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Decision Time: The Alberta Shadow Budget 2019

Alberta must rebalance both expenditures and revenues in order to return to a sustainable fiscal trajectory. Staying on the present course would result in permanent and ever-spiraling deficits.

Grant Bishop

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The Study In Brief

In its upcoming budget, Alberta's government has a once-in-a-generation opportunity to correct the province's fiscal course. This Shadow Budget demonstrates how Alberta could return to budget balance by 2022-23 and plot a sustainable path for balanced budgets over the long-term horizon. The Shadow Budget illustrates that, by careful spending restraint and restructuring of its revenues, Alberta could move to saving resource revenues and increasing investment income for future generations. This vision contrasts with a status quo where budgetary headwinds from an aging population would drag Alberta back into mounting deficits – along with a downward spiral of debt service costs – in the coming decades.

But long-term fiscal sustainability will require near-term measures to restore Alberta's budget balance and then sustain surpluses. Building on the recent MacKinnon Report, this Shadow Budget shows that a four-year freeze is advisable to bring Alberta's program spending in line with per capita levels in other provinces. This report goes further to outline a set of reductions in inflation-adjusted per capita spending across program areas to achieve this top-line spending freeze. This Shadow Budget recommends specific reductions in inflation-adjusted spending in health and education through a revamp in funding for hospitals, wages for nurses, fee-for-service rates for physicians, administration costs in education, salaries for teachers, increased class sizes, and per student funding for universities and colleges. Significant restraint for inflation-adjusted spending will also be required for social services and spending by government departments – particularly through grants and external procurement. While a freeze might be achieved in other ways, this Shadow Budget provides specific targets for spending restraint based on nationwide benchmarking, observing that Alberta out-spends counterpart provinces without demonstrably better service levels or outcomes. In order to moderate new debt for capital outlays, this Shadow Budget also proposes a substantial down-sizing of Alberta's capital plan, highlighting Alberta's comparatively high per capita stock of public infrastructure assets and capital grants to municipalities.

Nonetheless, even with rigorous spending restraint, this report also shows that rebalancing revenues will be critical for Alberta to reduce distortionary corporate and personal income taxes while sustaining surpluses over the long term. Even after return to balance, ongoing surpluses are necessary in order to save resource revenues. Drawing on widely accepted economic principles, this Shadow Budget argues that resource revenues should be saved. This is because these represent a one-time conversion of Alberta's natural capital in which future generations of Albertans should also share through sustainable returns on investments from Alberta's Heritage Fund.

Therefore, following the projected return to balance in 2022-23, this Shadow Budget proposes to reduce the marginal rate for the lowest personal income tax bracket and implement a consumption tax (recognizing this requires an affirmative result in a province-wide referendum). This Shadow Budget shows how this reduction of personal income tax rates would enhance Alberta's attractiveness to middle-income workers. The establishment of a 3 percent consumption tax (harmonized with the federal Goods and Services Tax) would replace reduced revenues from more distortionary corporate and personal income taxes while allowing Alberta to save for a sustainable fiscal future.

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Alberta's present provincial finances are unsustainable. Under the status quo, expenditures over the long run are projected to increase faster than revenues with no end in sight.

Failing to change Alberta's fiscal trajectory would increase the province's ratio of net debt-to-GDP from 8 percent in 2018-19 to over 30 percent by 2050 and balloon debt service costs. The present course would result in permanent and ever-spiraling deficits.

Alberta must rebalance both expenditures and revenues in order to return to a sustainable fiscal trajectory – that is, where the province achieves balanced budgets over the long term. Presently, Alberta (i) overspends on public services relative to other provinces on a per-person basis and (ii) faces highly volatile revenues due to its reliance on resource royalties to fund current spending. Looking ahead to the coming decades, without a change in course, Alberta's structural deficit will widen as economic growth slows, demographics drive increased demand for spending, and debt service costs escalate.

This Shadow Budget provides recommendations for restoring fiscal sustainability – that is, ensuring Alberta's revenues and expenditures grow at an equal pace over the long term. Four overarching objectives inform the recommendations in this Shadow Budget:

- In order to ensure balanced budgets over the long term, spending growth should match projected non-resource revenue growth.
- Because resource royalties represent a one-time conversion of natural capital to financial flows, royalties from exhaustible resources should be saved to generate sustainable returns for future generations.
- Since the cost of living in Alberta is comparable to other provinces, costs for public services should be reduced to levels in line with nationwide benchmarks.
- Alberta's tax structure should promote earning income, making new investments, and personal saving.

As well as drawing from past C.D. Howe Institute research and scholarship published by the University of Calgary Fiscal Futures program,[1] this Shadow Budget builds on the valuable work of Blue Ribbon Panel on Alberta's Finances and its recently published "MacKinnon Report." This Shadow Budget provides detailed projections for how the coming budget could achieve balance by 2022-23 and reorient Alberta's fiscal trajectory for long-run sustainability. Also, recognizing the Alberta government's "balanced budget plan" in its election platform (UCP 2019), this document outlines the implications for provincial finances. While any actual fiscal program will involve political decisions, this Shadow Budget aims to support its recommendations by economic principles.

On the expenditure front, this Shadow Budget includes real, phased-in cuts to per capita program spending in order to bring Alberta in line with

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1 Research papers available at: https://www.policyschool.ca/albertas-fiscal-future/ In particular, the author notes the contributions of McKenzie (2019), Tombe (2018), MacKinnon and Mintz (2017) and Ferede and Dahlby (2016).

other provinces. High-quality public services make Alberta an attractive place to live, and Alberta must compete with other provinces for talented public-sector workers. However, during times of flush resource revenues that masked growing public spending to taxpayers, Alberta's program expenditures were allowed to grow at an unsustainable pace. Lower per capita expenditures in other provinces highlight opportunities for Alberta to reduce costs while providing comparable levels of public services.[2]

While a province's government may choose to fund public services at a relatively higher level than in other provinces, greater public spending should be justified by higher service levels and comparatively better outcomes. Based on performance metrics for health and education, Alberta's higher per capita spending does not appear to produce markedly better outcomes than in other provinces. To the extent that Alberta's higher expenditures do not produce better service levels or outcomes, Alberta should reduce costs to more efficiently spend public funds.

In particular, despite having comparable living costs to other provinces, Alberta presently offers significantly higher pay rates to physicians, nurses and teachers and funds hospitals, schools and post-secondary institutions at much higher per capita levels than other provinces. Since the public sector lacks a direct market mechanism to set public servant wages, Alberta's government would be justified in using other provinces as benchmarks for establishing funding levels for public services and rates of pay.

In order to bring Alberta's inflation-adjusted per capita spending to the average Canada-wide level, Alberta should freeze program spending over the coming four years. Since Alberta's population is increasing and prices grow with inflation, achieving zero percent topline growth will translate into real reductions in per capita spending. While such measures should address administrative and overhead costs, Alberta should also: (i) reduce payments to doctors, focusing cuts on specialities with fees-for-service above levels offered by other provinces; (ii) reduce transfers to universities and colleges and increase post-secondary tuition; and (iii) freeze salaries for teachers and increase primary and secondary class sizes.

Such a program will allow Alberta to return to fiscal balance by 2022-23 – earlier than under the status quo projection of 2023-24 contained in Budget 2018.[3] However, making the structural fiscal adjustment that ensures balanced provincial finances over the long term will be even more important.

One of Alberta's most daunting fiscal challenges is the volatility of its revenues, which rely on resource royalties. Meeting that challenge will require a multi-pronged policy approach.

For the long term, Alberta can stabilize overall revenues by introducing a consumption tax, harmonized with the federal Goods and Services Tax, while reducing corporate and personal income taxes to attract workers, encourage personal saving and promote investment.

Recognizing historical opposition and the legislative requirement for a referendum, this Shadow Budget acknowledges that a consumption tax would be politically infeasible without demonstrating to Albertans that government spending is efficient. Therefore, under this budget plan, Alberta would first achieve a balanced budget through real reductions in per capita spending

2 In the private sector, such benchmarking is a standard practice, with companies regularly comparing normalized cost performance against competitors. Similarly, Janice MacKinnon and Jack Mintz (2017) use such benchmarking for Alberta's public spending to show opportunities to reduce Alberta's spending to comparable levels.

3 Alberta. 2018. *Budget 2018: A Recovery Built to Last*. Available online: https://open.alberta.ca/publications/budget-2018.

before putting the case to Albertans for rebalancing revenues with a more efficient consumption tax. Assuming a favourable referendum result, a 3 percent consumption tax would commence in 2023-24.

This measure should enable Alberta's government to run ongoing fiscal surpluses equal to the amount of resource revenues. That is, following return to balance in 2022-23, Alberta would save all revenues from resource royalties. Since any royalties represent a one-time conversion of natural capital to financial flows, saving all royalties will yield ongoing financial returns on this capital and provide inter-generational fairness.

While Alberta benefits from a comparatively young population relative to other provinces, Albertans will age. By saving today, Alberta can build fiscal room to address the age-related costs over the coming decades – particularly those for healthcare. If Alberta saves resource royalties, returns on investments will allow Alberta to maintain a tax environment that continues to attract younger workers even as spending accelerates with population aging.

This Shadow Budget illustrates how such an economic program could be implemented in Alberta's upcoming fall 2019-20 budget in order to restore fiscal balance and accumulate surpluses, attract new investment, reduce spending and save for Alberta's future.[4]

To summarize the recommendations and projections in this Shadow Budget:

- Table 1 details expense and revenue projections;
- Table 2 shows the impact from different measures, providing a "bridge" between the status quo trajectory and this Shadow Budget.

The discussion below proceeds by: (1) providing an overview of Alberta's current lack of fiscal sustainability and laying out the recommended fiscal adjustments; (2) detailing the required reductions in real per capita spending that will achieve a freeze on Alberta's expenditure growth; and (3) elaborating how Alberta's tax competitiveness could be enhanced by reducing corporate income taxes, as well as lowering the lowest-bracket personal income tax rate, while implementing a consumption tax.

Alberta's Unsustainable Fiscal Course

Since 2015, Alberta's spending has grown at a 4.6 percent average annual pace while nominal GDP has grown at only 2.1 percent. The result has been a climb in provincial expenditures as a share of Alberta's GDP from 13 percent in fiscal year 2014-15 to 16 percent of Alberta's GDP in 2018-19. As a share of GDP, Alberta's provincial government spending in 2017 was the lowest of any province except Ontario.[5] However, Alberta had the highest provincial spending per capita of any province in 2017, with spending 15 percent

4 Alberta also faces significant threats to its public finances from potential environmental liabilities (e.g., insufficient financial security for abandoned wells and reclamation of mines) and infrastructure-related bottlenecks to exporting crude oil and natural gas. The challenges around resolving present constraints on energy exports are beyond the scope of this Shadow Budget. The issue of Alberta's abandoned well liabilities is extensively discussed in Dachis, Shaffer and Thivierge (2017).

5 Comparing public expenditures relative to GDP is widely criticized as a basis on which to draw conclusions about the efficiency of government spending. The cost of providing public services to a population need not scale in direct proportion to an economy's output. This is particularly true in a province like Alberta where the nominal value of output is highly dependent on commodity prices and incorporates economic rent.

Table 1: Detailed Fiscal Projections for Shadow Budget

Fiscal Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Compound Annual Growth Rate 2018-19 to 2022-23 (*percent*)
	($ Billions)										
Revenue											
Personal income tax	11.0	11.4	10.8	10.8	11.9	12.4	12.3	13.4	14.2	12.6	4.5
Corporate income tax	5.8	4.2	3.8	3.4	4.9	5.0	4.3	5.0	5.8	6.1	4.5
Harmonized Goods & Services Tax	-	-	-	-	-	-	-	-	-	4.2	N/A
Other tax revenue	4.6	5.2	5.6	6.5	6.8	5.7	5.9	6.2	6.5	6.9	-1.1
Resource revenue	8.9	2.8	3.1	5.0	5.4	5.4	5.1	5.5	6.2	6.3	3.3
Investment income	3.1	2.5	3.7	3.1	2.3	2.5	2.6	2.6	2.7	3.2	3.3
Premiums, fees and licences	3.6	3.6	3.7	3.8	3.9	4.0	4.2	4.5	4.7	4.9	4.5
Other own-source revenue	6.4	5.9	3.6	7.0	6.3	6.4	6.5	7.0	7.5	7.8	4.1
Federal transfers	6.0	7.1	8.0	7.6	8.0	8.4	8.8	9.1	9.5	9.9	4.4
Total Revenue	49.5	42.6	42.3	47.3	49.6	49.9	49.7	53.3	57.0	62.0	3.5
% Chg Y/Y	*0.1*	*-13.9*	*-0.8*	*11.8*	*4.9*	*0.6*	*-0.5*	*7.3*	*7.0*	*8.7*	
Expense by Function											
Health	19.4	20.1	20.7	21.2	21.9	21.9	21.8	21.7	21.6	22.2	-0.4
Basic / advanced education	13.1	13.7	14.1	14.5	14.8	14.9	15.0	15.0	15.0	15.4	0.2
Social services	4.5	4.8	5.2	5.6	5.9	5.8	5.7	5.6	5.5	6.1	-1.7
Other program expense	12.4	10.4	12.6	13.2	11.9	11.2	11.2	11.2	11.2	11.3	-1.6
Total program expense	48.0	48.9	52.6	54.5	54.6	53.9	53.7	53.5	53.2	55.1	-0.6
% Chg Y/Y	*-0.7*	*1.8*	*7.5*	*3.6*	*0.1*	*-1.2*	*-0.4*	*-0.4*	*-0.5*	*3.5*	
Debt servicing costs	0.7	0.8	1.0	1.4	2.0	2.7	3.2	3.5	3.7	4.0	17.2
% Chg Y/Y	*20.1*	*7.5*	*31.2*	*39.5*	*38.8*	*34.9*	*18.9*	*10.8*	*6.2*	*7.9*	
Pension provisions	-0.4	-0.6	-0.5	-0.6	-0.2	-	-	-	-	-	
Total Expense*	48.4	49.1	53.1	55.3	56.3	56.6	56.8	57.0	56.9	59.1	0.3
% Chg Y/Y	*-2.8*	*1.4*	*8.2*	*4.2*	*1.8*	*0.4*	*0.5*	*0.2*	*-0.1*	*3.8*	
Surplus / (Deficit)*	1.1	-6.4	-10.8	-8.0	-6.7	-6.7	-7.2	-3.7	0.1	2.9	
% Share of GDP	0.3	-2.0	-3.6	-2.4	-1.9	-1.8	-1.9	-0.9	0.0	0.7	

Note: * No explicit risk adjustment in projections; Voted contingency in projects.

Table 1: Continued

Fiscal Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Compound Annual Growth Rate 2018-19 to 2022-23 (*percent*)
	($ Billions)										
Capital Plan	6.2	6.6	6.6	9.0	6.2	5.1	5.3	5.3	5.4	5.4	-3.5
Balance Sheet											
Heritage / endowment funds	18.9	19.3	19.8	20.3	20.7	21.2	21.6	22.0	28.3	34.7	8.1
Other financial assets & Contigency Account	47.2	44.8	46.5	50.7	55.0	56.7	57.8	58.9	60.0	61.1	2.2
Liabilities	-53.0	-60.1	-75.2	-90.3	-103.2	-112.8	-122.4	-128.4	-136.5	-142.0	7.2
Net Financial Assets / (Debt)	13.1	3.9	-8.9	-19.3	-27.5	-34.9	-42.9	-47.5	-48.2	-46.1	15.1
% Share of GDP	3.5	1.2	-3.0	-5.8	-7.9	-9.7	-11.5	-12.1	-11.7	-10.6	
Capital / non-fin. assets	42.2	44.7	46.6	49.0	50.7	51.5	52.3	53.2	54.0	54.8	1.6
Net Assets*	55.3	48.5	37.7	29.7	23.3	16.6	9.4	5.7	5.8	8.7	-29.4
Change in net assets	1.4	-6.7	-10.8	-8.1	-6.4	-6.7	-7.2	-3.7	0.1	2.9	

Note: * No explicit risk adjustment in projections; Voted contingency in projections.

