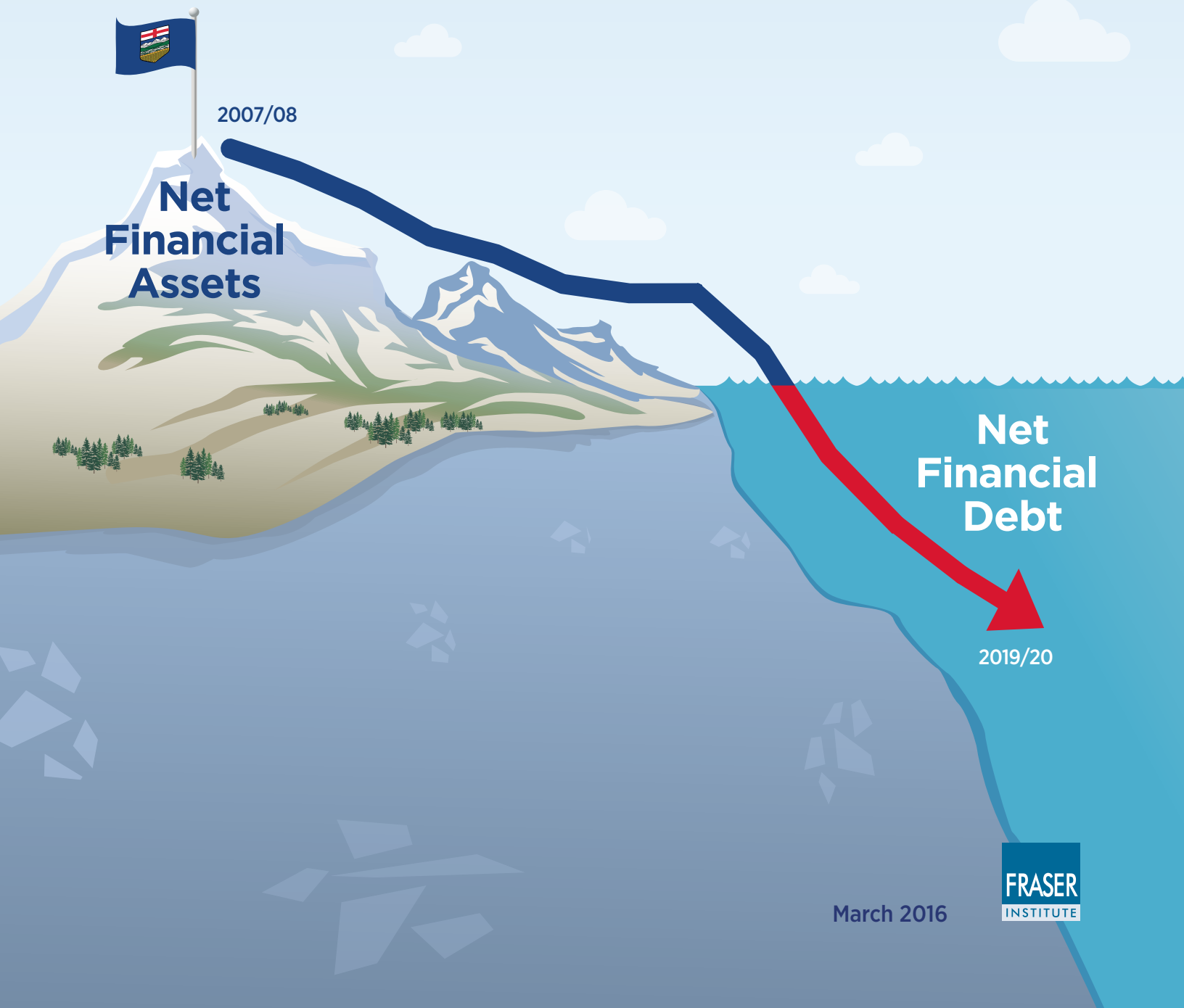


HOW MUCH, HOW FAST?

ESTIMATING DEBT ACCUMULATION IN ALBERTA THROUGH 2019/20

Steve Lafleur, Ben Eisen, and Milagros Palacios



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Executive summary

For the first time since the 1999/2000 fiscal year, the Government of Alberta is poised to reach a negative net financial asset position in the 2016/17 fiscal year, down from a \$35 billion net financial asset position in 2007/08.

It is clear that the province will return to a net debt position in 2016/17, but an important question remains: how much debt will Alberta actually accumulate in the next few years? This report documents the recent deterioration in Alberta's net financial asset position over time, and estimates how much net debt the province could accumulate in the years ahead under a range of scenarios.

Currently, government forecasts suggest that Alberta's net debt will reach \$19.8 billion by 2019/20. However, these forecasts likely understate the amount of debt Alberta will accumulate in the years ahead.

There are two important sets of risks to the government's fiscal plan. The first is that Alberta's revenue outlook has weakened considerably since the publication of the government's October 2015 budget. The prospect of reduced revenue rightly received considerable attention in recent months, given that lower-than-projected revenues in the years ahead could cause the province's debt to increase significantly faster than is currently projected.

This paper, however, makes a new contribution to public discourse on these issues by focusing primarily on another set of risks that have received much less attention—those found on the spending side of the ledger. Specifically, this paper analyzes the extent to which Alberta's debt will grow faster than currently expected if the government fails to restrain spending in the years ahead.

These risks are deserving of careful attention because they are, to a much greater extent than revenue, under the government's control. Regardless of whether the government's current revenue projections materialize, the government's spending choices in the years ahead will play an important role in determining how quickly the province acquires debt.

The budget calls on the government to restrain spending growth to significantly less than the rate of inflation plus population, less than the rate at which it has increased spending in recent years, and less than the rate of

economic growth. This paper considers the implication for Alberta's pace of debt accumulation if the government does not adhere to these spending targets.

The paper examines three scenarios where spending diverges from budget plans. In the first alternative scenario, program spending increases by 3.9 percent annually, in line with the projected average increase in population growth plus inflation. That scenario would result in the province accumulating \$7.0 billion more in net debt than it currently expects by 2019/20, when the province's net debt would stand at \$26.8 billion.

The second scenario assumes that program spending increases at the same average rate as it did in the past five fiscal years, 3.8 percent. In that case, the provincial government's net debt would be \$6.2 billion larger than it currently expects by 2019/20, totalling \$26 billion.

Finally, the third scenario assumes that program spending increases at the same rate as GDP growth, which is expected to be 4.7 percent annually. In that scenario, the province's net debt will be \$11.3 billion larger than would be the case if spending targets were met, resulting in total net debt of \$31.1 billion in 2019/20.

Because the Minister of Finance recently announced that the deficit for 2016/17 could be \$5 billion greater than projected in the budget, the paper also considers the impact of a one-time revenue loss of \$5 billion in 2016/17. This is likely a conservative estimate, given that further revenue losses could occur in future fiscal years.

Introduction

The Government of Alberta is expecting to return to a net debt position in 2016/17 for the first time since 1999/2000, where the value of gross government liabilities exceeds financial assets. This is a stunning reversal for a province that had amassed a \$35 billion net financial asset position as recently as 2007/08.¹

Since 2007/08, Alberta has run operating deficits in every fiscal year, with the exception of a slim operating surplus in 2014/15. The new government initially pledged to balance the budget by 2018/19, but has since moved that target back by one year. There is still uncertainty about whether the government will meet the new target. Even if it does comply with this revised timeframe, Alberta will have run ten deficits in 12 years.

