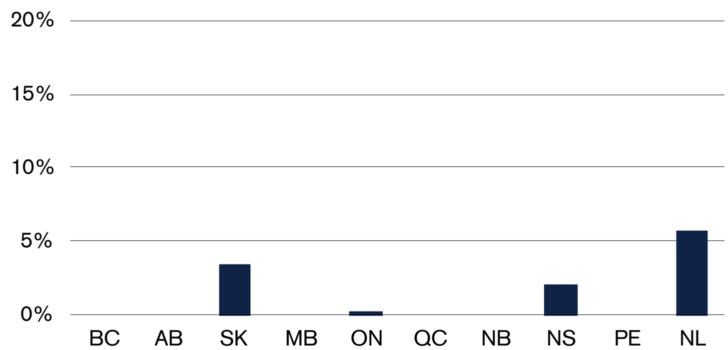
In 2017–18, provinces accessed international debt markets frequently, including a number of large U.S., sterling and euro issues.

Exposure to Interest Rate Reset

Provinces have short-term borrowing programs, near-term maturities (under 12 months) and floating-rate debt. DBRS measures the provinces' interest rate reset risk exposure using this group of debt. Over the decade, interest rate reset exposure has decreased as provinces have sought to term out their debt and take advantage of lower interest rates.

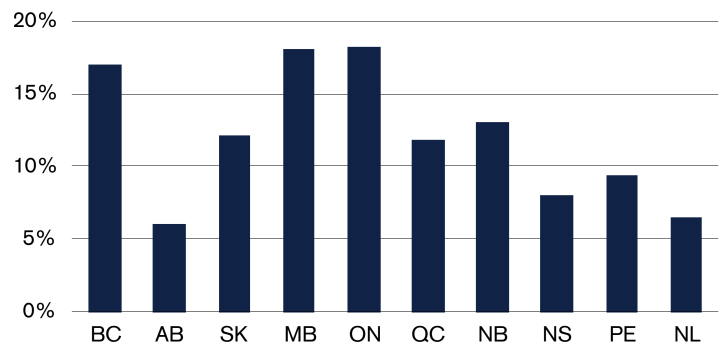
In the coming years, floating rate exposure is likely to climb modestly higher as a number of provinces begin to see some of the larger benchmark issues from the financial crisis to come due.

Exhibit 145: Unhedged Foreign Currency Exposure
Share of gross market debt outstanding at March 31, 2017



Source: Provinces.

Exhibit 146: Exposure to Interest Rate Reset (within 12-months)
Share of gross market debt outstanding at March 31, 2017



Source: Provinces.

Maturity Profile

With the persistence of low rates and strong investor demand for long-dated debt, the provinces have extended their average term to maturity.

Exhibit 147: Maturity Profiles, 2017
As at March 31, 2017

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
Current year	9%	4%	8%	9%	12%	13%	11%	6%	9%	7%
Years 2-5	21%	36%	20%	27%	28%	29%	21%	30%	10%	16%
Years 6-10	23%	25%	26%	24%	24%	26%	22%	20%	9%	30%
Beyond 10 years	48%	35%	45%	40%	37%	31%	46%	44%	72%	47%

Notes: Direct debt only for NL, NB, QC, ON and AB. Total public sector debt for MB.
Source: Provinces.

Unfunded Pension Liabilities

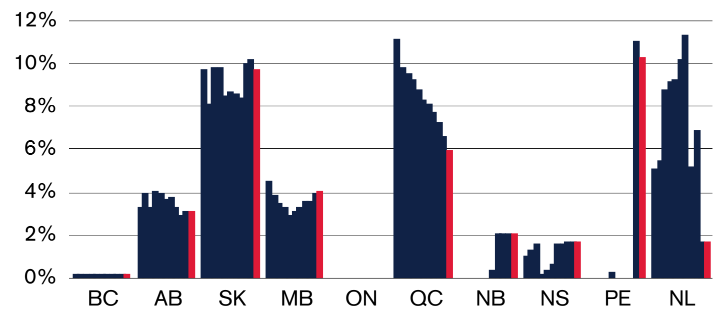
- **The outlook for unfunded pension liabilities is generally improving following structural changes and contribution rate increases to address longer-term sustainability concerns.**
- **Unfunded legacy plans are maturing.**