Source: Author's calculations.

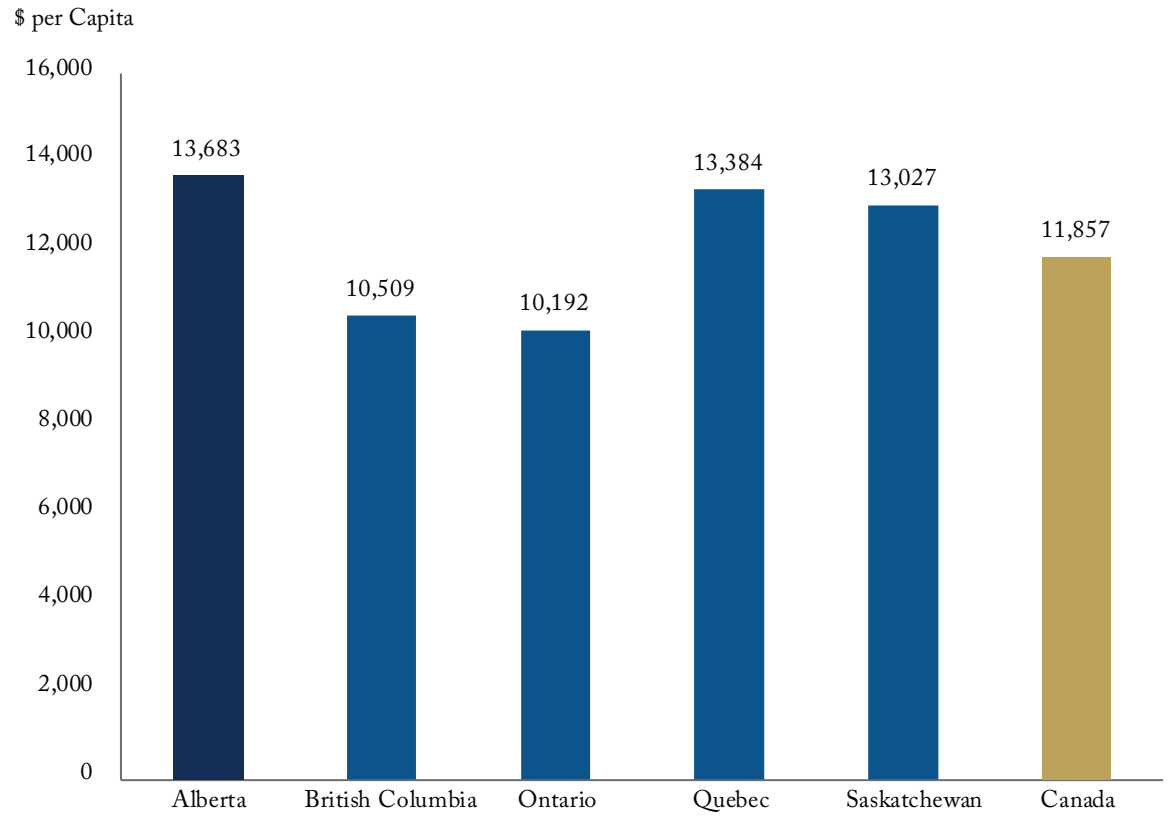
Table 2: Impacts from Shadow Budget Relative to Status Quo

	2019-20	2020-21	2021-22	2022-23	2023-24
			($ Billions)		
Status quo revenues (Q3/2018 Fiscal Update & Path to Balance)	51.6	56.5	61.1	63.5	67.4
CIT rate reduction to 8% by 2022-23	-0.4	-0.8	-1.5	-2.6	-2.7
Revenue boost from CIT impact on economic growth	0.1	0.2	0.4	0.7	1.1
Reduce PIT rate for lowest bracket by -2% in 2023-24	-	-	-	-	-2.4
Harmonized consumption tax (HST) at 3% rate starting in 2023-24	-	-	-	-	4.2
Boost investment income by saving resource revenues in Heritage Fund	-	-	-	0.5	0.9
Elimination of carbon fuel surcharge	-1.3	-1.3	-1.7	-2.1	-2.0
Adjustments for updated economic outlook	-0.1	-5.0	-5.1	-3.1	-4.6
Shadow Budget Revenues*	49.9	49.7	53.3	57.0	62.0
Status Quo Expenses (Q3/2018 Fiscal Update & Path to Balance)	59.5	63.6	66.4	66.4	66.5
-13.6% cut to current real per capita health spending by 2023	-0.8	-1.6	-2.5	-3.4	-3.5
-11.4% cut to current real per capita education spending by 2023	-0.4	-0.9	-1.4	-1.9	-2.0
-9.0% cut to current real per capita social service spending by 2023	-0.1	-0.3	-0.4	-0.6	-0.6
-9.0% real cut to current other spending by 2023	-0.3	-0.5	-0.8	-1.1	-1.1
Reduction in Climate Change Leadership spending	-1.1	-1.2	-1.0	-0.9	-0.9
HST tax credit	-	-	-	-	0.4
Reduced debt service costs by slowed borrowing	-0.2	-0.0	-0.0	-0.1	-0.0
Roll-back of spending increases in Q3/2018 Path to Balance	-0.1	-2.2	-3.3	-1.4	0.3
Shadow Budget Expenses	56.6	56.8	57.0	56.9	59.1
Status Quo Surplus/Deficit	-7.9	-7.1	-5.3	-2.9	0.9
Shadow Budget Surplus/Deficit	-6.7	-7.2	-3.7	0.1	2.9
Improvement in budget balance	1.2	-0.1	1.6	3.0	2.0
Status Quo Net Financial Assets (Net Debt)	-37.7	-46.6	-53.4	-56.9	-56.1
Shadow Budget Financial Assets (Net Debt)	-34.9	-42.9	-47.5	-48.2	-46.1
Improvement in net financial assets	2.8	3.7	5.9	8.7	10.0

* Economic outlook follows MacKinnon Report and projected revenues are approximately aligned with MacKinnon Report.

Source: Author's calculations.

Figure 1: 2017 Provincial Government Spending per Capita

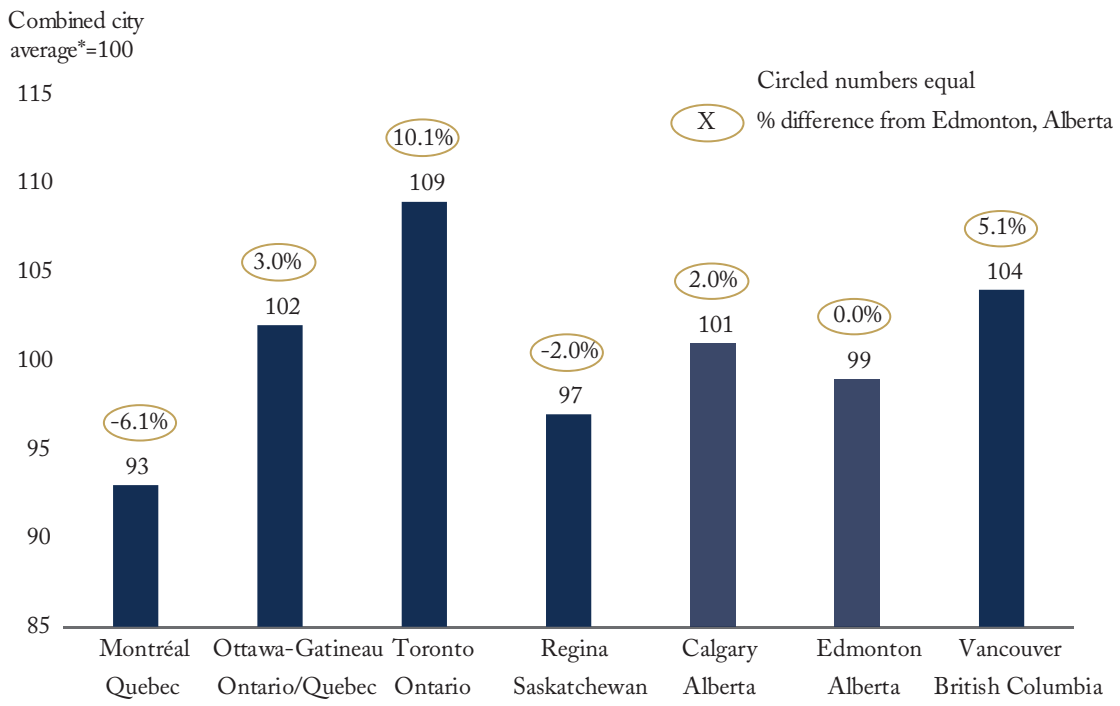


Source: Statistics Canada Canadian Classification of Functions of Government (CCOFOG) by consolidated government component (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1010000501) and Population estimates on July 1st, by age and sex (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501).

above the nationwide average (see Figure 1).[6] From 2008 to 2017, Alberta's average annual spending growth of 5.1 percent was faster than any other province and significantly outpaced the Canada-wide average of 3.9 percent for all provincial and territorial governments. The divergence in costs per capita for Alberta's public spending does not appear explicable by cost-of-living differences with other provinces. As shown in Figure 2, consumer price levels in Edmonton and Calgary in 2018 were

6 Note that inter-provincial expenditure comparisons in this report rely on data from Statistics Canada Canadian Classification of Functions of Government (CCOFOG) for provincial government spending. Importantly, for provincial governments, this dataset consolidates all ministries, agencies, universities and colleges, health and social service institutions and school boards. Therefore, while allowing comparisons of spending between provinces across various categories, this dataset will not directly match provincial governments' public accounts.

Figure 2: Cost of Living Comparision for Major Cities



Note: * Average of 12 census metropolitan areas from Statistics Canada Table 18-10-0003-01 (formerly CANSIM 326-0015).

Source: Inter-city indexes of price differentials of consumer goods and services (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000301).

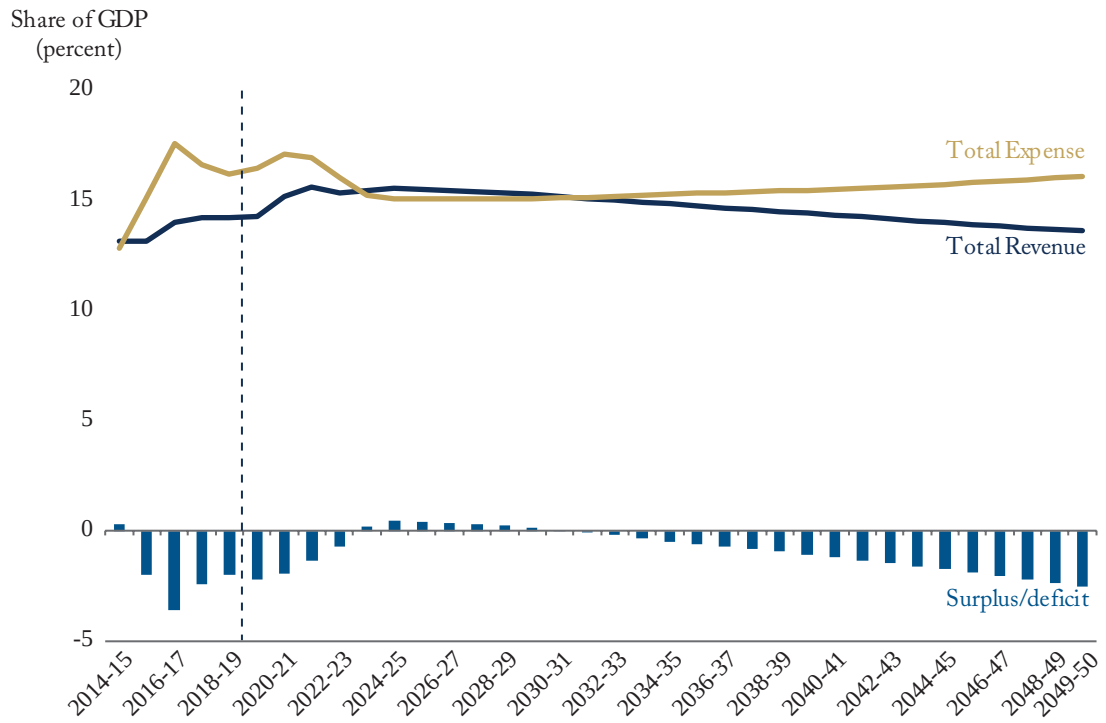
roughly on par with the 12-city national average and significantly below price levels in Toronto and Vancouver.[7]

Under the projections for the previous government's Path to Balance in its Q3/2019-18 Fiscal Update,[8] Alberta's spending would continue to grow at 3 percent for the next five years and the province would continue running deficits until 2023-24. By 2023-24, Alberta's gross financial debt would rise to over $100 billion and net debt would reach roughly $56 billion – or about 14 percent of GDP. Compared to other provinces, Alberta's net debt in 2023-24 would still put the province in a better position, since only Saskatchewan projects lower net debt as a share of GDP (RBC Economics 2019).

7 Statistics Canada does not publish similar inter-province comparisons of consumer price levels. However, the relative price levels in Alberta's two largest cities relative to other major cities nationwide indicate that the comparative cost-of-living cannot explain Alberta's elevated per capita public spending.

8 Alberta. 2018. *Budget 2018: A Recovery Built to Last. Also 2018-19 Third Quarter Fiscal Update and Economic Statement.* (Released February 27, 2019). Available online: https://open.alberta.ca/publications/budget-2018https://open.alberta.ca/publications/6042188.

Figure 3: Alberta's Fiscal Balance under the Status Quo Outlook



Source: Author's calculations from Q3/2018-19 Path to Balance, using economic assumptions based on Tombe (2018).

However, Alberta's comparatively better position would mask its long-term unsustainability. Tombe (2018) has modelled Alberta's long-term fiscal future under reasonable economic and demographic assumptions, and projects sizable long-term deficits if Alberta continues on its present course (see Box 1). While the previous Alberta government forecast a return to balance by 2023-24 in its Q3/2019-18 Fiscal Update, demographic trends would push provincial finances back into deficits given the current structure of spending (see Figure 3).[9] Under the status quo outlook in Budget 2018, demography drives increased upward pressure on spending while growth slows. As well, despite appearing better than other provinces in the near term, Alberta's debt level would lead to escalating debt servicing

9 All long-term forecasts will involve inaccuracy. Given the sensitivity of Alberta's budget balance to market volatility (particularly for resource revenues and investment income), stress-testing the fiscal balance under different scenarios may provide a more robust view. Both Tombe (2018) and the MacKinnon Report (2019) consider the impact of different scenarios on revenues. However, detailing scenarios is beyond the scope of this paper. The purpose of this discussion is to highlight the risks to Alberta's long-term fiscal balance given reasonable assumptions about demographic trends and economic growth.