This string of budget deficits driven by over a decade of rapid spending growth has weakened Alberta's fiscal position, contributing to a rapid decline in provincial net financial assets to the point that the province is now on the brink of a return to a net debt position. The recent decline in commodity prices and resulting recession in the province have accelerated this trend.

It is clear that the province will return to a net debt position in 2016/17, but an important question remains: how much debt will Alberta actually accumulate in the next few years? This report documents the recent deterioration in Alberta's net financial asset position over time, and estimates how much net debt the province could accumulate in the years ahead under a range of scenarios.

Specifically, this paper focuses on how provincial choices with respect to government spending will influence Alberta's debt trajectory in the years ahead. We find that provincial spending choices will have a significant impact on how much debt Alberta will acquire between now and 2019/20.

1. Throughout this document we refer to net financial assets, which are defined as the difference between financial assets and total liabilities. The authors focus on net financial assets because they represent the government's liabilities and liquid assets. We will use the term net debt to refer to negative net financial assets.

Our paper makes a new contribution to public debate on these issues, which has focused primarily on the possibility of revenue shortfalls, and the extent to which lower oil prices or weaker than expected economic growth may cause the debt to grow faster than the government currently projects. Here, we focus on another set of risks over which the government has much more control, related to the fact that the debt will grow faster than currently expected if the government fails to restrain spending in the years ahead. Regardless of whether the government's current revenue projections materialize, the government's spending choices in the years ahead will play an important role in determining how quickly the province acquires debt.

How we got here: A recap of Alberta's recent fiscal history

At the end of the 2015/16 fiscal year, Alberta's provincial government is projected to find itself with \$4 billion of net financial assets. With deficits projected for at least three more fiscal years, in addition to new capital spending, the province is expected to accumulate billions of dollars of new debt in the years ahead. Before estimating how much debt that will be under a variety of different scenarios, it is useful to first provide a brief recap of Alberta's recent fiscal history to show how Alberta arrived in its current fiscal predicament, and how it has dealt with debt accumulation in the past.

Alberta's current fiscal challenges bear some similarity to those the province experienced during the 1980s and early 1990s, when the province ran nine consecutive budget deficits. This occurred largely because the provincial government proved unable to restrain government spending in the face of a period of lower resource prices. As Emery and Kneebone (2009) noted, "the government largely behaved as if it expected the good times associated with high oil prices to return at any time." As a result, the province went from a net financial asset position of \$7.2 billion in 1984/85 to a net debt position of \$13.4 billion in 1993/94 (Alberta, Ministry of Finance, 2001).

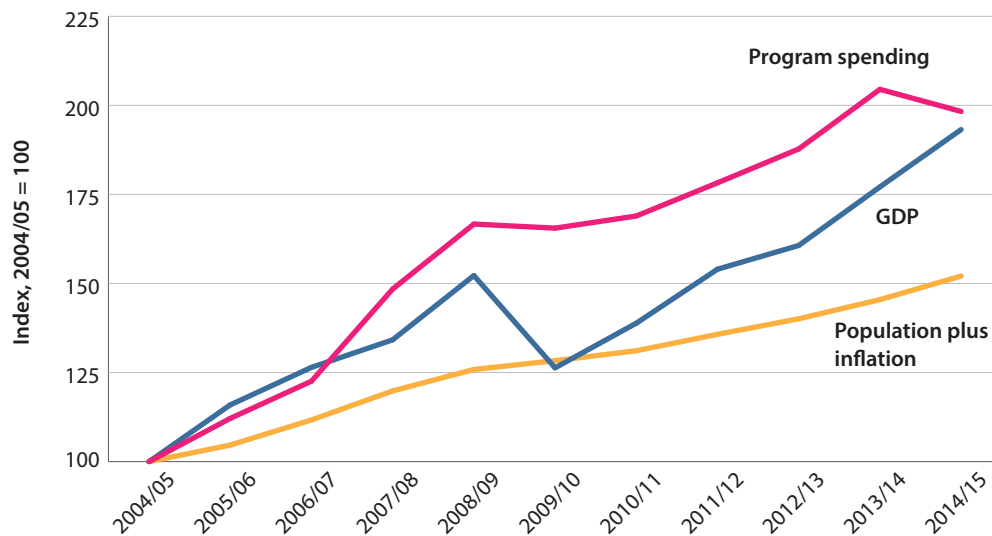
In 1993, following the election of former Calgary Mayor Ralph Klein to the office of Premier, Alberta's provincial government finally began to get serious about dealing with its chronic deficits and rising debt. Klein pledged to return to the province to budgetary balance and eliminate the provincial debt (Boessenkool, 2010). In its first fiscal year, the Klein government reduced provincial program spending by more than a billion dollars (Canada, 2015). In 1994/95, Klein's government cut program spending by an additional \$1.6 billion. By 1996/97, Alberta's real per capita program spending was reduced by 31 percent from 1992/93 levels (Emery and Kneebone, 2009).

Thanks to these spending reductions, Alberta's deficit was quickly wiped away and the province began to run regular operating surpluses and chip away at the province's net debt. By 1994/95, the province had eliminated its deficit and posted a budget surplus of \$938 million. This would be the first of 14 consecutive surpluses. The provincial net debt quickly began to shrink

and in 1999/00, the province's net debt had been completely eliminated and Alberta returned to a positive net financial asset position. The province would continue to run operating surpluses in the early years of the new century and went on to accumulate \$35 billion in net financial assets by 2007/08—the province's 14th consecutive surplus budget.

Even during the years of surplus in the mid- and late 2000s, however, when the province was accumulating net financial assets, the government was making the same mistakes as its predecessors during past boom periods. Specifically, throughout the mid- and late 2000s, Alberta's provincial government began to increase provincial program spending at a rapid pace. **Figure 1** shows that between 2004/05 and 2014/15, Alberta's program spending increased by 98.3 percent (Lafleur et al., 2015).

Figure 1
Index comparing growth in Alberta's program spending, GDP, population, and inflation, 2004/05–2014/15



Note: Inflation measured by changes in Statistics Canada's consumer price index (CPI).

Sources: Alberta, Ministry of Finance, 2004–2015a; Statistics Canada, 2015a, 2015c, 2015d; calculations by authors.

This is roughly twice the increase that would have been required to offset the cost pressures from both increasing overall prices (inflation) and a growing population (52.1 percent). It was also faster than the rate of economic growth (93.2 percent) during the same period. As the Alberta government had done during previous boom periods, it spent money as though the high resource prices and strong economic growth could be taken for granted.

As a result of this sustained spending growth, the government eventually began to run budget deficits even in years when resource revenue exceeded

\$11 billion (Alberta, Ministry of Finance, 2015a). In 2008/09, Alberta ran its first operating deficit since 1993/94. In fact, Alberta would go on to run deficits in seven out of the next eight fiscal years. With oil prices having fallen by well over 50 percent, the province's spending level is completely misaligned with revenues, and the size of the annual budget deficits (and the rate of annual debt accumulation) have grown significantly.

These sustained budget deficits (along with considerable additional capital spending) have contributed to the rapid erosion of Alberta's net financial asset position, which stood at \$35 billion as recently as 2007/08. The 2015/16 fiscal year will be the last year of Alberta being in a positive net financial asset position, which takes us to the present day as the province is projected to return to a net debt position next year.