Public-sector employees in Canada generally have extensive pension and post-retirement benefits, though governments at all levels have made significant reforms over the last two decades to address the rising costs and sustainability of the benefits. The most significant trends include the following:

- Changes to plan design (e.g., conditional indexation, movement toward defined contribution or hybrid plans, etc.).
- Contribution rate increases and the movement toward to 50-50 cost sharing.
- Adoption of joint trusteeship or 50-50 risk sharing.
- Changes to post-employment benefit cost sharing.
- Elimination of long-service awards (i.e., lump sum financial benefits upon retirement/resignation).

Exhibit 148: Unfunded Pension Liabilities, 2007-08 to 2017-18

Share of Nominal GDP



Source: Provincial budgets. DBRS Calculations.

Pension plans now differ significantly in design across the country, which has given rise to accounting issues/concerns in recent years, as Public Sector Accounting Standards have not kept pace with the changes in pensions, which led to qualified audit opinions for Ontario and New Brunswick. Nevertheless, the outlook for pensions is generally stable, if not improving in most provinces.

- **British Columbia**, **Ontario**, **Nova Scotia** and **Prince Edward Island** have modest, if any, unfunded pension liabilities, which reflects decisions made over the last number of decades to address plan sustainability.
- **Alberta's** unfunded pension liabilities have been relatively stable around $10.0 billion in recent years and are now beginning to decline. The majority of the unfunded liability ($7.9 billion) relates to a legacy plan (pre-1992 teachers' pension plan).
- **Saskatchewan's** unfunded pension liabilities are relatively large ($7.8 billion) and account for about half of the province's DBRS-adjusted debt burden. However, Saskatchewan's circumstances are unique. The province closed its major defined benefit pension plans to new members in the late 1970s and early 1980s and moved to defined contributions for the province's teachers, public-service workers and Crown corporation employees. The closed defined benefit plans are largely unfunded with annual benefit payments made by the government with general revenues. As the plans continue to mature, future liabilities will decline. The unfunded pension liability is highly sensitive to changes in actuarial assumptions since the plans are mature and unfunded. Over the last decade, the present value of the unfunded pension liabilities has risen steadily with the decline in interest rates. As interest rates rise over the medium term, the unfunded pension liability is expected to decline. The province estimates that a 1.0-percentage-point increase in the discount rate would reduce the pension obligations by $1.1 billion.
- **Manitoba's** unfunded pension liabilities have ranged between $1.7 billion and $2.8 billion over the last decade but have been rising in recent years. Contribution rates have been increased in recent years, and indexation has been made conditional.
- **Québec** provides several defined benefit pension plans, the largest of which is the Government and Public Employees Retirement Plan (RREGOP). The RREGOP is a 50-50 cost-shared plan, except for benefits earned prior to July 1, 1982, where Québec is responsible for a slightly larger share of accrued benefits. The plan was historically underfunded, but an agreement between the government and labour groups in 1999 set a 2020 target for improving the government's share of the funding status. The increased contributions have led, in part, to a sustained reduction in the province's unfunded liabilities over the last decade.
- **New Brunswick's** unfunded pension liabilities have remained stable in recent years between $600 million and $700 million. The province has converted the plans to shared-risk, target benefit plans. The changes have resulted in greater certainty and

predictability for annual pension expenses and reduced the pension-related risks borne by taxpayers. The province recently changed its accounting policy for pensions following a qualified audit opinion. The province uses defined benefit accounting, which resulted in a retroactive $220 million increase in pension liabilities.