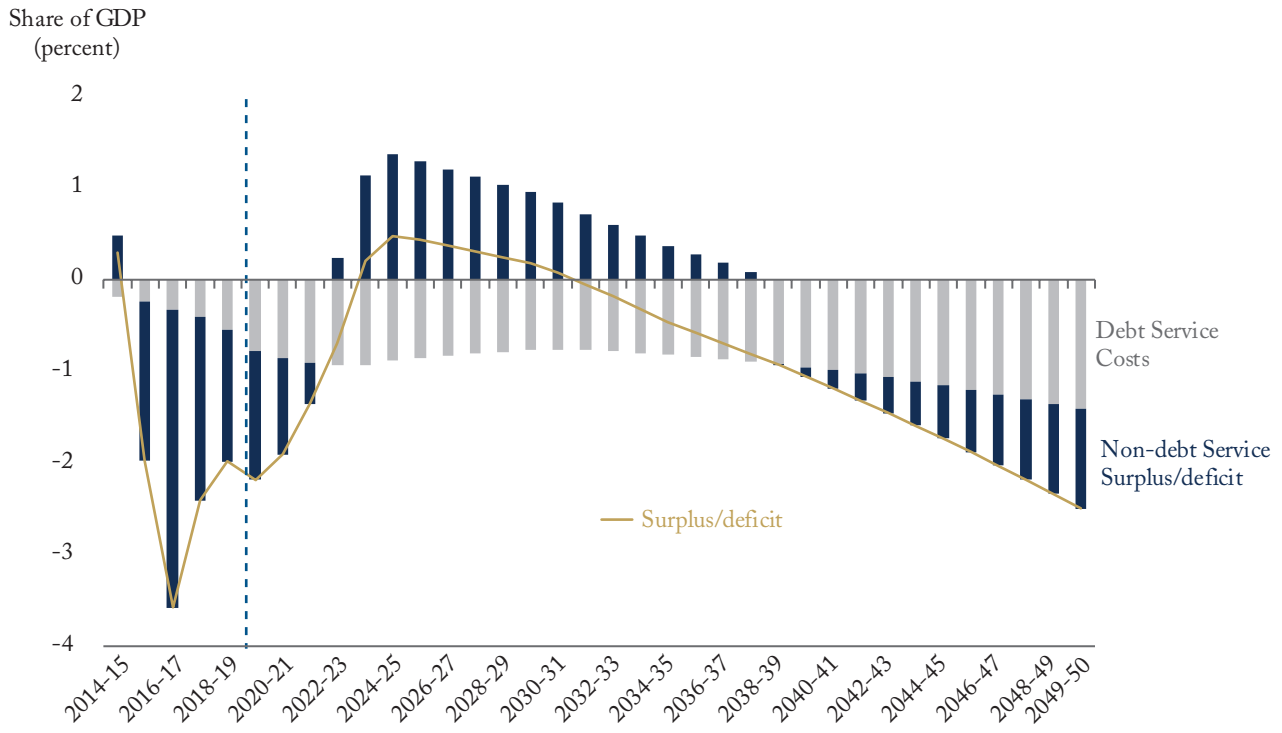
Box 1: Projections of Alberta's Long-term Fiscal future

Tombe (2018) has illustrated the implications of Alberta's current budgetary path, highlighting the degree to which demographic pressures will place upward pressure on the pace of spending. Without the province increasing revenue growth or reducing spending growth, a fiscal imbalance will persist. With the current health spending trends by age, demands from an aging Alberta population could accelerate health spending beyond 5 percent during the next two decades. In combination with other demographic pressures on education and social spending, this would result in overall expenditure growth averaging roughly 5 percent to 2040. Even assuming revenue growth alongside an optimistic annual pace of 4 percent for nominal GDP, Alberta provincial finances would again fall into deficits and provincial debt would mount. The ongoing accumulation of debt would result in an accelerating burden for debt service (see Figure 4).

For fiscal sustainability, Alberta must target a long-term fiscal course with balanced budgets and a stable long-term level of debt-to-GDP. That is, if debt is permitted to accumulate, debt service costs will also spiral upward, and future revenues will be inadequate to cover future expenditures. Any present and projected deficits must be balanced by future surpluses. The longer large deficits persist, the larger will be the required adjustment for fiscal sustainability.

Based on his long-run assumptions and projections for the fiscal gap, Tombe estimates a fiscal adjustment equal to 2.7 percent of GDP in 2019 to return Alberta's provincial finances to a sustainable course. At Alberta's projected nominal GDP for 2019 of $350 billion, a 2.7 percent adjustment would translate to an immediate $9.5 billion increase in Alberta's balance. Practically speaking, this would involve a combination of immediate revenue growth or spending cuts to boost the Path-to-Balance $7.9 billion deficit for 2019-20 to a surplus of $2.4 billion.

Figure 4: Impact of Debt Service Costs on Alberta's Fiscal Balance under the Status Quo Outlook



Source: Author's calculations from Q3/2018-19 Path to Balance, using economic assumptions based on Tombe (2018).

costs into the next decade. The structural imbalance between status quo revenue and expenditure growth would generate a vicious cycle of burgeoning deficits, debt and debt servicing costs.

Addressing Alberta's Structural Fiscal Gap

In order to shift to long-term fiscal sustainability, Alberta must plot a course that balances revenue and expenditure growth over the long term. Given the mounting demographic pressures in the next decades – upwards on spending, downwards on growth – generating surpluses over the next decade is necessary to reduce debt and debt-servicing costs to manageable levels. Looking ahead to decades with slower nominal GDP growth, Alberta cannot allow debt service costs to spiral out of control. By running near-term surpluses, Alberta can return to a strong position of net financial assets. Alberta should save today to prepare for tomorrow.

As well, Alberta should invest non-renewable resource revenues in assets that generate ongoing returns. For any resource-producing economy, revenues from royalties paid on non-renewable resources should be saved in assets that generate a sustainable return over the long term, rather than treated as general revenues. This is because non-renewable resources represent an exhaustible stock of natural capital. A royalty payment represents a one-time conversion of the extracted non-renewable resource into a financial benefit for the owner. If resource revenues are used to finance current spending, the government depletes the financial value of the natural capital. Future generations lose out on the potential returns on the stock of natural capital (see Box 2).

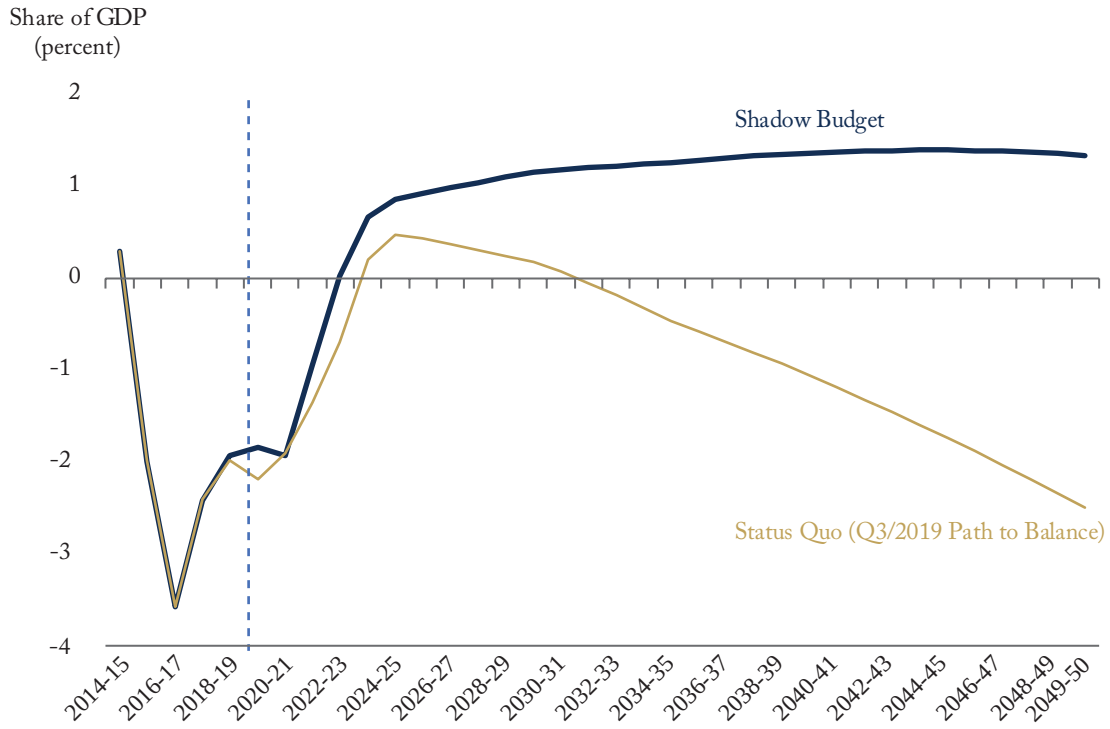
Therefore, through reductions in real per capita program spending, this Shadow Budget proposes that Alberta shift to a surplus position by 2022-23. Under this scenario, Alberta would run ongoing budget surpluses equal to around 1.0 percent of GDP starting in 2024-25. Figure 5 shows the proposed path for fiscal balance under this Shadow Budget versus the status quo projection, illustrating the earlier return to balance and the generation of ongoing surpluses. Ongoing surpluses would be made possible by the introduction of a consumption tax in 2023-24. While this budget projects net debt of roughly $48 billion by 2022-23, net debt would be eliminated around 2033.[10] Figure 6 shows the path of Alberta's net financial assets (or net debt) under this Shadow Budget compared with the status quo.

After the return to budget balance in 2022-23, sustained surpluses would allow Alberta to contribute all resource revenues to the Heritage Fund. Alberta's additions to provincially owned capital assets would continue to be debt-financed.[11]

10 This is an accelerated timeline for net debt elimination compared with the 2043/44 target proposed in the MacKinnon Report (2019 at p.71). This Shadow Budget recommends an earlier return to a position of net financial assets in order to confront long-term demographic pressures. By saving more in the near term, Alberta will build investment income to fund demographically driven expenditure growth in future decades. Otherwise, future governments will need to increase taxes in order to sustain balanced budgets. As well, by returning to balance more rapidly than under the status quo, this Shadow Budget achieves lower net debt in 2022-23 compared to the status quo.

11 An argument could be made that surpluses should be used to pay down borrowing to finance Alberta's capital plan, effectively channelling resource revenues into saving in the form of public capital. However, this Shadow Budget argues for separation of financing for the capital plan from the saving of resource revenues. A risk is that making resource revenues available to fund public infrastructure would reduce discipline for Alberta's capital plan. Investing resource revenues in the Heritage Fund would transparently reflect Alberta's extent of saving and returns on invested asserts. Assuming a diversified investment strategy for the Heritage Fund, the provincial government would also have access to revenues that would be better buttressed against shocks to Alberta's domestic economy.

Figure 5: Alberta's Surplus/Deficit as Share of GDP, Shadow Budget versus Status Quo

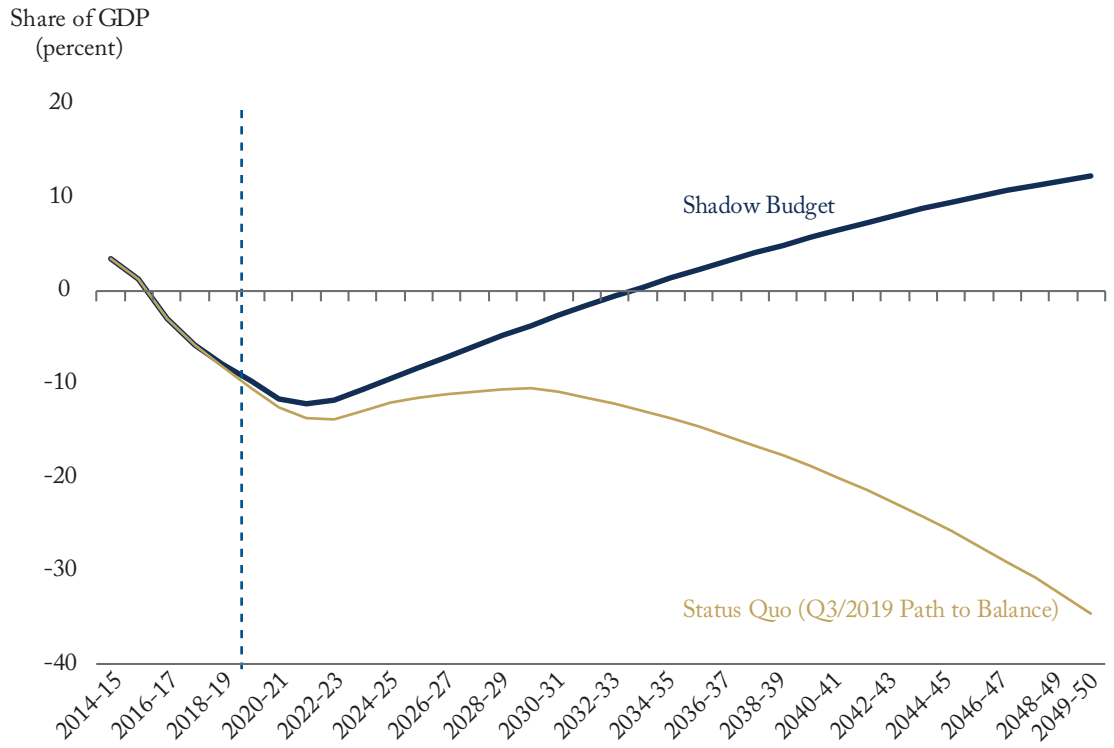


Source: Author's calculations from Q3/2018-19 Path to Balance, using economic assumptions from MacKinnon Report (2019) and Tombe (2018).

By saving resource revenues, the ensuing returns on investments would sustain Alberta's positive non-resource budget balance. Figure 7 shows the projected composition of the annual fiscal position under this Shadow Budget. Over the next decades, Alberta would generate persistent surpluses. However, the non-resource budget would be roughly balanced. The ongoing surpluses would mean Alberta would have annual net savings. By saving resource revenues, Alberta would build the assets on which the province earns investment income. Figure 7 shows how this additional investment income would contribute to a balanced budget, with Alberta continuing to post surpluses in order to save resource revenues. Notably, returns on the Heritage Fund and future resource royalties are exposed to market risks and may not materialize as projected. The potential volatility in these revenues buttresses the rationale for precautionary saving.

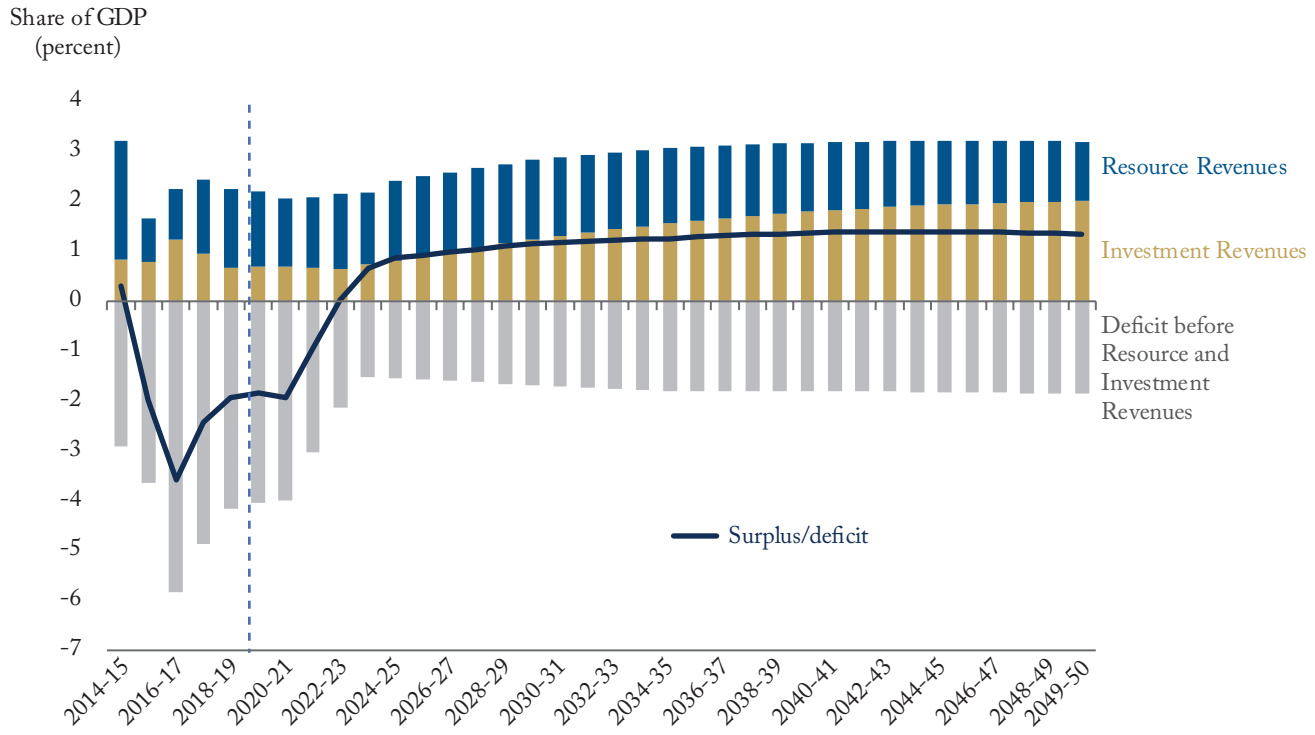
While this plan would set Alberta's finances on a sustainable trajectory for the long-term, it would require substantial real reductions in per capita spending to balance the budget by 2022-23 and the restructuring of revenues to sustain surpluses. In the following section, this Shadow Budget proposes real reductions in program spending to bring Alberta's expenditures in line with nationwide benchmarks, as well describing reforms to improve efficiency in health and education spending. This document then proposes measures to restructure Alberta's taxation to attract investment, promote immigration of skilled labour and encourage personal saving. Specifically, this Shadow Budget recommends gradually reducing the corporate tax

Figure 6: Alberta's Net Financial Assets (or Net Debt) as Share of GDP, Shadow Budget versus Status Quo



Source: Author's calculations from Q3/2018-19 Path to Balance, using economic assumptions from MacKinnon Report (2019) and Tombe (2018).