Overview of Alberta's finances: A note on the Heritage Fund

Before going on to estimate how much debt Alberta will acquire in the years ahead under a range of spending scenarios, we will briefly digress to highlight a few unique features of Alberta's approach to financial reporting. **Table 1** delineates the province's financial assets and liabilities.

Table 1
Alberta's net financial assets as of March 31st

	2015 (actual) \$ millions	2016 (estimate) \$ millions	2017 (target) \$ millions	2018 (target) \$ millions
Financial assets				
Heritage Savings Trust Fund, endowment and other funds	18,874	19,197	19,584	19,996
Contingency Account	6,529	3,289	-	-
Self-supporting lending organizations	19,152	20,081	20,820	21,626
Other financial assets	12,188	12,151	13,144	14,311
SUCH sector financial assets	9,334	8,779	8,364	7,894
Total financial assets	66,077	63,496	61,912	63,827
Liabilities				
Liabilities for capital projects	11,922	17,995	24,837	31,768
Debt for pre-1992 TPP liability / direct borrowing for fiscal plan	943	944	1,657	4,789
Self-supporting lending organizations	17,302	17,977	18,521	18,904
Other liabilities	6,424	6,970	6,549	6,272
Pension liabilities	11,196	11,227	11,185	11,088
SUCH sector liabilities	5,236	4,991	4,822	4,720
Total liabilities	53,023	60,104	67,571	77,541
Net financial assets	13,054	3,392	(5,659)	(13,714)

Note: Data as of March 31, 2016 comes from the 2015–16 Third Quarter Fiscal Update and Economic Statement, released on February 24, 2016. Unfortunately, the quarterly update does not present reviewed data for further years. For this reason, data as of March 31, 2017 and 2018 comes from the 2015 budget released in October 2015.

Source: Alberta, Ministry of Finance, 2015a, 2015b, 2016.

One of the unique aspects of Alberta's approach to financial management is the Heritage Savings Trust Fund, which coexists alongside other smaller endowments. The Heritage Fund currently holds approximately \$18.2 billion (Alberta Heritage Savings Trust Fund, 2016).

The Heritage Fund was established in 1976 in order to manage the province's resource wealth. The fund was created with the objective of ensuring that revenues from non-renewable resources were not simply spent on current needs, but were saved and invested in order to provide a steady stream of income for the benefit of Albertans in the future.

We single out this component of Alberta's financial assets because it is important to recognize that these funds are not intended to be available on an ongoing basis to help meet government financial responsibilities resulting from budget shortfalls or new capital expenditures. In other words, it is fundamentally different from the type of "rainy day" or "stabilization" fund some governments create to draw from for needed revenue during tough times.

Including the Heritage Fund in the province's net financial assets in our analysis of future government debt may therefore mean including a large financial cushion of resources that are supposed to be kept off limits and unavailable to meet current financial needs.

The analysis of Alberta's net debt projections presented in the next section *does* include the Heritage Fund as a part of Alberta's net financial asset, because the fund does in fact represent assets belonging to the province. However, readers should recognize that if the notion that the principal from resource revenues shouldn't be used to offset (or pay down) government debt is to be taken seriously, the projections below may somewhat understate the severity of Alberta's short-term fiscal challenges and the extent to which it currently holds financial assets that can be used to meet new short-term debt obligations.

Projecting Alberta's debt trajectory²

In its 2015 October budget, Alberta's government projects budget deficits in each of the next three years. If this plan materializes, the government will have run ten deficits in 11 years by the end of 2018/19. In 2019/20, the government forecasted a return to surplus with a projected surplus of \$1 billion.

Over this period, the province projects that it will increase its net debt considerably. In fact, using the assumptions in the government's budget, Alberta's net debt will climb to \$19.8 billion by 2019/20.³

Figure 2 illustrates the decline in Alberta's net financial asset position in recent years, as well as the projected accumulation of net debt in the years ahead, using the government of Alberta's current projections. It shows that the province is expected to go from a net financial asset position of over \$35 billion in 2007/08 to a net debt position of \$19.8 billion in 2019/20. This represents a total decrease in the province's net financial asset position of nearly \$55 billion over a 12-year period.

While the projected accumulation in net debt based on the government's budgetary assumptions is significant, there are reasons to think these forecasts may be overly optimistic. In fact, there are significant risks on both the revenue and expenditure side of the government ledger that may cause the province to acquire debt at a faster rate than the government expects in the years ahead.

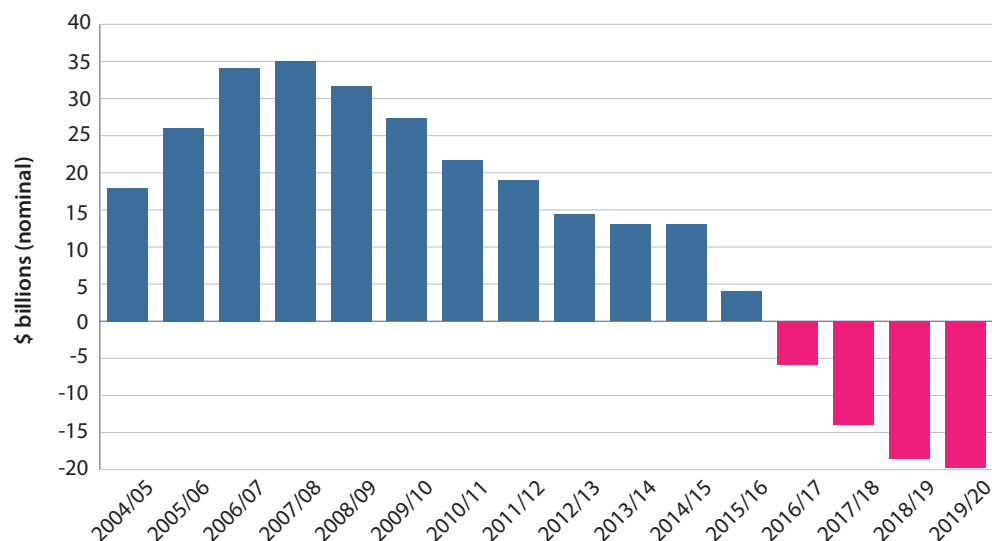
There are two primary risks to the current fiscal plan. First, revenue may fall short of the budget's projections.⁴ These risks are important. However, this paper focuses on a second set of risks, which flow from the fact that the

2. See appendix for methodology.

3. The Alberta budget forecasts net debt (liabilities minus financial assets) estimates until 2017/18. Estimates for the years 2018/19 and 2019/20 were done by the authors based on data presented in the latest budget and assuming that deferred capital contributions for those years remain at the same level as 2017/18.

4. The projections presented in this paper are based on revenue estimates from 2016/17 to 2019/20 taken from the October budget. The authors acknowledge that the underlying assumptions used for the revenue projections might have changed since October and could affect the current state of own-sources revenues.

Figure 2
Net financial assets (financial assets minus liabilities)



Notes: Net financial assets for 2016/17 and 2017/18 have been adjusted accordingly to the 2015/16 results presented in the Third Quarterly Update. 2018/19 and 2019/20 projected by authors based on budget estimates.