- **Nova Scotia's** unfunded pension liabilities have hovered around 1.0% to 2.0% of GDP, or roughly 4.0% to 5.0% of the DBRS-adjusted debt burden, for several years. The Nova Scotia Public Service Superannuation Plan transitioned to a jointly sponsored plan in 2013–14, and the province's obligation is limited to matched employer contributions, while the province is responsible for half of the teachers' unfunded plan liability.
- **Newfoundland and Labrador** sponsors five defined benefit pension plans. Over the last four years, the province has made significant changes to the largest plans to address the rising costs of the plans. The plans are now jointly sponsored by government and labour groups with 50-50 risk sharing, and changes have been made to benefit entitlements. In exchange for concessions, the province provided the plans with $4.5 billion in promissory notes to be amortized over 30 years. The unfunded pension liabilities are now significantly lower.

Intergovernmental Relations

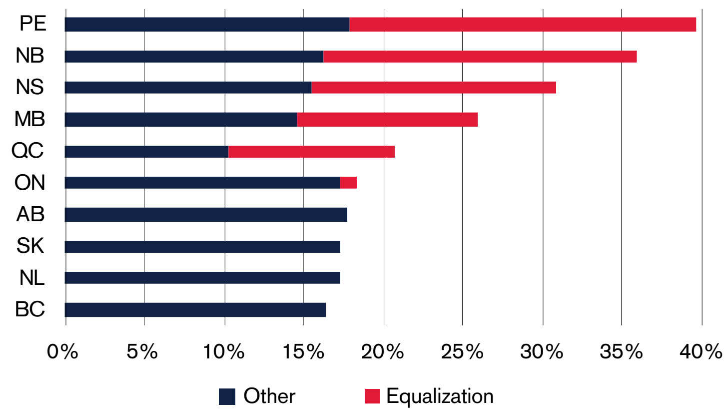
- **Relations between the federal and provincial governments remain positive.**
- **No changes to the major federal transfer programs, but increased funding for homecare, mental health and infrastructure.**

The division of powers in the Canadian Constitution results in overlapping areas of jurisdiction between the federal and provincial governments. As a result, changes in governments or government policy at the federal level can have meaningful implications for provincial governments.

The relationship between the federal and provincial governments is cooperative and productive. DBRS believes there is broad policy alignment between the two orders of government, and while there is some tension on specific issues, the current state of federal-provincial relationships is positive for the credit profiles of all provinces.

Over the last year, the most significant issues in the area of federal-provincial relations include the following:

Exhibit 149: Federal Transfers as a Share of Provincial Revenue, 2017-18



- The federal government's mandate for the provinces to impose carbon levies starting at $10 per tonne of CO_2 equivalent in 2018 and rising to $50 per tonne in 2022. If provinces fail to impose a levy, the federal government will impose a levy as a backstop and redirect the proceeds to the province.
- New federal transfers for homecare and mental health ($8.0 billion over ten years).
- Increased federal transfers for provincial and municipal infrastructure.
- The federal government's planned legalization of cannabis in July 2018, which requires federal enabling legislation and the development of regulatory, retail sale and enforcement frameworks by provincial governments.

The major federal programs are well-established, institutional features of Canada's federal-provincial fiscal system. DBRS views a relatively high reliance on transfer programs as a weakness to the provincial credit profiles, as this tends to reflect diminished fiscal capacity. A reliance on federal transfers can cause a province to have less control over its revenue while also becoming more exposed to some risks associated with federal policy changes.

Methodological Considerations

DBRS's scoring of the Intergovernmental Relations critical rating factor and the description for the sub-factors follows:

Critical Rating Factor: Intergovernmental Relations

Relations with the federal government are considered in the context of provincial fiscal policy and contributions. Considerations include (1) the degree of federal-provincial cooperation/policy alignment, (2) the federal government's policy priorities and (3) provincial reliance on federal transfers. The scoring for the financial management factor follows.