Figure 7: Composition of Alberta's Fiscal Balance under Shadow Budget



Source: Author's calculations from Q3/2018-19 Path to Balance, using economic assumptions from MacKinnon Report (2019) and Tombe (2018).

Box 2: Saving Resource Revenues for Revenue Sustainability and Intergenerational Fairness

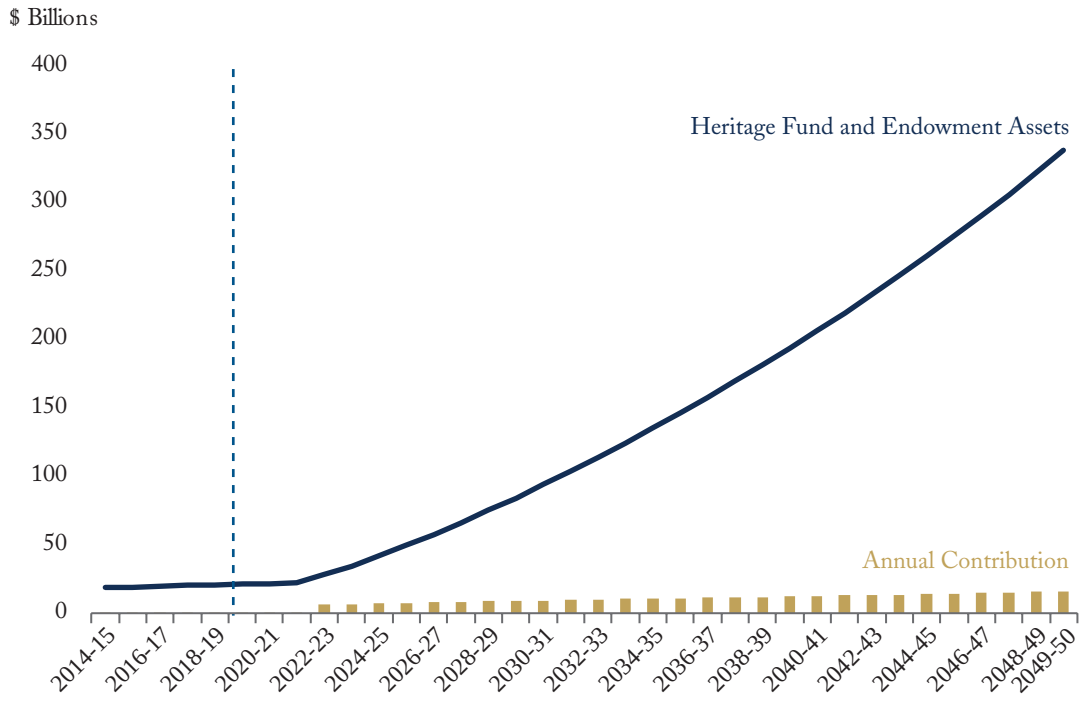
Hartwick (1977) proposed that the efficient path for an economy with non-renewable resource wealth is to save all economic profits from the extraction of the resource in productive capital. This provides a sustainable path of consumption for the economy as its natural resource endowment is extracted and converted into financial cash flows. The implication – reflected in the so-called "Hartwick Rule" – is that governments with royalties from exhaustible resources should save them.

Similarly, van den Bremer and Rick van der Ploeg (2014) argue that the "resource dividend" for an economy should be limited to a constant percentage of the sum of fund wealth and natural resource wealth (i.e., the estimated value of reserves) that sustains the size of the this total wealth and resource dividend relative to GDP. To satisfy this condition for Alberta, these authors proposed growing Alberta's Heritage Fund to $200 billion by 2030, equivalent to roughly 40 percent of GDP.

A case for saving resource revenues was also made by the 2008 Alberta Financial Investment and Planning Advisory Commission (the "Mintz Commission"), which noted that saving would enhance intergenerational equity – particularly in the face of population aging – and replace declining resource revenues over the long term. The Mintz Commission recommended a target by 2030 of $100 billion for the Alberta Heritage Savings Trust Fund.

For the proposed saving of all resource revenues under this Shadow Budget after return to balance 2022-23, the projection of assets in the Heritage Fund is shown in Figure 8. These rise to roughly $100 billion by 2031-32.

Figure 8: Alberta Heritage Fund and Endowment Assets under Shadow Budget



Source: Author's calculations using economic assumptions from MacKinnon Report (2019) and Tombe (2018).

rate and, following the 2022-23 return to balance, flattening the personal income tax schedule while implementing a consumption tax harmonized with the federal GST.

Reducing Alberta's Program Spending to Nationwide Benchmarks

Reductions in Alberta's spending growth must target health and education, which comprise 41 percent and 27 percent, respectively, of Alberta's program expenditures. Looking forward, given current spending levels and the upcoming demographic pressures, bending down the cost curve for these components is critical to long-run fiscal sustainability.

Notably, the election platform of Alberta's United Conservative Party proposed to freeze program spending during their mandate – that is, achieve zero percent growth in program spending from 2019-20 to 2022-23.[12] Similarly, the MacKinnon Report (2019 at p. 21) proposed an effective flat-line on operating expenses. This Shadow Budget illustrates the magnitude of per capita spending reductions in different spending areas that would be required to meet that target and how such a freeze on program spending could be achieved.

Such cuts to real per capita spending would achieve an effective top-line freeze on Alberta's spending from 2019-20 to 2022-23 and bring Alberta's spending in line with nationwide benchmarks. Over the next four years, this Shadow Budget proposes to reduce inflation-adjusted per capita spending on healthcare by 14 percent and education by 11 percent. Specific measures for reduction of inflation-adjusted per capita spending health and education are detailed in the following sub-sections.

This Shadow Budget also proposes to reduce real per capita social service spending by 9 percent and decrease real spending on other programs by 9 percent. However, rather than salary and job reductions in Alberta's public service, the focus should be on the rationalization of external procurement and grants – including capital grants.

Relative to the nationwide average number of provincial government employees per capita (excluding workers in education and health), Alberta operates a relatively lean provincial public administration (see Figure 9).[13] As well, Alberta's provincial government employees do not appear over-compensated relative to those in other provinces based on average hourly compensation. For example, the ratio of hourly compensation for provincial government employees to that for professional, scientific and technical occupations in Alberta is lower than in other provinces (see Figure 10).[14]

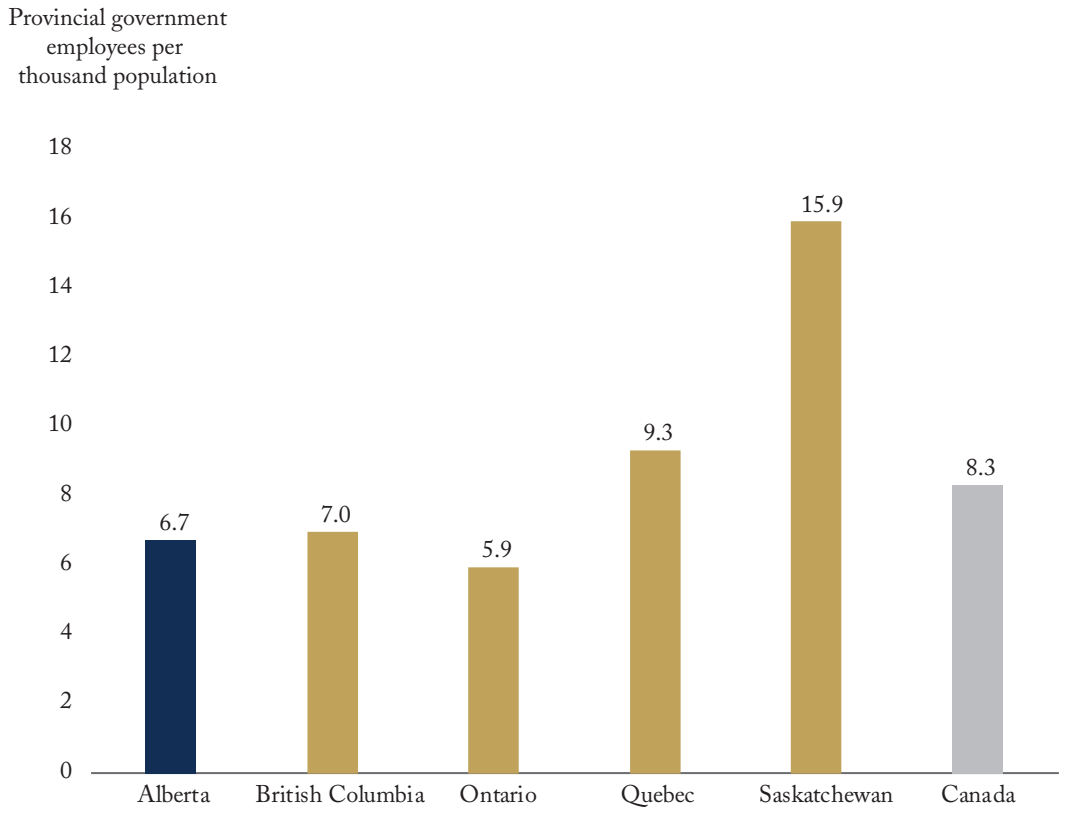
However, such ratios for average hourly compensation of provincial government employees do not capture compensation differences across different occupations and skillsets in the public service. Research by Mueller (2019) exhibits that

12 United Conservative Party. 2019. *Getting Alberta Back to Work* at p. 103. Available online: https://www.albertastrongandfree.ca/wp-content/uploads/2019/04/Alberta-Strong-and-Free-Platform-1.pdf.

13 This refers to provincial government employees, using Statistics Canada's labour statistics for "Provincial and territorial public administration" (subsector 912 in the North American Industry Classification System). This category includes workers primarily engaged in activities of a governmental nature, such as legislative activities, judicial activities, taxation, public order and safety, and the administration of provincial or territorial government programs. The category excludes workers in the education or health sectors.

14 The rationale for using a ratio relative to wages of other service sectors as a benchmark is that provincial governments must compete for talent with the broader service sector to fill public-sector roles with capable employees. It is notable that hourly compensation of provincial employees is generally above that for employees involved in professional, scientific and technical services.

Figure 9: Provincial Government Employees per Capita, 2018



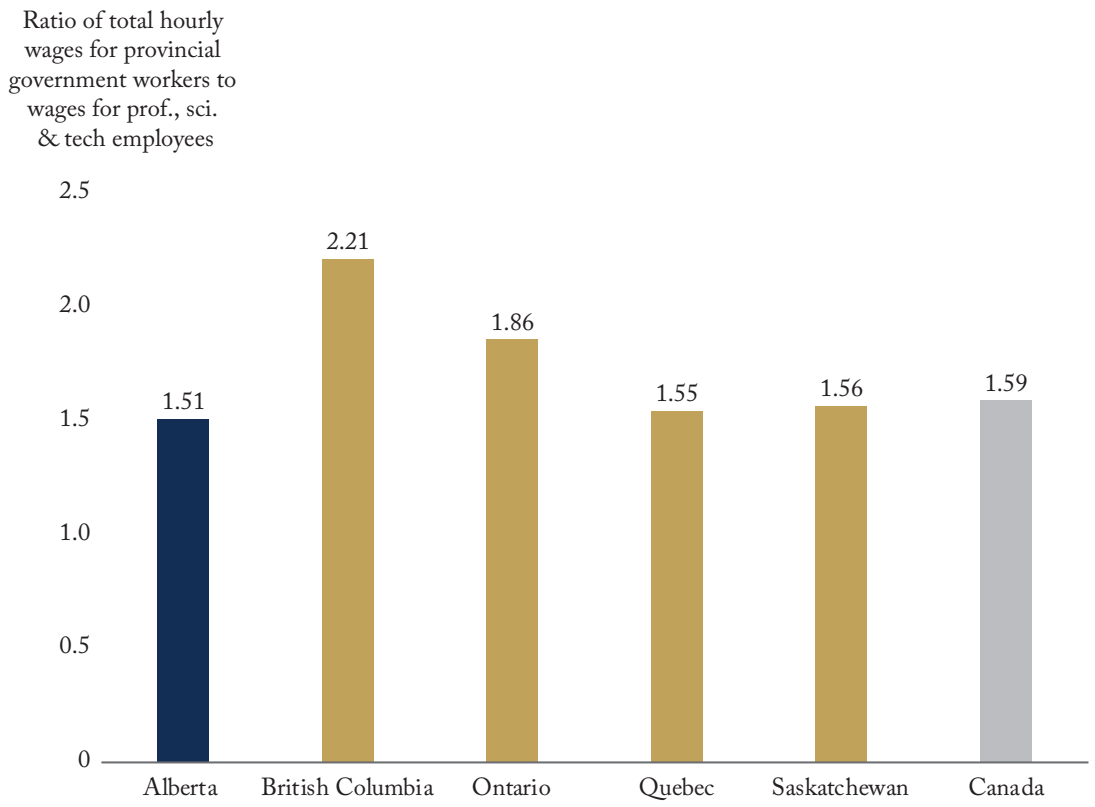
Source: Statistics Canada – Employment by industry, annual (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410020201).

Alberta's public service spending may weigh towards lower-skilled provincial government employees and that senior occupations with advanced skillsets are not as competitively compensated. The MacKinnon Report (2019 at p.50) recommended an end to freeze on compensation for non-unionized staff to ensure merit is competitively rewarded and establishment of a labour relations framework with long-term compensation targets in line with other provinces. While not proposing reductions in headcount or salary reductions for provincial government employees, this Shadow Budget likewise recommends examining the composition of compensation across the range of occupations in the public service.

Therefore, while this Shadow Budget proposes a reduction in real per capita social service and other program spending, the focus should be on rationalizing external procurement and grants, which together comprise the major portion of spending in these categories.

Table 3 provides the current expenses (excluding amortization, pension provisions, debt service and other objects) for 2018-19, illustrating that procurement and grants comprise nearly 90 percent of social service spending and over 60 percent of other program spending. To reduce real per capita social service spending and inflation-adjusted spending on other programs by 9 percent, Alberta should: undertake a rigorous review of its

Figure 10: Ratio of Total Hourly Compensation for Provincial Government Employees Relative to Professional, Scientific and Technical Employees, by Province, 2018



Source: Labour statistics consistent with the System of National Accounts (SNA), by job category and industry. (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610048901).

procurement practices with an aim of a 15 percent cumulative reduction; reduce grants for other programs by 15 percent; slow its capital grants as part of the reduced pace of its capital plan;[15] and rationalize and reduce grant funding for social services by 10 percent per capita.[16] For procurement,

15 The provincial capital plan involves both spending on provincially owned capital assets and capital grants to others (e.g., municipalities). Since provincial governments like Alberta's use accrual accounting, capital spending on provincial assets is amortized as an expense over the life of the asset, while a capital grant to another government represents an immediate expense for the provincial government. Research from the C.D. Howe Institute has consistently argued that municipalities that presently use cash accounting should also move to accrual accounting in order to accurately reflect infrastructure investment costs. See, e.g., Robson, Dachis & Omran (2017).