Sources: Alberta, Ministry of Finance, 2005–2015a; Alberta, Ministry of Finance, 2015b; Alberta, Ministry of Finance, 2016; calculations by authors.

government may prove unwilling or unable to restrain spending growth in the years ahead. The scenarios present how different spending scenarios will shape the pace of debt accumulation if the government's current revenue estimates materialize.⁵ In the next section, we will add to this analysis by discussing how revenue shortfalls could contribute further to debt accumulation in the various scenarios presented here.

The government's current projections for debt accumulation in the years ahead rely on a significant slowdown in the rate of spending growth. For example, the government projects average annual program spending growth of 2.3 percent between 2015/16 and 2017/18, less than two-thirds of the 3.8 percent spending growth rate that has occurred over the past five fiscal years. Successive provincial governments have rapidly increased program spending over the past decade, and there is no guarantee that the government will deliver the promised spending restraint.

In what follows, we provide an analysis of how much more Alberta's debt levels could increase in the years ahead under three scenarios in which Alberta's program spending increases at a faster rate than is forecast in the

5. Revenue estimates for 2015/16 are from the Third Quarter Fiscal Update, and estimates thereafter are from the October budget, since revenue estimates for future fiscal years were not included in the update.

most recent budget.⁶ These simulations make two key simplifying assumptions. First, they assume that higher-than-projected expenditures will not result in increased economic growth or additional government revenues. Second, they do not adjust for the fact that increased debt under the higher-spending scenarios would increase the required debt service payments the government must make, which would further add to the province's net debt.⁷ The spending scenarios we consider, in comparison to the spending projections presented in the budget are:

- ◆ **Program spending grows at the same pace of inflation plus population growth.**⁸ The budget forecasts that provincial program spending will increase at an average annual rate of 2.3 percent between the 2015/16 and 2017/18 fiscal years.⁹ This rate of spending growth would be lower than the rate of inflation plus population projected over that period (3.9 percent). In other words, the budget forecasts reductions in inflation-adjusted per-capita spending from 2015/16 to 2019/20. This, however, would represent a change from the past ten fiscal years, in which inflation adjusted per-person spending increased in all but two years.
- ◆ **Program spending grows at the average pace observed over the past five fiscal years.** Increasing program spending at the same rate as the average over the past five fiscal years would result in an annual increase of 3.8 percent, over 65 percent higher than the rate of increase projected in the budget.
- ◆ **Program spending grows at the same pace as projected nominal GDP growth.** Based on the most recent GDP projections, increasing spending at the rate of GDP growth would result in annual average spending

6. All three scenarios assume that capital spending remains in line with the fiscal plan. While capital spending is not included in the year to year budget balances, it does affect the net asset position, and this is accounted for in the analysis.

7. Debt charges from 2016/17 to 2017/18 were taken from the budget. For 2018/19 and 2019/20, debt charges were estimated using the ratio of debt charges relative to program spending of the last four years (from 2012/13 to 2015/16).

8. Population projections come from Statistics Canada's Medium-M1 growth scenario (Statistics Canada, 2015b). While population and inflation growth might diverge from current projections, the latter give us a realistic idea of how spending might increase in the absence of significant changes to underlying economic conditions and migration patterns. This paper is focused specifically on spending risks, though it is certainly possible that deterioration in underlying economic variables will impact the province's net financial asset position.

9. The Alberta budget projects program spending up to 2017/18 and total spending until 2019/20. From 2015/16 to 2019/20, the budget forecasts that total spending will increase at an average annual rate of 2.4 percent.

growth of 4.7 percent.¹⁰ While this represents a faster rate of spending growth than is projected in this year's budget, it is important to note that this rate of spending growth would actually be more closely aligned with Alberta's spending trajectory over the past ten years than any other simulation. In fact, program spending growth over the course of 2004/05 to 2015/16 actually increased at a faster rate than GDP. So even this uppermost spending scenario represents a plausible outcome that deserves consideration and analysis.

Figure 3 illustrates how Alberta's total spending levels would evolve from 2015/16 to 2019/20 under each of these three scenarios.¹¹ The figure also displays the path of total nominal spending as forecast in the government's October 2015 budget. Figure 3 shows that under the government's forecasts, total spending in Alberta will increase from approximately \$49.4 billion in the 2015/16 fiscal year to \$54.3 billion in 2019/20. This represents an increase of 9.8 percent.

Under each of our three alternative spending scenarios, Alberta's spending levels will grow faster in the years ahead:

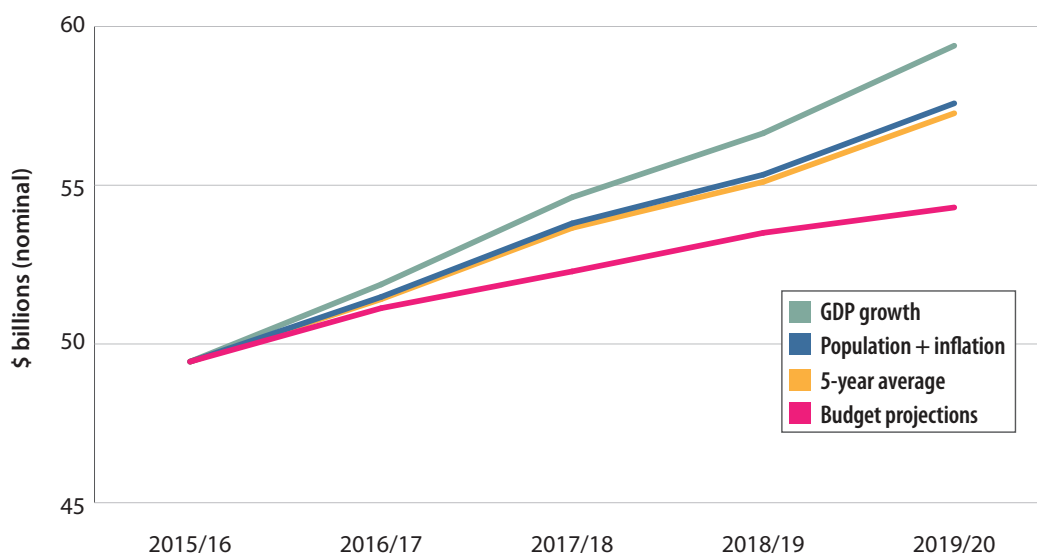
- ◆ If program spending grows at the same rate as inflation plus population growth, total spending will reach \$57.6 billion in 2019/20 (\$3.3 billion more than under current budget assumptions).
- ◆ Alternatively, if program spending grows at the average rate observed over the past five years, total spending will be \$57.3 billion in 2019/20 (\$3 billion more than under current budget assumptions).
- ◆ Finally, if program spending grows at the projected rate of nominal GDP growth, spending would reach \$59.4 billion in 2019/20 (\$5.1 billion more than under current budget assumptions).

Under each of these three scenarios, government spending in Alberta would increase much faster in the years ahead than is currently projected by the government's budget. We will now consider what the implications of these higher rates of spending growth would be for the government's near-term fiscal plan.

10. Although the budget released in October presented inflation and nominal GDP growth projections, we use the most updated projections from private forecasters, taking an average of data from TD (2016), RBC (2015), BMO (2016), and CIBC (2016). For this reason, there might be discrepancies in some figures presented in this document and the budget.

11. Total spending, in contrast to program spending, includes debt charges. While the scenarios are based on deviations in program spending—since the provincial government has direct control over program spending but not total spending—total spending is what impacts the budget balance, and hence debt accumulation.