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
AA (high)	AA (high)	AA (high)	AA (low)	AA (high)	A (high)	A (high)	A (high)	A	AA

DBRS's scoring of federal transfers-to-total revenue within the financial risk assessment section of the methodology follows:

Financial Risk Factor: Federal transfers-to-total revenue

The ratio of federal transfers to total revenue is one of the primary metrics DBRS uses to determine the financial risk of provincial issuers. The scores are defined in the methodology: AAA (less than 15%), AA (15% to 30%), "A" (30% to 50%) and BBB (50% to 80%).

BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
AA (high)	AA (high)	AA (high)	AA (low)	AA (high)	AA	A (high)	A (high)	A	AA (high)

Appendices

2017 Public Finance Publications

Provincial Budget Commentaries

- "DBRS Comments on Alberta's 2017 Budget: Large Deficits and Rising Debt Erode Flexibility," March 17, 2017.
- "DBRS Comments on Saskatchewan's 2017 Budget: A Determined Plan to Return to Balance," March 23, 2017.
- "DBRS Comments on Québec's 2017–18 Budget: Debt Inching Down as Fiscal Discipline Remains Intact," March 29, 2017.
- "DBRS Comments on Ontario's 2017 Budget: Back in Black and Spending to Wynne," April 28, 2017.
- "DBRS Comments on Manitoba's 2017 Budget: Aspiration without Action," April 12, 2017.
- "DBRS Comments on British Columbia's 2017 Budget Update," September 12, 2017.
- "DBRS Comments on Nova Scotia's 2017 Budget," September 27, 2017.

Other Provincial Commentaries

- "DBRS Comments on Ontario's Plan to Reduce Electricity Prices," March 3, 2017.
- "DBRS Comments on the Impact of Weaker-than-Expected Oil Prices on Provincial Finances in Alberta, Saskatchewan and Newfoundland and Labrador," August 24, 2017.

Provincial Ratings

- "DBRS Confirms New Brunswick at A (high) and R-1 (middle)," April 11, 2017.
- "DBRS Confirms the Province of Saskatchewan at AA and R-1 (high) with Stable Trends," May 2, 2017.
- "DBRS Confirms Province of Québec at A (high) and R-1 (middle), Stable Trends," June 9, 2017.
- "DBRS Confirms Province of Ontario at AA (low) and R-1 (middle), Stable Trends," June 28, 2017.
- "DBRS Confirms Province of Manitoba at A (high) and R-1 (middle), Stable Trends," July 4, 2017.
- "DBRS Confirms Province of Alberta at AA (high) and R-1 (high), Changes Trend on Long-Term Ratings to Negative," July 7, 2017.
- "DBRS Confirms Province of Newfoundland and Labrador at A (low), Stable Trend," July 14, 2017.
- "DBRS Confirms the Province of Prince Edward Island at A (low) and R-1 (low), Stable Trends," August 1, 2017.
- "DBRS Confirms British Columbia at AA (high) with a Stable Trend," October 26, 2017.
- "DBRS Confirms Province of Nova Scotia at A (high), Stable Trend," November 16, 2017.

Provincial Ratings History, 1987 to 2017

Ratings in table reflect ratings at end of year. For a full description of all rating changes, including under review, trends, and rating changes please refer to the most recent DBRS 17g-7 Disclosure Report for the individual provinces, published concurrent with the latest rating action.