16 A granular analysis of how social service grants and procurement spending would be rationalized is beyond the scope of this Shadow Budget. This reduction target is based on Alberta's per capita spending levels relative to other provinces but recognizes that Alberta's headcount and wages for its public service are comparable to – if already below – other provinces.

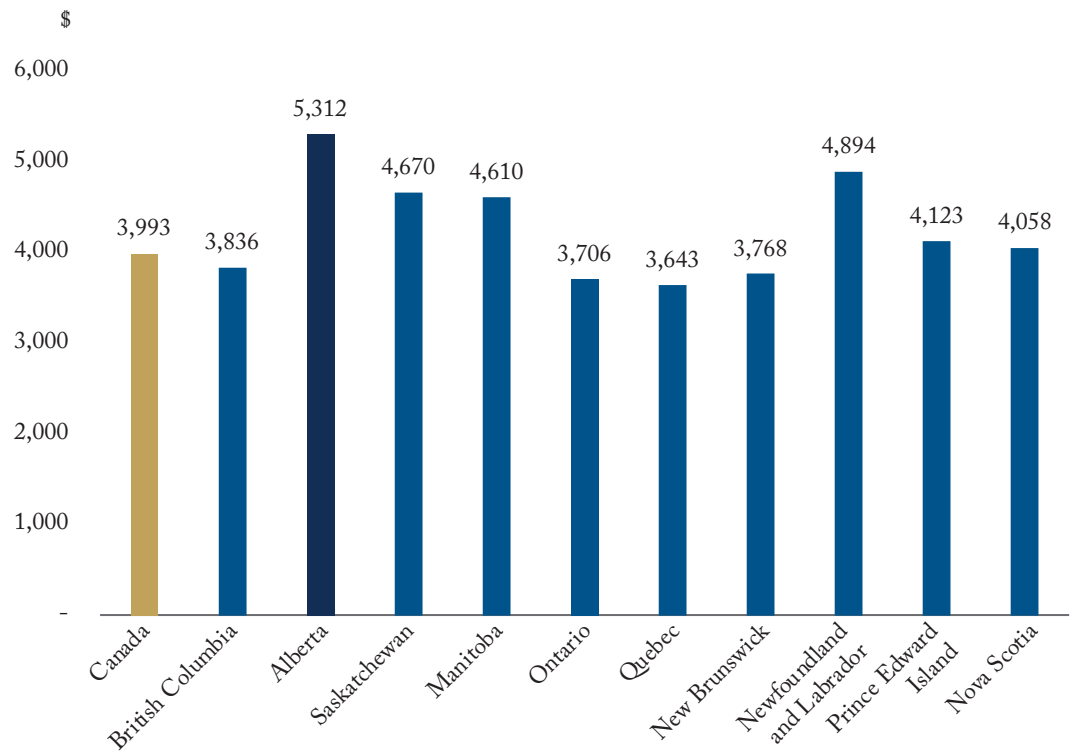
Table 3: Expenses by Program Area for 2018-19

	Salaries, Wages and Employee Benefits	Supplies and Services	Grants to Others	Capital Grants	Total 2018-19 Current Expenses*
			($ millions)		
Health	8,358	5,654	6,551	49	20,613
Education	9,874	2,872	771	2	13,519
Social Services	657	1,602	3,516	33	5,810
Other	2,705	3,341	2,734	2,045	10,827
Labour	109	57	62	-	228
Culture and Tourism	77	71	150	74	372
Agriculture and Forestry	245	692	156	17	1,110
Municipal Affairs	70	33	158	884	1,146
Economic Development and Trade	130	64	134	-	327
Energy	263	246	76	272	857
Environment and Parks	267	253	204	40	765
Executive Council	16	2	-	-	19
Indigenous Relations	28	5	169	42	244
Infrastructure	82	416	-	43	541
Justice and Solicitor General	795	398	241	-	1,434
Transportation	71	380	1	668	1,119
Treasury Board and Finance	305	432	1,383	-	2,120
Service Alberta	169	225	-	5	399
Legislative Assembly	78	67	-	-	146

* Excluding amortization, inventory consumption, pension provisions, debt service and other objects.

Source: Author's calculations from Budget 2018 (Ministry Expense by Object).

Figure 11: Age-adjusted Provincial Government Per Capita Health Expenditures for 2016



Source: CIHI Age-Adjusted Public Spending Per Person (https://yourhealthsystem.cihi.ca/hsp/inbrief?lang=en#!/indicators/014/age-adjusted-public-spending-per-person/;mapC1;mapLevel2;/).

the MacKinnon Report recommended a policy review of the government's purchasing practices in order to streamline processes and identify more cost effective sources of supply (MacKinnon Report, 2019 at p. 57). By reviewing performance data of external social service agencies, Alberta may be able to better target its social service spending and re-allocate grant funding for impact.

Bringing Alberta's Health Spending into Line with Other Provinces

This Shadow Budget proposes to reduce real per capita health spending by 13.6 percent, phased in over a four-year horizon. That is, by 2022-23 inflation-adjusted per capita spending would be 13.6 percent below its current level. Such a reduction would bring Alberta in line with the nationwide average. With the CPI forecast to increase at 1.7 percent annually over the interval and population to grow at 1.6 percent, such a real per capita cut would imply a freeze in growth of top-line health spending.

Table 4 details the required real per capita cuts to current components of health spending to achieve this freeze. Specifically, this reduction would require a 25 percent real per capita reduction in hospital spending, a 10 percent reduction in physician rates, and a freeze on per capita costs for drugs and other categories of health spending. The MacKinnon Report (2019) recommends strategic transformation of the health system and establishment of a variety of outcome targets for improving healthcare efficiency. Such transformation will be essential to maintain service quality while reducing real per capita system-wide spending.

Table 4: Composition of Proposed Health Spending Restraint

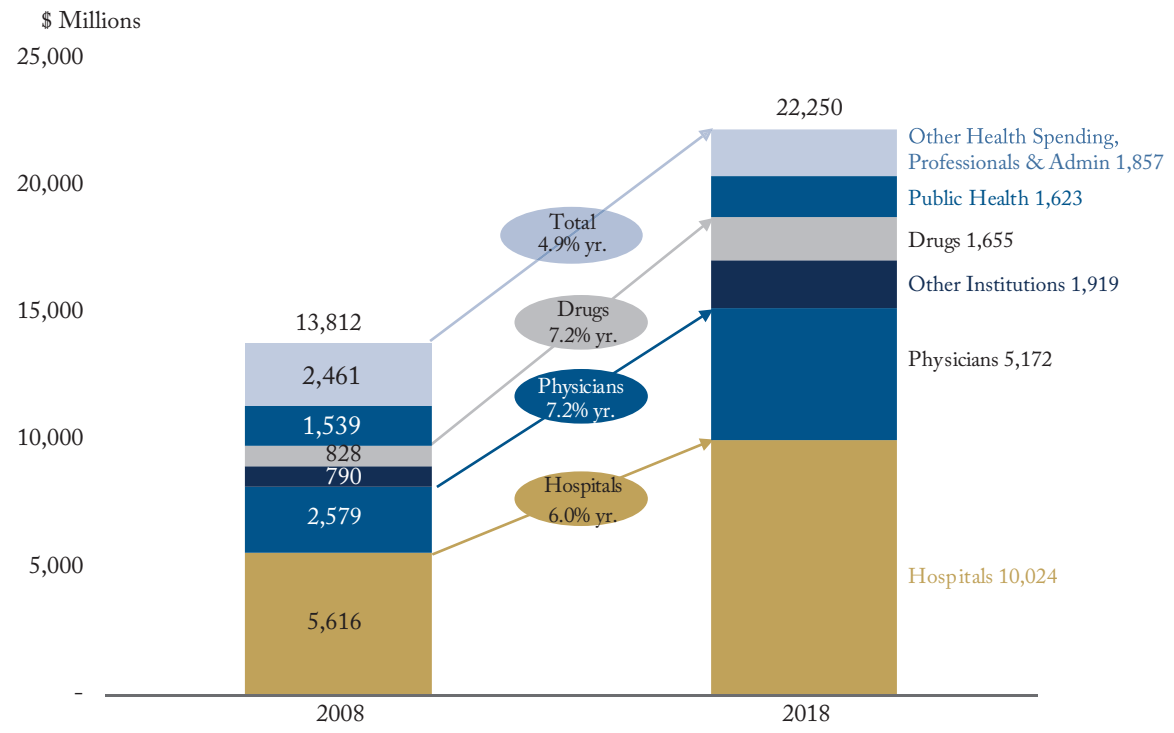
	2018 Spending *($ millions)*	Share of Health Spending	Inflation-adjusted per Capita Reduction by 2023	Annual Inflation-Adjusted per Capita Growth	Total Projected Spending Change 2019-23	Annual Change in Spending
		(*percent*)				
Hospitals	10,024	45	-25.0	3.6	-13.5	-3.6
Physicians	5,172	23	-10.0	3.6	3.8	0.9
Drugs	1,655	7	0.0	3.6	15.3	3.6
Capital	618	3	0.0	3.6	15.3	3.6
Other Institutions	1,919	9	0.0	3.6	15.3	3.6
Other Professionals	341	2	0.0	3.6	15.3	3.6
Public Health	1,623	7	0.0	3.6	15.3	3.6
Administration	155	1	0.0	3.6	15.3	3.6
Other Health Spending	743	3	0.0	3.6	15.3	3.6
Total	22,250	100	-13.6	3.6	-0.4	-0.1

Source: Author's calculations based on CIHI NHEX Table D.4. Provincial government health expenditure by use of funds in millions of current dollars, 1975 to 2018 (https://www.cihi.ca/en/health-spending/2018/national-health-expenditure-trends).

While the pace of growth for health spending slowed to an average of 3.2 percent annually from 2015 to 2019, Alberta's health spending grew at an average annual rate of 5.8 percent from 2009 to 2015. On a per capita basis, Alberta's health spending grew at 2.9 percent annually from 2008 to 2018, outpacing all other provinces except Newfoundland and Labrador. Despite having the lowest population share of over-65-year-old individuals (at around 13 percent), Alberta's per capita healthcare spending is the greatest of any province except Newfoundland and Labrador (where 20.5 percent of the population is over 65 years old). On an age-adjusted basis, Alberta's 2016 per capita healthcare spending was 33 percent above the national average and 14 percent above Saskatchewan, the next highest per capita spending province on healthcare.[17] Despite this higher per

17 The Canadian Institute for Health Information (CIHI) publishes an age-adjusted comparison of healthcare spending, recognizing that health spending per capita increases with age. To compare provinces on an equivalent basis, CIHI calculates per capita health spending for each province by applying the age and gender structure of the 2011 Canadian population to each province's healthcare spending across age groups. See: https://yourhealthsystem.cihi.ca/hsp/inbrief?lang=en#!/indicators/014/age-adjusted-public-spending-per-person/;mapC1;mapLevel2;overview;/.

Figure 12: Growth in Alberta's Health Spending 2008 – 2018, by Category



Source: CIHI NHEX – Table D.4 Provincial government health expenditure by use of funds in millions of current dollars, 1975 to 2018 (https://www.cihi.ca/en/health-spending/2018/national-health-expenditure-trends).

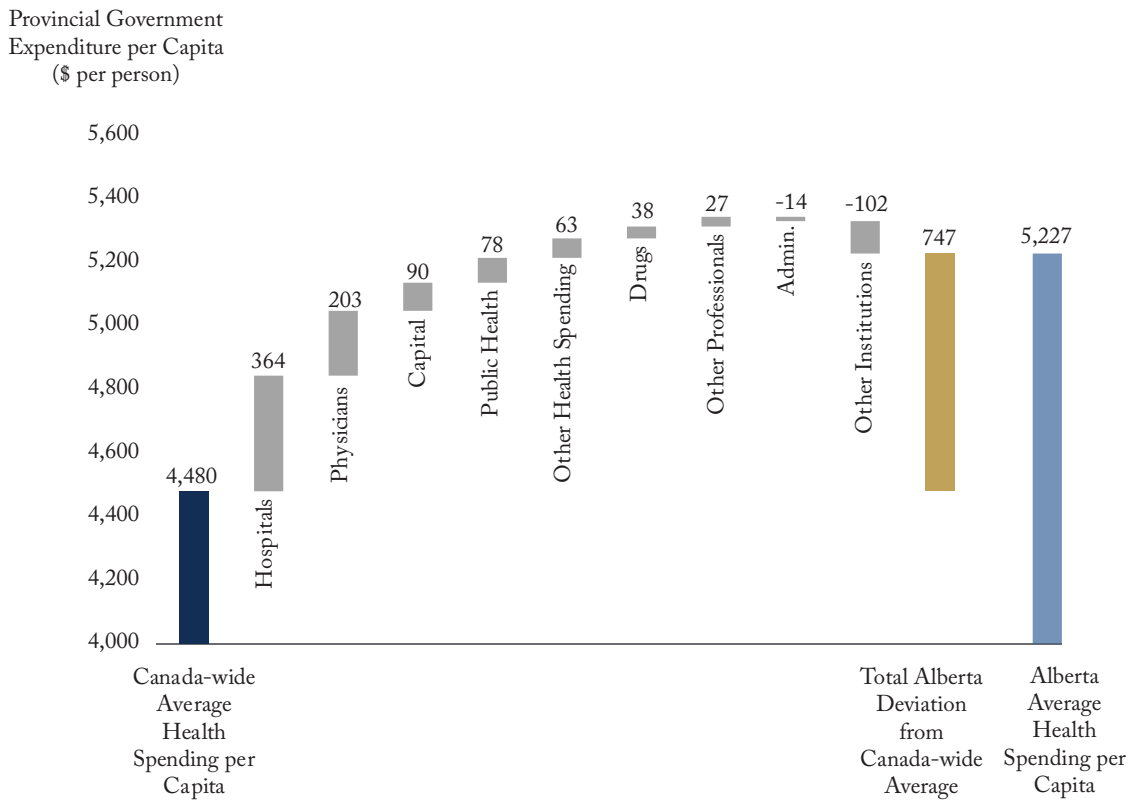
capita spending, Alberta does not outperform lower-spending provinces like British Columbia, Ontario and Quebec on indicators of service delivery or health outcomes – for example, wait-times for specialist referrals, hospital readmissions and infant mortality (see MacKinnon Report, 2019 at pp. 25-26).

Spending on hospitals and physicians accounts for the bulk of Alberta's health spending, comprising, respectively, 45 percent and 23 percent of public health spending. Along with drugs and other institutions, these expenditures have propelled the growth in Alberta's health spending (see Figure 12). As exhibited in Figure 13, higher per capita spending on hospitals and physicians drives Alberta's deviation from the nationwide average for provincial government health spending.

Within hospitals, much of Alberta's heightened spending is driven by spending on nursing: Alberta spent 63 percent more on nursing inpatient services than the Canada-wide average and such nursing inpatient services comprised 23 percent of Alberta's hospital expenditures in 2017-18.[18] On a per capita basis, fewer nurses are employed in Alberta

18 See Canadian Institute for Health Information. "Trends in Hospital Expenditure, 2005–2006 to 2017–2018 – Data Tables – Series B: Hospital Expenditure by Functional Area." Available online: https://www.cihi.ca/en/health-spending/hospital-spending.

Figure 13: Contribution to Alberta's Deviation from 2019 Canada-wide Average Provincial Government Health Spending per Capita



Source: CIHI NHEX – Table O.1 Health expenditure by use of funds and source of finance, by province/territory and Canada (https://www.cihi.ca/en/health-spending/2018/national-health-expenditure-trends).