Figure 3
Total spending under various scenarios



Sources: Alberta, Ministry of Finance, 2015b, 2016; Statistics Canada, 2015b; BMO Economics, 2016; CIBC Economics, 2016; TD Economics, 2016; RBC Economics, 2015; calculations by authors..

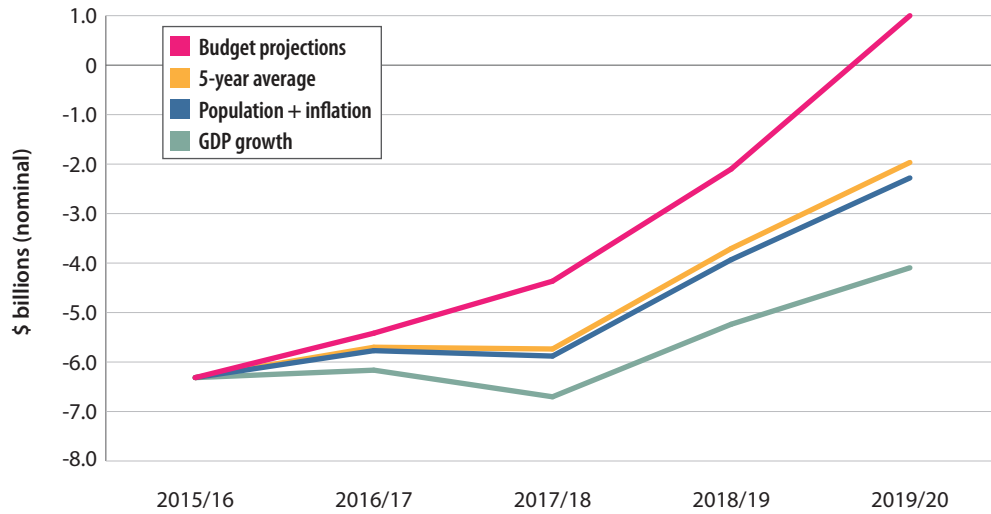
Figure 4 shows how Alberta's budget balance will evolve from 2015/16 to 2019/20 in each of the three scenarios, comparing this evolution to what is projected to occur as forecast in the latest government budget. Figure 4 illustrates the fact that in each of the three scenarios, the province will run larger deficits between 2016/17 and 2018/19 than is currently forecasted in the government's budget. Furthermore, we see that in each of these scenarios, the government would not balance its budget by 2019/20, given current revenue and economic growth assumptions. The projections also show that under the three scenarios, Alberta will still be in deficit in 2019/20, with the size of that deficit estimated as follows:

- ◆ Scenario 1 (spending increases by the rate of population growth plus inflation): \$2.3 billion.
- ◆ Scenario 2 (spending increases in line with the average of the previous five fiscal years): \$2.0 billion.
- ◆ Scenario 3 (spending increases at the rate of GDP growth): \$4.1 billion.

Figure 4 demonstrates that spending restraint in the years ahead will be necessary to meet the target of balancing the budget by 2019/2020, even in the event that revenue in that year matches projections. This serves to illustrate the extent to which the government's spending choices will help shape Alberta's fiscal trajectory in the years ahead.

Under each of the three spending scenarios analyzed, Alberta will run much larger budget deficits in the years ahead than it is currently forecasting.

Figure 4
Annual balance under various scenarios

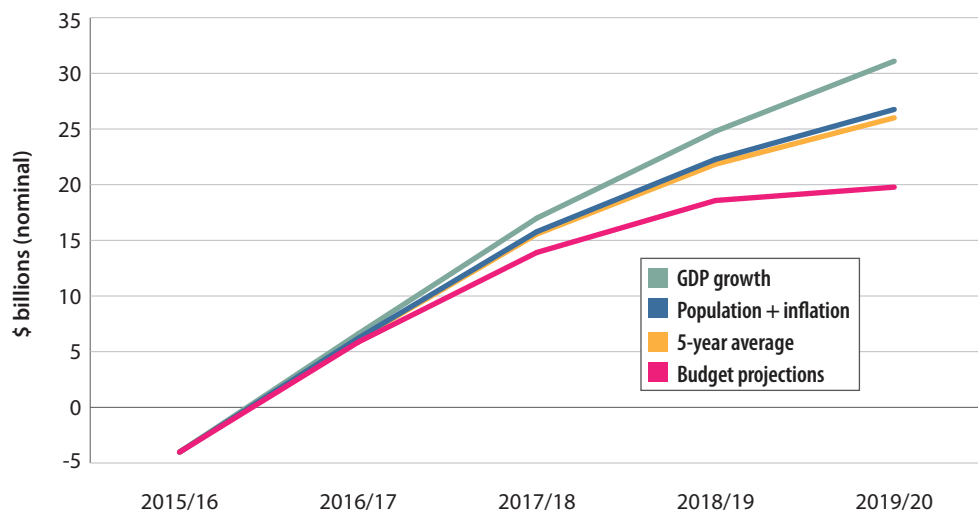


Sources: Alberta, Ministry of Finance, 2015b, 2016; Statistics Canada, 2015b; BMO Economics, 2016; CIBC Economics, 2016; TD Economics, 2016; RBC Economics, 2015; calculations by authors.

This, of course, would have important implications for the pace of debt accumulation in the years ahead.

Figure 5 shows a main result of our study, by presenting net debt accumulation between 2016/17 and 2019/20 under the three above scenarios, as well as the budget’s debt projections.

Figure 5
Net debt under four spending scenarios

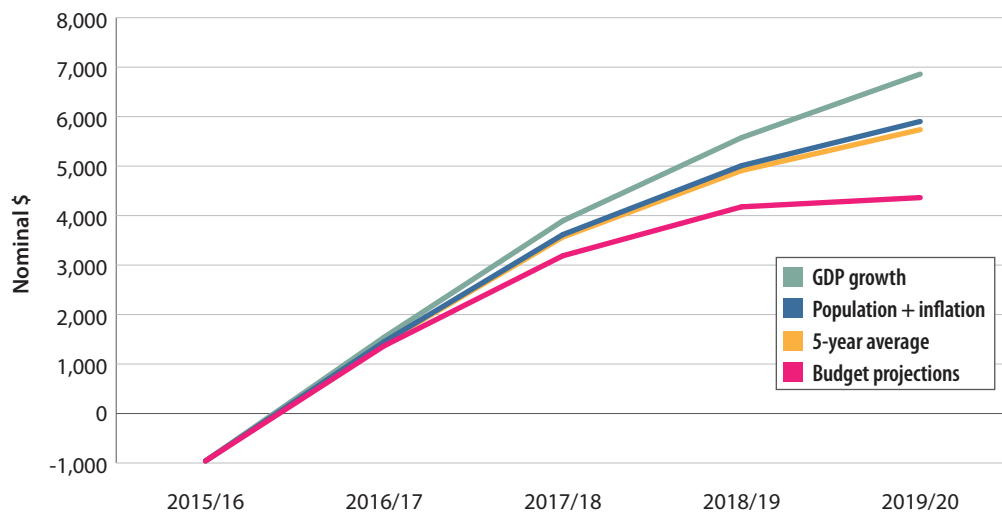


Sources: Alberta, Ministry of Finance, 2015b, 2016; Statistics Canada, 2015b; BMO Economics, 2016; CIBC Economics, 2016; TD Economics, 2016; RBC Economics, 2015; calculations by authors.