Year	BC	AB	SK	MB	ON
1987	AA (low)	AA	A (high)	A	AA
1988	AA (low)	AA	A (high)	A (low)	AA
1989	AA	AA	A (high)	A	AA
1990	AA	AA	A (low)	A	AA
1991	AA	AA	BBB (high)	A	AA (low)
1992	AA	AA	BBB (high)	A	AA (low)
1993	AA N	AA N	BBB	A N	A (high)
1994	AA	AA	BBB	A N	A (high)
1995	AA	AA	BBB (high)	A	A (high)
1996	AA	AA	BBB (high)	A	A (high)
1997	AA	AA P	A (low)	A	A (high)
1998	AA N	AA (high)	A (low)	A	A (high)
1999	AA (low)	AA (high)	A (low)	A	AA (low)
2000	AA (low)	AA (high)	A	A	AA (low) P
2001	AA (low)	AAA	A	A	AA
2002	AA (low)	AAA	A	A P	AA
2003	AA (low)	AAA	A	A (high)	AA
2004	AA (low) P	AAA	A P	A (high)	AA N
2005	AA	AAA	A (high)	A (high)	AA
2006	AA P	AAA	AA (low)	A (high)	AA
2007	AA (high)	AAA	AA (low)	A (high)	AA
2008	AA (high)	AAA	AA (low) P	A (high)	AA
2009	AA (high)	AAA	AA	A (high)	AA (low)
2010	AA (high)	AAA	AA	A (high)	AA (low)
2011	AA (high)	AAA	AA	A (high)	AA (low)
2012	AA (high)	AAA	AA	A (high)	AA (low)
2013	AA (high)	AAA	AA	A (high)	AA (low)
2014	AA (high)	AAA	AA	A (high)	AA (low)
2015	AA (high)	AAA	AA	A (high)	AA (low)
2016	AA (high)	AAA ➞ AAA N ➞ AA (high)	AA	A (high)	AA (low)
2017	AA (high)	AA (high) N	AA	A (high)	AA (low)

Notes: Under review not shown in table. N – Negative trend; P – Positive trend.

Year	QC	NB	NS	PE	NL
1987	A (high)	A	A (low)	A (low)	BBB
1988	A (high)	A	A (low)	A (low)	BBB
1989	A (high)	A	A (low)	A (low)	BBB
1990	A (high)	A	A (low)	A (low)	BBB
1991	A (high)	A	A (low)	A (low)	BBB
1992	A (high)	A	A (low)	A (low)	BBB
1993	A	A N	BBB (high)	A (low) N	BBB (low)
1994	A N	A	BBB (high)	BBB (high)	BBB (low)
1995	A N	A	BBB (high)	BBB (high)	BBB (low)
1996	A (low) N	A	BBB (high)	BBB (high)	BBB (low)
1997	A (low) N	A	BBB (high)	BBB (high)	BBB (low)
1998	A (low)	A	BBB (high)	BBB (high)	BBB
1999	A (low)	A	BBB (high)	BBB (high)	BBB
2000	A	A	BBB (high)	A (low)	BBB
2001	A	A	BBB (high)	A (low)	BBB
2002	A	A P	BBB (high)	A (low)	BBB
2003	A P	A P	A (low)	A (low)	BBB
2004	A P	A (high)	A (low)	A (low)	BBB
2005	A	A (high)	A (low) P	A (low)	BBB (high)
2006	A (high)	A (high)	A	A (low)	A (low)
2007	A (high)	A (high)	A	A (low)	A (low) P
2008	A (high)	A (high)	A P	A (low)	A
2009	A (high)	A (high)	A P	A (low)	A
2010	A (high)	A (high)	A	A (low)	A
2011	A (high)	A (high)	A	A (low)	A
2012	A (high)	A (high)	A P	A (low)	A
2013	A (high)	A (high)	A (high)	A (low)	A
2014	A (high)	A (high)	A (high)	A (low)	A
2015	A (high)	A (high)	A (high)	A (low)	A
2016	A (high)	A (high)	A (high)	A (low)	A → A N → A (low)
2017	A (high)	A (high)	A (high)	A (low)	A (low)

Notes: Under review not shown in table. N – Negative trend; P – Positive trend.

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Corporate Headquarters | DBRS Tower – 181 University Avenue Suite 700 Toronto, ON M5H 3M7 | TEL +1 416 593 5577 | www.dbrs.com