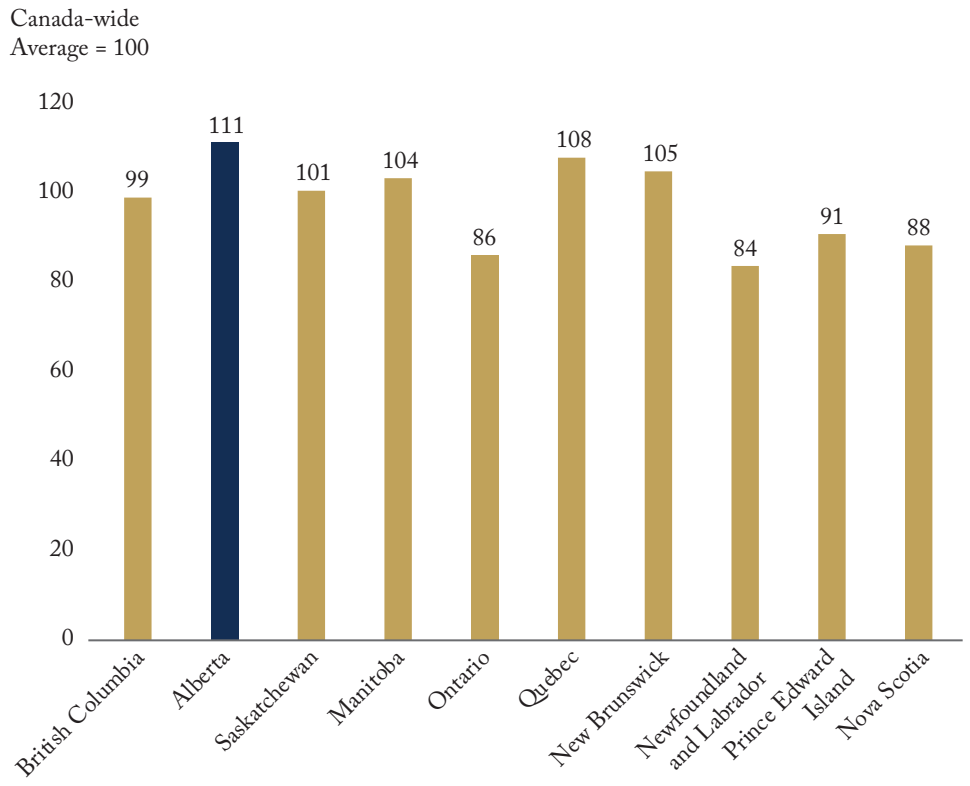
hospitals than nationwide and relative to any other province except Ontario.[19] However, as of 2018, the average hourly wage rate for nurses was higher in Alberta than in any other province and exceeds the Canada-wide average by 17 percent.[20]

The MacKinnon Report (2019 at pp. 28-29) also emphasized that not all medical services need be performed in hospitals and pointed to an opportunity to increase the use of Licensed Practical Nurses to deliver certain services with a lower cost than Registered Nurses.

19 See Canadian Institute for Health Information. Nursing in Canada, 2018 – Data Tables. Available online: https://www.cihi.ca/en/nursing-in-canada-2018.

20 See Statistics Canada, Employee wages by occupation, annual. Available online: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410030701.

Figure 14: Fee-for-Services Rates for Physicians by Province, 2016-17



Source: CIHI Data Tables: Physician Services Benefit Rates, 2015–2016 (https://www.cihi.ca/en/document/data-tables-physician-services-benefit-rates-2015-2016).

For physicians, Alberta's per capita spending was 19 percent above the nationwide per capita average in 2018. Alberta's elevated spending on physicians results from a higher ratio of physicians to population and greater average billings by physicians relative to the nationwide average (see CIHI Physicians in Canada 2018). The CIHI Physician Services Benefit Rate indicator for 2016-17, which standardizes fee comparisons across provinces, indicates that Alberta's fees-for-service are 11 percent above the nationwide levels (see Figure 14). Fees-for-service are 25 percent higher than the Canada-wide rates for family physicians in Alberta and 14 percent higher for surgical specialists.

Based on this nationwide benchmarking, Alberta should make real cuts to both expenditures on hospitals and physicians to bring health spending in line with levels in other provinces. For physician rates, this Shadow Budget proposes rationalizing rates paid by Alberta Health Services while experimenting with allowing physicians to offer their services in a private market (see Box 3). To reduce costs for medical services, previous C.D. Howe Institute research has recommended increasing "capitation" (i.e., payment based on the head count of enrolled patients) in physician compensation in place of fee-for-service (see Blomqvist and Wyonch 2019), and the MacKinnon Report noted the relatively low adoption of Alternative Payment Plans in Alberta.

Box 3: Reducing Fee-for-service Rates and Experimenting with a Private Market for Physician-provided Services

Since physicians are mobile between provinces and internationally, Alberta faces competition for where a physician chooses to locate. Reducing fee-for-service payments could diminish Alberta's attractiveness for physicians. However, without greatly diminishing its relative attractiveness to physicians, Alberta likely could reduce physician fee-for-service rates by 10 percent. Such reductions should be focused on those practitioners' whose rates most exceed nationwide indices for rates. By ensuring competitive corporate and personal tax rates, Alberta can also maintain its relative attractiveness for physicians – who should retain a positive after-tax differential relative to practicing in other provinces.

In order to rationalize its fee schedule, Alberta Health should compare its fee schedule to those in other provinces and seek to reduce fees to nationwide averages. Alberta Health should also target reductions in rates for procedures and services where productivity gains have reduced the time to perform the procedure or service.[a]

Alberta should also experiment with increased private healthcare delivery. The Supreme Court of Canada's 2005 *Chaoulli* decision[b] held that prohibitions on private healthcare delivery are an infringement on the security of the person. A monopoly on healthcare services by a public provider provides universal access. However, elective services have experienced exaggerated wait-times as access is rationed. A monopoly on private provision inhibits individuals from more expediently accessing private care at their own cost.

On the supply side, physicians also face a single buyer for their services and a public monopoly on provision deprives physicians of a competitive market in which to benchmark the value of their services. Based on the relative fee-for-service billings by physicians in other provinces, Alberta is justified in reducing rates for physician compensation under the public system. However, Alberta should also allow physicians to offer their services in a private market, establishing rates for services based on market competition. The government should not impose cuts in rates of pay for professionals under a public insurance system while also restricting a professional's ability to offer her services on the open market.

An expressed concern is that the expansion of a parallel private healthcare system will divert the best professionals to private practice and reduce the standard of care in the public system. However, private delivery might also serve to incrementally expand the supply of elective services. Specifically, while services are rationed by the public system, a complementary private market could induce physicians and other healthcare professionals to work additional hours and utilize facilities during downtime (see Blomqvist and Busby 2015).

a For example, if medical innovation has reduced the time for performing a given procedure by 50 percent but the inflation-adjusted rate is unchanged, a physician's hourly compensation for performing this procedure will have doubled. However, simply halving the physician's rate would appropriate all the productivity gains to the public payor. This would ignore the capital investment and risk involved in achieving this boost to physician productivity and likely discourage future investments to implement innovations. For any service or procedure with significant productivity gains, Alberta should estimate the required cost for the investment and reduce the fee for the particular procedure by some proportion to the economic benefit of the physician's increased productivity.

b *Chaoulli v. Quebec (Attorney General)*, 2005 SCC 35.

Box 3: Continued

The aim of an experiment with expanded private healthcare delivery in Alberta should be to provide an incentive for physicians to make use of idle capital (e.g., under-utilized surgical and diagnostic facilities) and work additional hours at a competitive market rate. For example, Alberta might implement a regime in which physicians could practice up to 10 percent of their hours in private services while still maintaining a dual practice in the public system.

Such a "contractual" approach to a dual practice model is outlined by Flood, Allen, Thomas and Walker (2015). For Alberta, with fee-for-service rates in most cases for a physician completing specified services rather than billing for hours, a challenge could be defining a physician's time spent on public versus private services. A solution would be to leverage benchmark durations for each service and to require dual practice physicians to report their provision of private services to Alberta Health Services. This would allow AHS to compute the relative time spent on private services, ensuring this did not exceed the required threshold.

By creating a private market at the margin, such a system could increase the aggregate income and hours worked by physicians while reducing the cost to the public system. Such an experiment would also reveal valuable information about the economic behaviour of physicians, Albertans' willingness to pay for private healthcare, and the market rates for specific healthcare services.

Reducing per Capita Education Spending

To achieve an overall freeze on spending, this Shadow Budget also proposes to significantly reduce per capita education spending, bringing per student outlays on primary, secondary and post-secondary education in line with levels in other provinces. This Shadow Budget proposes to freeze education spending through a staged 11 percent reduction in real per capita education spending. This would involve a staged 9 percent reduction in real spending per student in primary and secondary education by 2022-23 and a staged 15 percent reduction in real spending per student in advanced education.

Despite its higher-than-average primary and secondary education funding per student, Alberta does not demonstrably outperform other provinces on education indicators.[21]

For primary and secondary education, per student funding would be reduced by 0.5 percent annually for the next four years. School boards would be responsible for re-negotiating collective agreements with teachers and increasing class sizes

21 Specifically, in the last results of the internationally-administered Program for International Student Assessment (PISA) for 2015, Alberta students scored above the nation-wide average for science, slightly above-average for reading, and below-average for mathematics. Moreover, Alberta students average scores in all three areas fell significantly over the previous decade and notably dropped from highest-performing province for mathematics in 2003 (see Richards 2017).

to achieve this budget reduction.[22] For primary and secondary education, Alberta expenditures in 2017 were 9 percent above the nationwide average of spending per student (see Figure 15). A 9 percent reduction in per capita spending on primary and secondary education could be accomplished with a 20 percent reduction in non-instruction spending per student and a 14 percent reduction in instruction spending per student. The 14 percent reduction in instruction spending per student could be achieved through a 6 percent reduction in teacher salaries (bringing Alberta's teacher salaries to nationwide levels) and a 9 percent increase in class sizes (increasing Alberta's student-to-educator ratio to that in B.C. – see Figure 16).[23]

For post-secondary education, the total transfers to universities and colleges would be reduced by 2.5 percent annually for the next four years. These reductions to Alberta's education spending would result in outlays per student in line with Canada-wide benchmarks. Across all post-secondary spending in 2016/17, Alberta spent 45 percent above the nationwide average for provincial government funding per enrolled student (see Figure 18). Moreover, the average tuition fees in Alberta are 16 percent below the nationwide average (see Figure 19). This benchmarking against post-secondary education in other provinces highlights the viability of reducing Alberta's real spending per student in post-secondary education by 15 percent, phased in over the next four years. Unless post-secondary spending accelerates in other provinces, Alberta would still spend more on post-secondary education than the nationwide average – and still outspend B.C., Ontario and Quebec.

As well, the allocation of funding would be rationalized to link per student allocations for post-secondary education to graduates' labour-market outcomes (for example, post-graduation employment rates and earnings levels).[24] In a recent C.D. Howe Institute report, Usher (2019) outlines the international evidence and principles for sound design of Performance-Based Funding Systems in post-secondary education. By linking funding

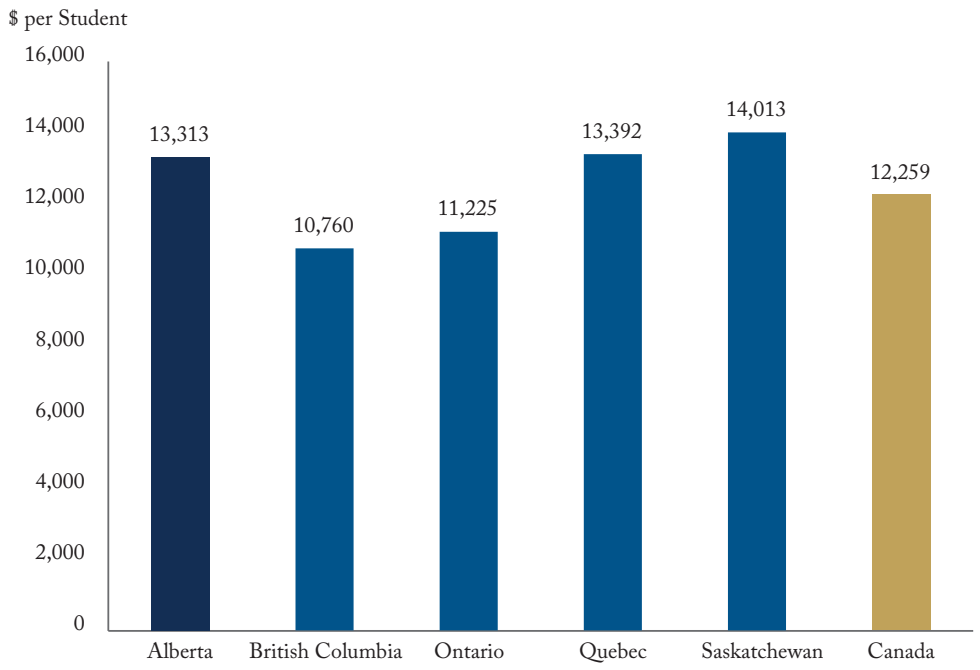
22 The present collective agreement with Alberta's teachers' union expired in August 2018 and an arbitrator was required to decide on a new salary grid for teachers by the end of September 2019. Bargaining between individual school boards on working conditions would follow the finalization of a province-wide collective agreement. However, in June 2019, the present Alberta government enacted the *Public Sector Wage Arbitration Deferral Act* (Bill 9) to postpone such determinations under wage arbitration for a number of labour groups. A July 2019 court decision ordered an injunction, staying the effect of this legislation – although also delaying any wage increases awarded by an arbitrator (*Alberta Union of Provincial Employees v Alberta*, 2019 ABQB 577); however, this injunction was subsequently overturned by a decision of the Alberta Court of Appeal (*Alberta Union of Provincial Employees v Alberta*, 2019 ABCA 320).

It should be noted that, given the provincial head of power for property and civil rights, Alberta's government has jurisdiction to unilaterally legislate contractual terms for employment of teachers and other public-sector professionals. However, recent Supreme Court decisions have upheld a right to strike as protected under Canada's Charter of Rights and Freedoms (see: *Saskatchewan Federation of Labour v. Saskatchewan*, 2015 SCC 4) and held that legislation unilaterally modifying contract terms violates a Charter-derived obligation for "good faith" negotiation (see: *British Columbia Teachers' Federation v. British Columbia*, 2016 SCC 49).

23 At the top of provincial salary scales in 2016/17, Alberta teachers earned 6 percent above the nationwide average. Alberta's 13.8 student-to-educator ratio for primary and secondary education is 17 percent above the nationwide 11.8 ratio – although still 9 percent below the 15.2 student-to-educator ratio in B.C. Note that past research on student-to-teacher ratios has shown no significant impact on student performance from greater class sizes. See Johnson (2019a) and Johnson (2019b).

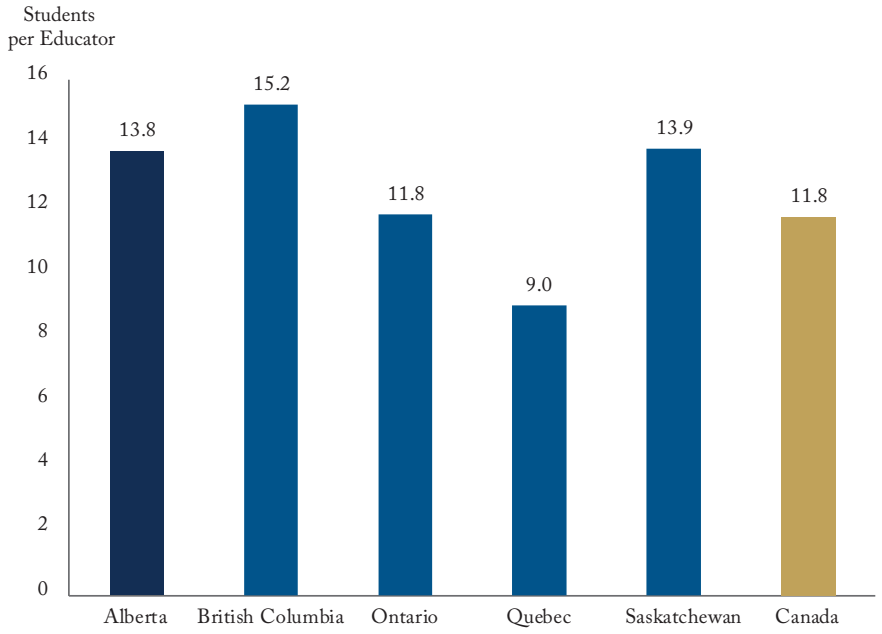
24 Ontario's 2019 budget has implemented this measure to align incentives for post-secondary institutions with the labour market success of their graduates. See Ontario. 2019. *2019 Ontario Budget: Protecting What Matters Most*. Chapter 1, Section D. Available online: http://budget.ontario.ca/2019/chapter-1d.html#s-7.