- ◆ Under the government’s current revenue and spending forecasts, Alberta’s net debt is projected to grow to \$19.8 billion in 2019/20. This represents a total decline in Alberta’s net financial position of \$54.8 billion since the province’s net financial assets peaked at \$35.0 billion in 2007/08.
- ◆ If program spending increases at the average rate of projected inflation plus population growth of 3.9 percent, the province’s net debt will reach \$26.8 billion by 2019/20, roughly \$7 billion more than under the budget’s spending assumptions.
- ◆ If program spending increases at the average rate over the past five fiscal years (3.8 percent), the province’s net debt will reach \$26.0 billion in 2019/20, roughly 6.2 billion more than under the budget’s spending projections.
- ◆ Finally, if program spending increases at the average rate of projected GDP growth of 4.7 percent, provincial net debt will increase to \$31.0 billion in 2019/20, \$11.3 billion more than if government spending growth is in line with the October budget’s projections. This would represent a \$66.1 billion deterioration in the province’s net financial position since 2007/08.

Figure 6 provides further context by showing that, under the budget’s existing spending assumptions, per-capita net debt is projected to reach \$4,363 by 2019/20. Under the highest spending scenario where program spending increases at the same rate as GDP growth, debt would increase to \$6,859 per person. That is a difference of \$2,496 per Alberta resident. Under the other two scenarios, net debt will grow to between \$5,737 and \$5,902

Figure 6
Per-capita net debt under various spending scenarios



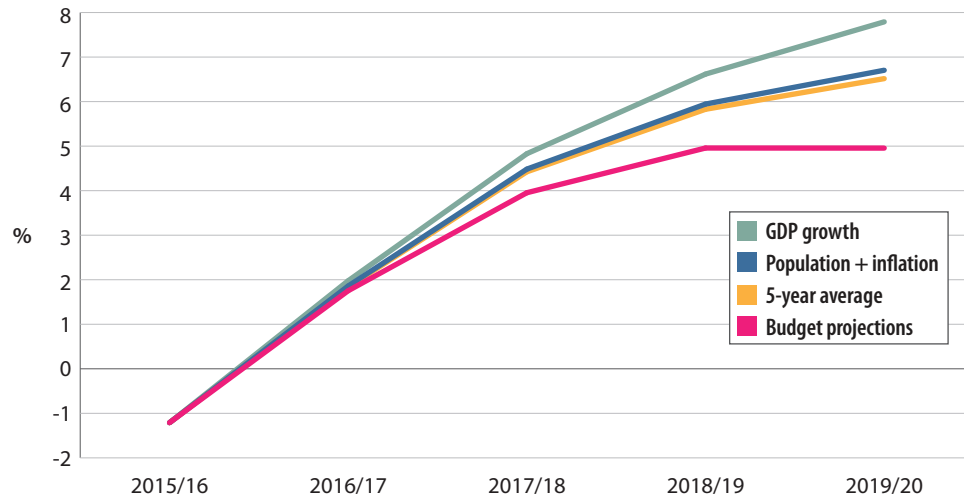
Sources: Alberta, Ministry of Finance, 2015b, 2016; Statistics Canada, 2015b; BMO Economics, 2016; CIBC Economics, 2016; TD Economics, 2016; RBC Economics, 2015; calculations by authors.

per person. That's \$1,374–\$1,539 in additional net debt per Albertan that will accumulate if the government spends at these levels in the years ahead, instead of at the level projected in the budget.

Figure 7 shows the expected pace of debt accumulation under the various scenarios in another way, by showing how provincial debt as a share of Alberta's gross domestic product would evolve between now and 2019/20 under each of the relevant scenarios. Using the government's budget projections, Alberta's net debt will rise to 5.0 percent of GDP by 2019/20, holding all else equal. According to the three alternative scenarios examined, net debt as a percentage of GDP is projected to reach:

- ◆ 6.7 percent if spending increases at the combined rate of population growth plus inflation;
- ◆ 6.5 percent if spending increases at the save average rate as the past five fiscal years;
- ◆ 7.8 percent if spending increases at the rate of GDP growth.

Figure 7
Net debt as % of GDP under various spending scenarios



Sources: Alberta, Ministry of Finance, 2015b, 2016; Statistics Canada, 2015b; BMO Economics, 2016; CIBC Economics, 2016; TD Economics, 2016; RBC Economics, 2015; calculations by authors.

It is true that under any of these scenarios Alberta will still likely have a lower debt-to-GDP than any other province in 2019/20. However, the rate of debt accumulation represented by each scenario is alarming. Alberta's net financial assets as a percentage of GDP stood at -13.4 percent in 2007/08, so increasing the province's net debt as a percentage of GDP to 7.8 percent would represent a 21.2 percentage point swing in 12 years.

For context, compare this rate of debt accumulation to what has occurred in Ontario since 2003/04. Ontario is widely recognized to be acquiring debt quickly, and has in fact accumulated more debt than any other province since 2003/04 (Eisen et al., 2016). And yet, Ontario's net debt as a percentage of GDP increased by 12.4 percentage points from 2003/04 to 2015/16—substantially less than Alberta's will have increased from 2007/08 to 2019/2020. These numbers show that under each of our spending scenarios, Alberta will wind up accumulating more debt relative to the size of its provincial economy over a 12 year period than Ontario has since 2003/04.

Revenue risks

All of the above estimates assume that the budget's revenue targets are met. If there are revenue shortfalls the above scenarios could look considerably worse.

The budget was based on West Texas Intermediate oil averaging \$50 US per barrel in 2015/16, increasing to \$61 in 2016/17 and \$68 in 2017/18 (Alberta, Ministry of Finance, 2015b). As of February 1st, the United States Energy Information Administration is projecting average oil prices for the 2016 and 2017 calendar years of \$38.54, and \$47.00, respectively (USEIA, 2016)—48 and 30 percent lower than the Alberta government estimates in the budget (Alberta, 2015b). Given that the Alberta budget projects that a \$1 decline in the average WTI price will cost the treasury \$170 million per year, lower than expected oil prices could deepen the provincial government's fiscal problems (Alberta, 2015b).

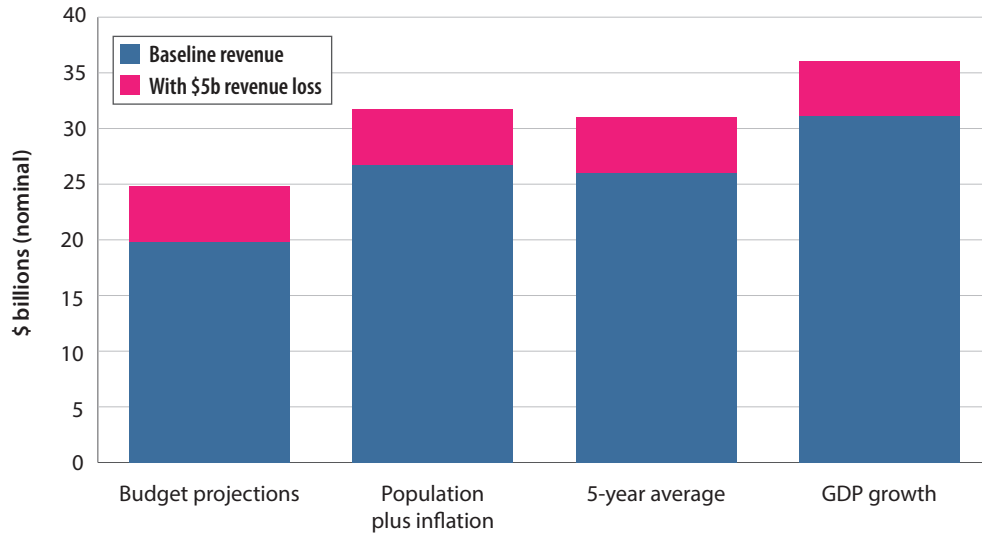
Given some of the optimistic estimates in the budget, particularly with respect to the price of oil, revenues could fall short of budget projections. The continued existence of revenue risks underscores how crucial it is that the provincial government focuses on managing the risks over which it has more direct control, which are found on the spending side of the ledger.

It is beyond the scope of this paper to present a detailed analysis of the relevant revenue risks. However, it is useful to provide a brief illustration of how revenue shortfalls could affect the results presented in this paper.

During the Third Quarter Fiscal Update, the Minister of Finance announced that the deficit could be \$5 billion greater in the 2016/17 fiscal year than projected in the budget (CBC, 2016). This increase in the size of the expected deficit would likely be primarily due to a downward revision in revenue estimates rather than a significant one-year increase in planned spending. If this much larger deficit in 2016/17 materializes, the government will acquire significantly more debt than this paper projects under each of the presented spending scenarios.

Figure 8 shows how our projections of the amount of debt Alberta will acquire by 2019/20 would change, presuming that revenues remain consistent with the projections in this paper other than a one-time revenue loss in 2016/17. In other words, these projections make the assumption that following 2016/17, provincial revenues will match projections shown in the October

Figure 8
Net debt under various spending scenarios, 2019/20 fiscal year



Sources: Calculations by the authors based on provincial documents and private forecasters.

2015 budget. It should be noted that this represents a conservative estimate, as it assumes revenues in subsequent years will rebound to the levels projected in the October 2015 budget.¹²

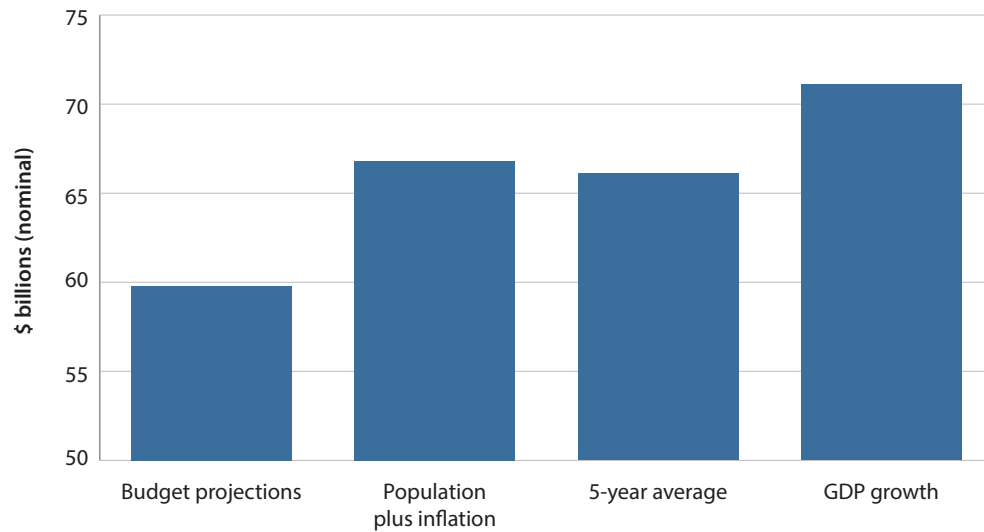
Under the lowest spending scenario, where the government sticks to the spending projects in the budget, this one-time revenue loss would bring the province's net debt to roughly \$24.8 billion—6.2 percent of GDP in 2019/20. In the highest spending scenario, where program spending increases at the rate of GDP growth, provincial debt in 2019/20 could exceed \$36 billion, just over 9 percent of GDP. As **Figure 9** illustrates, that would represent a \$71 billion decline in the province's net financial asset position in a 12 year period.

It is possible that the revenue outlook will weaken beyond 2016/17, so debt could reach even higher levels by 2019/20 than projected herein. **Figure 9** is not intended to provide a comprehensive account of the revenue risks the government faces. However, it serves to illustrate the fact that revenue shortfalls could significantly increase the amount of debt the province will acquire between now and 2019/20.

Given the scale of the revenue risks the government faces and the fact that it is already expecting to acquire considerable new debt in the years ahead, the importance of carefully managing more controllable risks on the spending side is clear. The evidence in this paper clearly demonstrates that the spending choices the government makes in the years ahead will have a substantial impact on the rate at which the province accumulates debt between now and 2019/20.

¹². It also does not include the interest that would accrue on the \$5 billion of extra debt.

Figure 9
Deterioration in net financial assets between 2007/08 and 2019/20
under various spending scenarios



Sources: Calculations by the authors based on provincial documents and private forecasters.

A run-up in Alberta's debt presents long-term risks to the province's economic health. A large body of literature suggests that debt accumulation poses a threat to economic growth. For instance, in an analysis of 40 countries over the period of 1965 to 2010, Chudik et al. (2015) found "significant and robust negative long-run effects of debt ramp-up on economic growth." Similarly, Eberhardt and Presbitero (2015) analyzed 105 countries in the 1972 to 2009 time period and found that "countries with higher average debt-to-GDP ratios are more likely to see a negative effect on their long-run growth performance." Égert (2013) found that "a negative association between debt and growth may set in at debt levels as low as 20% of GDP."

In addition to potentially negatively impacting economic growth, debt accumulation would also create tangible, immediate costs for Albertan taxpayers. As the province's debt increases, Albertans will be required to spend more each year servicing that debt. Even currently, with a net financial asset position, debt servicing costs the province \$779 million for the 2015/16 fiscal year. As the province enters net debt territory, those costs will increase.

Conclusion

Spending as though boom times would never end has put the province in a challenging situation and Alberta is now poised to return to net debt status. Exactly how much debt the province will acquire in the years ahead is uncertain. However, the analysis in this paper shows that, under a range of spending scenarios, it may wind up being substantially more than the government now projects.

Alberta's return to a net debt position after accumulating \$35 billion in net financial assets highlights the need for fiscal prudence, in both good times and bad. By 2019/20, using the budget's spending and revenue projections, this study projects that the province will have a \$19.8 billion net debt, which would represent a nearly \$55 billion erosion of net financial assets since 2007/08. According to the scenarios analyzed in this paper, the debt could reach between \$26 and \$31 billion even before accounting for revenue risks, meaning the province could potentially see a \$66 billion reduction in net financial assets in just over a decade.