Figure 15: Primary and Secondary Expenditure per Student, 2017, Selected Provinces



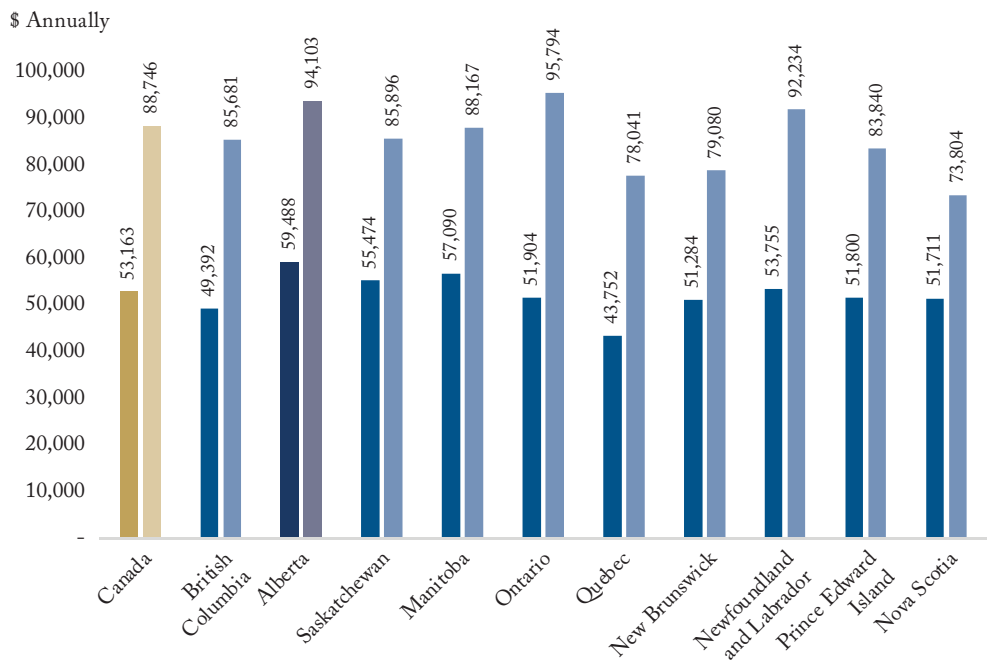
Source: Statistics Canada Canadian Classification of Functions of Government (CCOFOG) by consolidated government component (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1010000501) and Number of students in regular programs for youth, public elementary and secondary schools, by grade and sex (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710000701).

Figure 16: Students per Educator, 2017, Selected Provinces



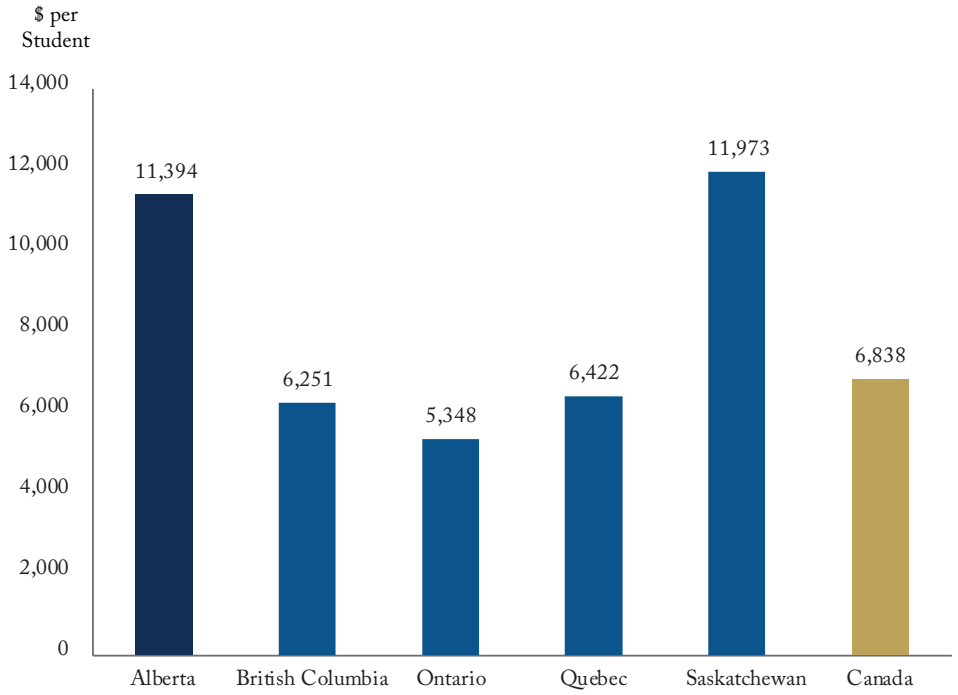
Source: Statistics Canada. Number of students in regular programs for youth, public elementary and secondary schools, by grade and sex (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710000701) and Number of full-time and part-time educators, public elementary and secondary schools, by age group and sex (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710001001).

Figure 17: Teacher Salaries for 2016-17 at Starting Salary and Top of Range



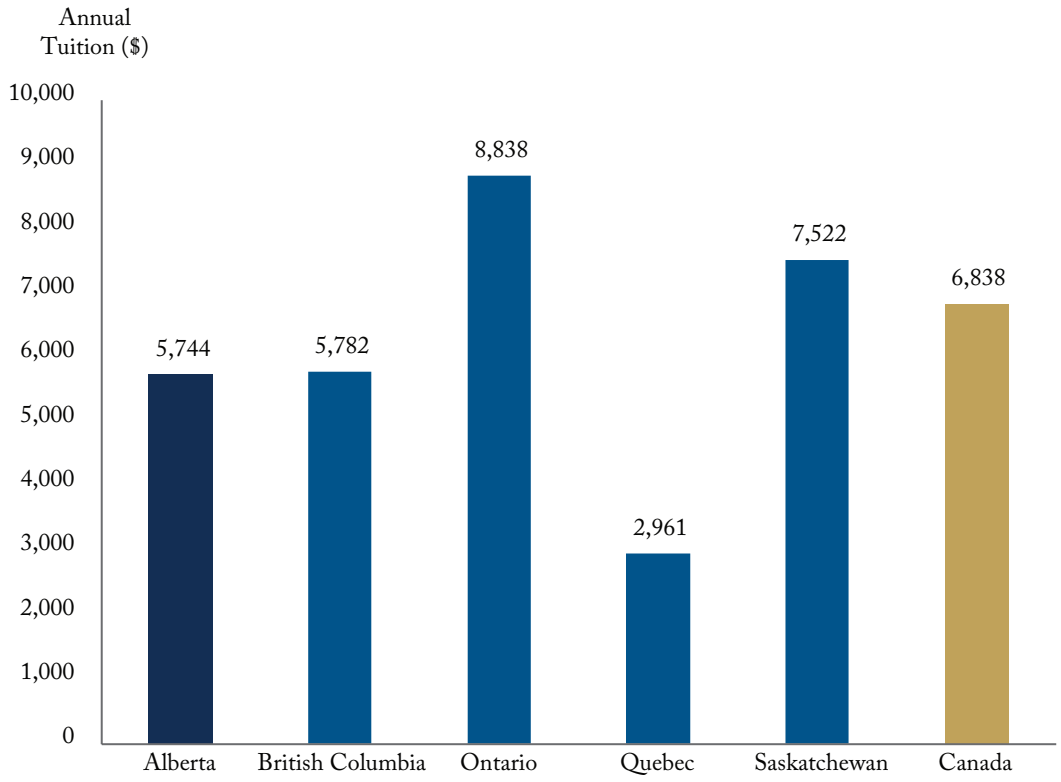
Source: Statistics Canada. 2019. Education Indicators in Canada: An International Perspective, 2018. (Table C.3.1b Annual statutory teachers' salaries in public institutions, by level of education taught and teaching experience, Canadian dollars, Canada, provinces and territories, 2016/2017). Available online: https://www150.statcan.gc.ca/n1/pub/81-604-x/2018001/t/tblc.3.1b-eng.htm.

Figure 18: Provincial Funding for Universities and Colleges per Student, 2016-17



Source: Statistics Canada Revenues of universities and degree-granting colleges (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710002601) and Postsecondary enrolments, by registration status, institution type, status of student in Canada and sex (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710001801).

Figure 19: Average Tuition across All Fields of Study, 2018-19



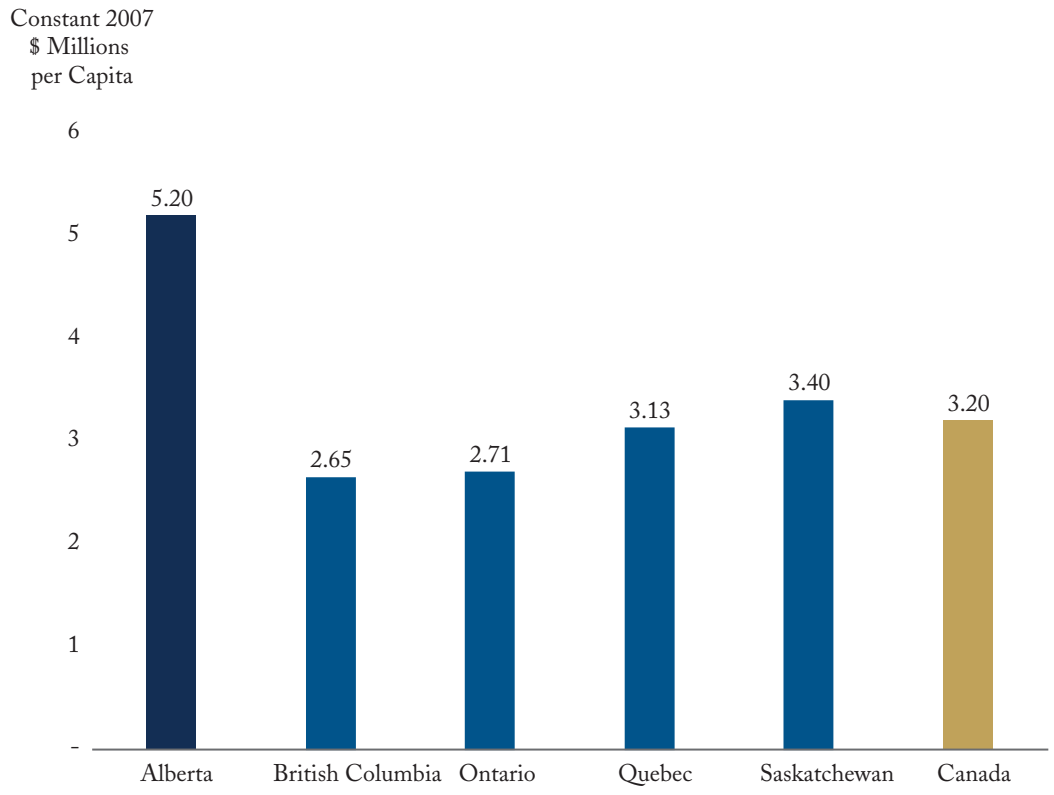
Source: Statistics Canada Canadian undergraduate tuition fees by field of study (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710000301).

for fields of study to graduates' labour-market outcomes, Alberta would encourage post-secondary institutions to invest in those programs that most enhance students' human capital. This would protect the competitiveness of Alberta's post-secondary institutions in attracting students seeking education to advance their post-graduation employment prospects.

This Shadow Budget also proposes to remove current restrictions that limit tuition increases by Alberta post-secondary institutions to CPI inflation. These institutions should have the ability to set tuition competitively with other institutions. With average Alberta tuition fees below the nationwide average, Alberta's tuition levels can increase while still remaining competitive to attract students. However, Alberta institutions should be required to commit to maintaining annual tuition fees for each cohort of students across the duration of their respective programs. This ensures that students can plan upfront for the costs of a given program.

In order to enhance post-secondary access, Alberta should move to an income-contingent student loan repayment system, under which the repayment terms for student debt varies in accordance with post-graduate earnings. Such a program would address students' risk aversion to the variable outcomes from a particular degree or diploma program (see Guillemette 2006). An

Figure 20: Government Transport Infrastructure per Capita, 2017



Source: Statistics Canada Infrastructure Economic Account, 2018 (https://www150.statcan.gc.ca/n1/daily-quotidien/190411/dq190411a-cansim-eng.htm).

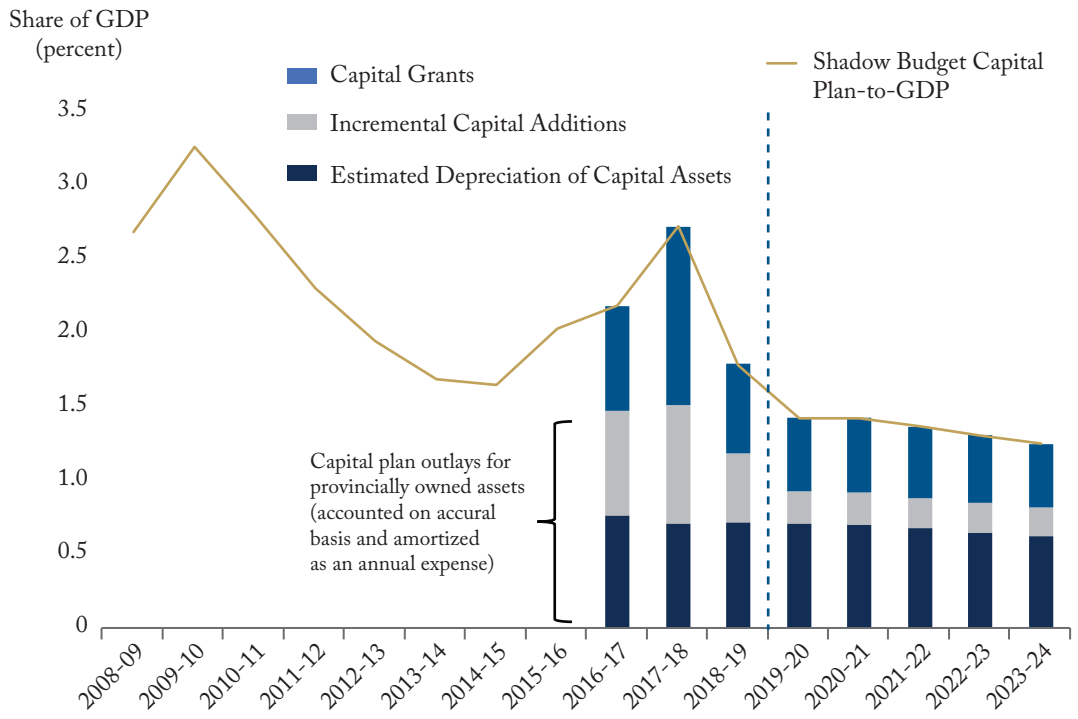
income-contingent student loan program would parallel funding allocations for post-secondary institutions that are conditioned on the labour-market outcomes of graduates from particular programs. Post-secondary institutions would thereby have a stake in the labour-market outcomes of their graduates, facing an effective penalty for increasing enrolment in programs that produce graduates with limited employment prospects.

Rationalizing Alberta's Capital Plan

According to Statistics Canada's infrastructure accounts, Alberta's stock of most categories of infrastructure is well above the nationwide per capita average. It exceeds the nationwide level by 63 percent for transportation, 51 percent for education, 16 percent for health and 83 percent for environmental protection (e.g., water and sewage). For example, Figure 20 exhibits the per capita transportation infrastructure stock in Alberta relative to the nationwide average.