References

Alberta, Alberta Energy (2015). *Alberta Resource Revenues: Historical and Budget*. Government of Alberta. <http://www.energy.alberta.ca/About_Us/2564.asp>

Alberta, Alberta Heritage Savings Trust Fund (2015). *Annual Report 2014–15*. Government of Alberta. <<http://www.finance.alberta.ca/business/ahstf/annual-reports/2015/Heritage-Fund-2014-15-Annual-Report.pdf>>

Alberta, Alberta Heritage Savings Trust Fund (2016). *Third Quarter Update, 2015–16*. Government of Alberta. <<http://finance.alberta.ca/business/ahstf/quarterly-reports/2015-3rdq/Heritage-Fund-2015-16-3rd-Quarter-Report.pdf>>

BMO Economics (2016). *Provincial Economic Outlook*. BMO Economics. <<http://www.bmonesbittburns.com/economics/forecast/prov/ProvincialOutlook.pdf>>

Alberta, Ministry of Finance (2001). *Fiscal Plan 2001–2004*. Government of Alberta. <<http://finance.alberta.ca/publications/budget/budget2001/fiscal.pdf>>

Alberta, Ministry of Finance (2004–2015a). *2003–04 to 2014–15 Public Accounts*. Government of Alberta.

Alberta, Ministry of Finance (2015b, October). *Budget Plan 2015*. Government of Alberta. <<http://finance.alberta.ca/publications/budget/budget2015-october/fiscal-plan-complete.pdf>>

Alberta, Ministry of Finance (2016). *2015–16 Third Quarter Fiscal Update and Economic Statement*. Government of Alberta. <<http://finance.alberta.ca/publications/budget/quarterly/2015/2015-16-3rd-Quarter-Fiscal-Update.pdf>>

All websites retrievable as of March 10, 2016.

Canada, Department of Finance (2015, September). *Fiscal Reference Tables*. Government of Canada. <<http://www.fin.gc.ca/frt-trf/2015/frt-trf-15-eng.asp>>

CBC News (2016). *Finance Minister Joe Ceci Admits Alberta Deficit to Hit \$10.4 Billion*. CBC. <<http://www.cbc.ca/news/canada/edmonton/finance-minister-joe-ceci-admits-alberta-deficit-to-hit-10-4-billion-1.3463858>>

Chudik, Alexander, Kamiar Mohaddes, M. Hashem Pesaran, and Mehdi Raissi (2015). *Is There a Debt-Threshold Effect on Output Growth?* IMF Worker Paper WP/197. International Monetary Fund.

CIBC Economics (2016, January 28). *Provincial Forecast Update*. CIBC Economics. <http://research.cibcwm.com/economic_public/download/provincial_forecast_update_2016-0128.pdf>

Di Matteo, Livio (2015). A Brief History of Alberta Government Finances. *Fraser Forum*. <<http://www.fraserinstitute.org/blogs/a-brief-fiscal-history-of-alberta-government-finances>>

Eberhardt, Markus, and Andrea F. Presbitero (2015). Public Debt and Growth: Heterogeneity and Non-Linearity. *Journal of International Economics* 97, 1 (September): 45–58.

Eisen, Ben, Charles Lammam, and Milagros Palacios (2016). *Debt Accumulation in Ontario Compared to Other Provinces*. Fraser Institute. <<http://www.fraserinstitute.org/studies/debt-accumulation-in-ontario-compared-to-other-provinces>>

Égert, Balázs (2015). The 90% Public Debt Threshold: The Rise and Fall of a Stylized Fact. *Applied Economics* 47, 34–35: 3756–770.

Lafleur, Steve, Milagros Palacios, Ben Eisen, and Charles Lammam (2015). *Alberta's Budget Deficit: Why Spending is to Blame*. Fraser Institute. <<https://www.fraserinstitute.org/sites/default/files/albertas-budget-deficit-why-spending-is-to-blame.pdf>>

RBC Economics (2015). *Provincial Outlook*. RBC Economics. <<http://www.rbc.com/economics/economic-reports/provincial-economic-forecasts.html>>

RBC Economics (2016). *Canadian Federal and Provincial Fiscal Tables*. RBC Economics. <http://www.rbc.com/economics/economic-reports/pdf/provincial-forecasts/prov_fiscal.pdf>

Statistics Canada (2015a). *CANSIM Table 051-0001: Estimates of population, by age group and sex for July 1, Canada, provinces and territories*. Statistics Canada.

<<http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=510001>>

Statistics Canada (2015b). *CANSIM Table 052-0005: Projected population, by projection scenario, age and sex, as of July 1, Canada, provinces and territories*. Statistics Canada.

<<http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=520005>>

Statistics Canada (2015c). *CANSIM Table 326-0021: Consumer Price Index*. Statistics Canada.

<<http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=3260021>>

Statistics Canada (2015d). *CANSIM Table 384-0037: Gross domestic product, income-based, provincial and territorial*. Statistics Canada.

<<http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=3260021>>

Shenfeld, Avery, Nick Exarhos, and Andrew Grantham (2015). *Provincial Outlook: The Changing of the Guard*. CIBC Economics.

<http://research.cibcwm.com/economic_public/download/pfnov15.pdf>

TD Economics (2016). *Provincial Economic Forecast: Group of Seven Paint Moderate Growth Picture*. TD Economics. <https://www.td.com/document/PDF/economics/qef/ProvincialEconomicForecast_Jan2016.pdf>

US Energy Information Administration [USEIA] (2016). *Analysis and Projections*. Government of the United States. <<http://www.eia.gov/analysis/>>

Appendix

- /// For the different projections presented in this paper, revenues from 2016/17 to 2019/20 were taken from the Government of Alberta's Third Quarter Fiscal Update for this year, and the October budget for future years. We acknowledge that the underlying assumptions used for the revenue projections beyond 2015/16 might have changed since October and could affect the current state of own-sources revenues.
- /// Debt charges from 2016/17 to 2017/18 were taken from the budget. For 2018/19 and 2019/20, debt charges were estimated using the ratio of debt charges relative to program spending of the last four years (from 2012/13 to 2015/16).
- /// Program spending is projected using the three scenarios already explained elsewhere in the study.
- /// The difference between total revenues and total spending (program spending plus debt charges) determines the balance (surplus or deficit).
- /// Net financial assets is defined as the difference between financial assets and total liabilities. The sum of net financial assets, deferred capital contributions, and capital/other non-financial assets is defined as net assets. The year-to-year change of net assets equals the balance.
- /// Projections for capital/other non-financial assets from 2016/17 and 2019/20 are provided in the latest budget (see page 4 of the budget). Additionally, estimates of deferred capital contributions were presented on the budget up to the year 2017/18. We assume that deferred capital contributions for 2018/19 and 2019/20 remain at the same level as 2017/18.
- /// Adding the balance and the projected capital spending and changes in other non-financial assets as well as deferred capital contributions gives us the net financial assets.

The model can be formulated as follows:

$$\text{Balance}_t = \text{Revenues}_t - \text{Spending}_t$$

$$\text{Balance}_t = \text{Net Assets}_t - \text{Net Assets}_{t-1}$$

$$\text{Balance}_t = [\text{Net Financial Assets}_t + \text{DCC}_t + \text{Capital}_t] - [\text{Net Financial Assets}_{t-1} + \text{DCC}_{t-1} + \text{Capital}_{t-1}]$$

$$\text{Net Financial Assets}_t = \text{Balance}_t - [\text{DCC}_t + \text{Capital}_t] + [\text{Net Financial Assets}_{t-1} + \text{DCC}_{t-1} + \text{Capital}_{t-1}]$$

Where t = year, DCC = Deferred Capital Contribution, and Capital = Capital non-financial assets.

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