With its present population benefitting from large historical investments, Alberta should rationalize its current infrastructure spending, reducing this to a level that maintains existing infrastructure and minimizes new additions. Although provincial capital expenditures are budgeted on an accrual basis (i.e., amortization of the capital asset across its useful life), provincial outlays to finance the capital plan increase the province's annual borrowing requirement and,

Figure 21: Alberta Capital Plan Outlays as Share of GDP under Status Quo and Shadow Budget, By Component



Notes:

* Depreciation is based on reported capital amortization and, for 2019-24 projection, estimated at historical rates and for forecast capital stock.

Data on amortization and capital grants prior to 2016-17 not published in Budget 2018.

The figure shows the annual capital outlays that offset estimated depreciation of provincially-owned capital stock, the portion of outlays that adds incrementally to the capital stock and those flowing as capital grants to others. The estimated depreciation of capital assets is calculated based on the projected end-of-year capital stock for the previous year and an assumed 5% annual amortization rate. The 5% amortization rate is equal to that calculated from the annual amortization from 2016-2019 and assumed for forecast years in the 2019-20 Budget.

Source: Author's calculations from Alberta Budget 2018 and Q3/2019 Fiscal Update.

consequently, debt service costs. In order to reduce Alberta's debt-financing requirement, MacKinnon and Mintz (2017) similarly recommended a reduction in Alberta's outlays for its capital plan, and the MacKinnon Report (2019 at p.54) made similar recommendations to bring Alberta's average per capita capital stock in line with the other provinces over the next ten years.

Specifically, over the next four years, this Shadow Budget proposes to reduce annual government capital investment to the roughly 5 percent rate of annual capital depreciation combined with a 1 percent addition to the capital stock and a slowed pace of capital grants to municipalities. The MacKinnon Report (2019 at p. 55) similarly recommended reducing capital grants noting that Alberta provides higher per capita capital grants to municipalities than the nationwide average.

Such capital investment levels would maintain the provincial government's existing infrastructure stock and allow for small incremental additions. Capital grants would proceed at a reduced pace but

should provide municipalities with the necessary resources to proceed with projects to which provincial funds have already been committed. As a result, capital spending would be significantly reduced from its 1.8 percent share of GDP in 2018-19 (see Figure 21).

Tax Competitiveness and Revenue Stabilization

Volatility is a fact of life in Alberta's resource-rich economy. Its effects extend from commodity prices, through corporate revenues, to royalties and government revenues. This volatility cannot be eliminated but it can be managed with a suite of fiscal policies that put Alberta on a stable and sustainable fiscal path, while enhancing tax competiveness.

Amid uncertain prospects for its energy sector, Alberta must ensure its tax structure helps attract business investment and workers. Yet, increases in Alberta's personal and corporate income rates taxes since 2015 have reduced Alberta's tax competitiveness relative to other jurisdictions.

As well, as a share of GDP, the net operating surplus of corporations has remained relatively stable in other provinces but has fluctuated widely in Alberta (see Figure 22). With such volatility, corporate income taxes in Alberta vary widely year-to-year as a share of corporate income. Further, the increase in the corporate income tax (CIT) rate to 12 percent in Alberta following 2015 resulted in a provincial CIT rate that exceeds Ontario and Quebec (see Figure 23).

A Staged Reduction in the Corporate Income Tax Rate

Econometric studies of provincial corporate income taxation by Ferede and Dahlby (2012, 2019) illustrate the impact of higher CIT rates on private investment and economic growth. These authors estimate there is a 0.1 to 0.2 percentage point increase in annual per capita provincial GDP growth rate for a 1 percentage point cut in the provincial CIT rate (see Box 4).

To create a competitive tax setting for attracting new business attraction, this Shadow Budget would follow the present government's plan for a phased-in reduction of the CIT rate to 8 percent over the coming four years. This would reduce Alberta's CIT rate below that in any other province, and promote business retention and the attraction of new investment.

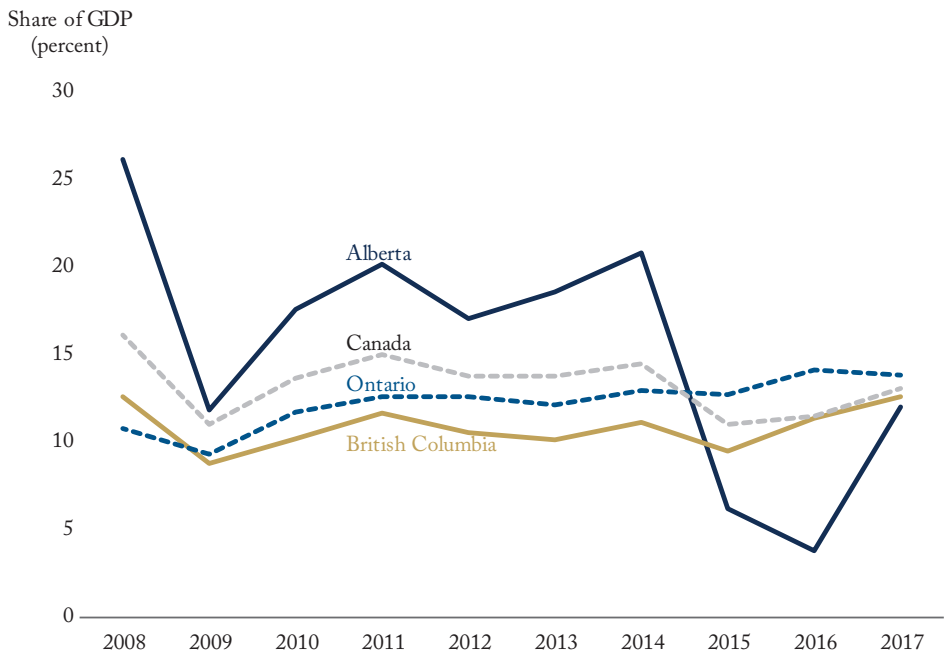
Reduction in Personal Income Tax Levels to Attract Workers

For personal income taxes, as exhibited in Figure 25, Albertans earning between approximately $35,000 and $93,000 face higher average personal income tax (PIT) rates than those earning equivalent income in Ontario.[25] If earning between $27,500 and $137,500, a worker will pay a higher average PIT rate in Alberta than those earning equivalent income in B.C. The relative PIT burden diminishes the attractiveness of working in Alberta.

In order to boost Alberta's competitiveness for the attraction of skilled labour, Alberta should reduce its average tax levels. This would be accomplished by a rate reduction of the bottom

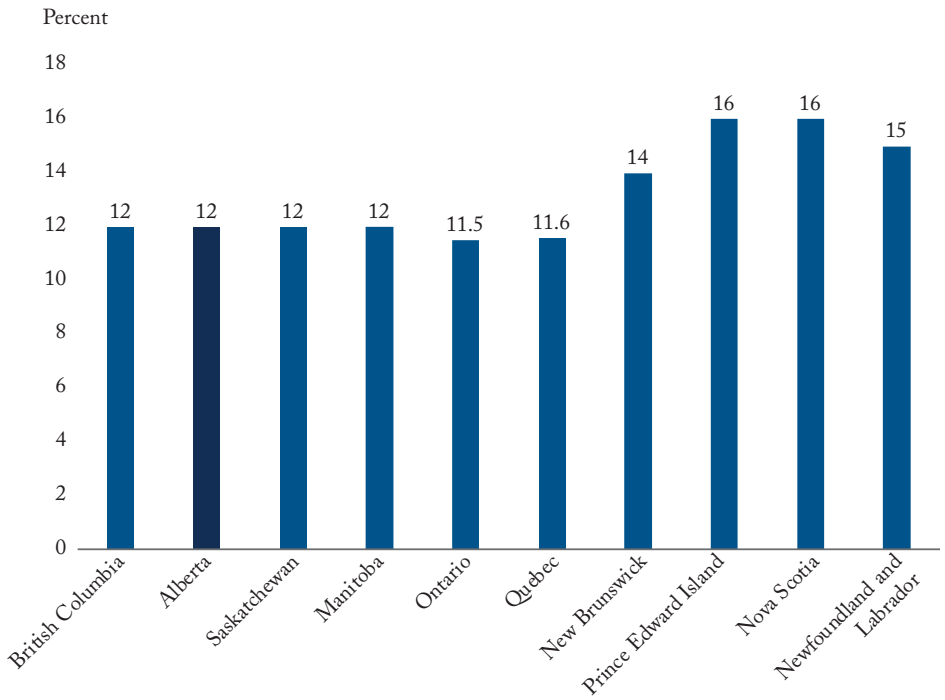
25 This calculation of the average PIT rate applies marginal tax rates, as well as Ontario's PIT surtaxes and health premiums (see: https://www.ontario.ca/data/ontario-health-premium-rates), and considers the basic personal exemption but applies no other deductions or credits. Of course, a given individual's average PIT rate would differ based on the composition of his/her income, deductions and credits. However, this comparison of average PIT rates is intended to illustrate what a mobile worker might consider when evaluating jurisdictions in which she/he would earn equivalent before-tax income.

Figure 22: Net Corporate Operating Surplus as Share of GDP



Source: Statistics Canada Canadian Classification of Functions of Government (CCOFOG) by consolidated government component (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1010000501) and Gross domestic product, income-based, provincial and territorial, annual (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610022101).

Figure 23: 2018-19 Corporate Income Tax Rates by Province



Source: Corporation tax rates (https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/corporations/corporation-tax-rates.html).

Box 4: Estimated Impact of Corporate Income Tax Reduction on Economic Growth and Revenues

Based on the estimated coefficients for the impact of CIT rates on per capita GDP in Ferede and Dahlby (2012), this Shadow Budget estimates that a phased-in CIT reduction starting in 2019-20 would achieve a peak 0.7 percent impact on the GDP per capita, increasing provincial nominal GDP to 3.3 percent above its counterfactual level by 2024-25 (see Figure 24). Assuming that the bases for personal income tax (PIT), CIT and other own-source revenues (excluding resource revenues and investment income) grow at the rate of nominal GDP, such a boost to growth would equate to an increase in annual revenues by $1.1 billion by 2023-24.[a]

However, each percentage point of CIT rate reduction mechanically decreases CIT revenues by roughly $400 million starting in 2019-20.[b] Including the projected boost to revenues based on from estimates in Ferede and Dahlby (2012), this Shadow Budget projects the phased-in CIT cut would have a net fiscal cost of roughly $1.5 billion by 2023-24.

Note that Dahlby and Ferede (2019) use a different approach to assess the impact of Alberta's planned CIT cut, estimating a long-term reduction of tax revenues by $350 million per year (in 2019 dollars, unadjusted for inflation or economic growth). Their estimate is based on the semi-elasticities of Alberta's CIT and PIT revenues with respect to the CIT rate. This approach arguably better incorporates tax-shifting behaviour and the interplay between CIT and PIT. However, their approach provides only a long-run estimate of the impacts, rather than a year-by-year decomposition of the separate impacts from the mechanical effect of the reduction and the boost to economic growth (and provincial revenue bases).

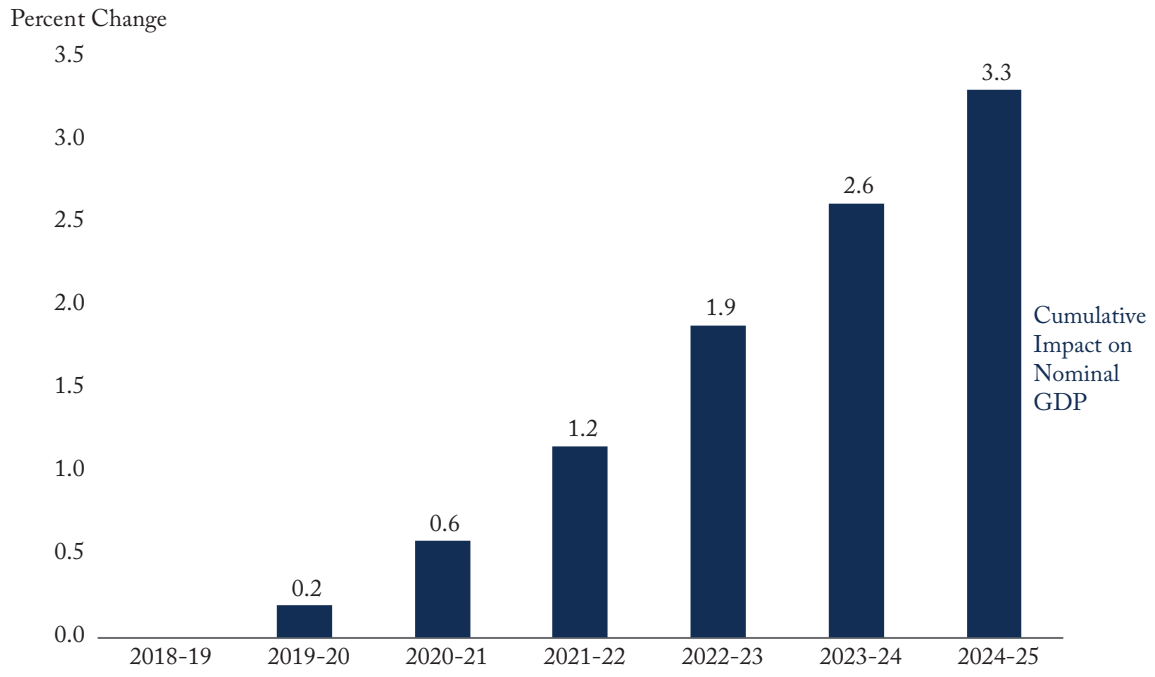
Despite the net revenue loss, the CIT rate reduction is nonetheless a recommended measure to boost the attractiveness of Alberta to businesses and overall economic growth. As shown by Ferede and Dahlby (2019), the present CIT rates in Alberta impose a higher marginal cost of public funds (representing the loss for society from raising additional dollar of revenue) than does Alberta's PIT rates or sales taxes in other provinces. Relative to other taxes, this implies a significant social benefit from reducing CIT rates. As discussed below, the reduction in CIT revenue should be complemented eventually by the implementation of a consumption tax to efficiently replace the revenue.

It is also conceivable that Alberta's reduction of its CIT rate below that of other provinces could induce corporate tax planning that shifts corporate income to Alberta from other provinces (i.e., separate from any boost to actual economic activity). The decomposition presented here, showing the separate mechanical and economic growth effects, would not capture this possible further boost to CIT revenues in Alberta.

a Briefly, based on the computed cumulative impacts of the CIT rate reduction using the coefficients from Ergete and Dahlby (2012), this assumes that the projected level of nominal GDP is 2.6 percent above its counterfactual level in 2023-24. Therefore, revenue bases for most own-source revenue (excluding resource and investment income) should be similarly 2.6 percent above counterfactual levels in 2023-24. Using the economic outlook from the MacKinnon Report (in which the CIT rate reduction has been assumed), Alberta's projected own-source revenue excluding resource revenues and investment income is $42 billion for 2023-24. This implies that $1.1 billion results from the CIT rate reduction.

b The mechanical effect of the CIT rate reduction scales with increase in the projected CIT base – and therefore the estimated impact increases in future years as nominal GDP growth increases counterfactual CIT revenue. For reference, this Shadow Budget projects CIT revenue based on an assumed share of net corporate operating surplus for each point of the CIT rate. Although highly volatile, net corporate operating surplus is assumed as a stable share of nominal GDP for the purpose of this projection. For reference, Alberta's 2018-19 Fiscal Plan estimates that every point of CIT yields $347.6 million for the 2018-19 year (see: Alberta Fiscal Plan 2018-21, p.133. Available online: https://open.alberta.ca/publications/budget-2018).

Figure 24: Estimated Impact of Reducing Alberta's CIT Rate on Nominal GDP



Source: Author's calculations based on Ferede and Dahlby (2012).

marginal rate from current 10 percent to 8 percent. Figure 25 exhibits the impact on Alberta's average PIT rates relative to other provinces, illustrating that this change would bring Alberta' average PIT tax rates for middle-income earners well below Ontario and in line with those in British Columbia. This parallels the recommendation by McKenzie (2019) for maintaining the progressive PIT rate structure but reducing average rates for middle-income earners. By creating a low average PIT rate, Alberta would ensure that workers have an incentive to locate in Alberta.

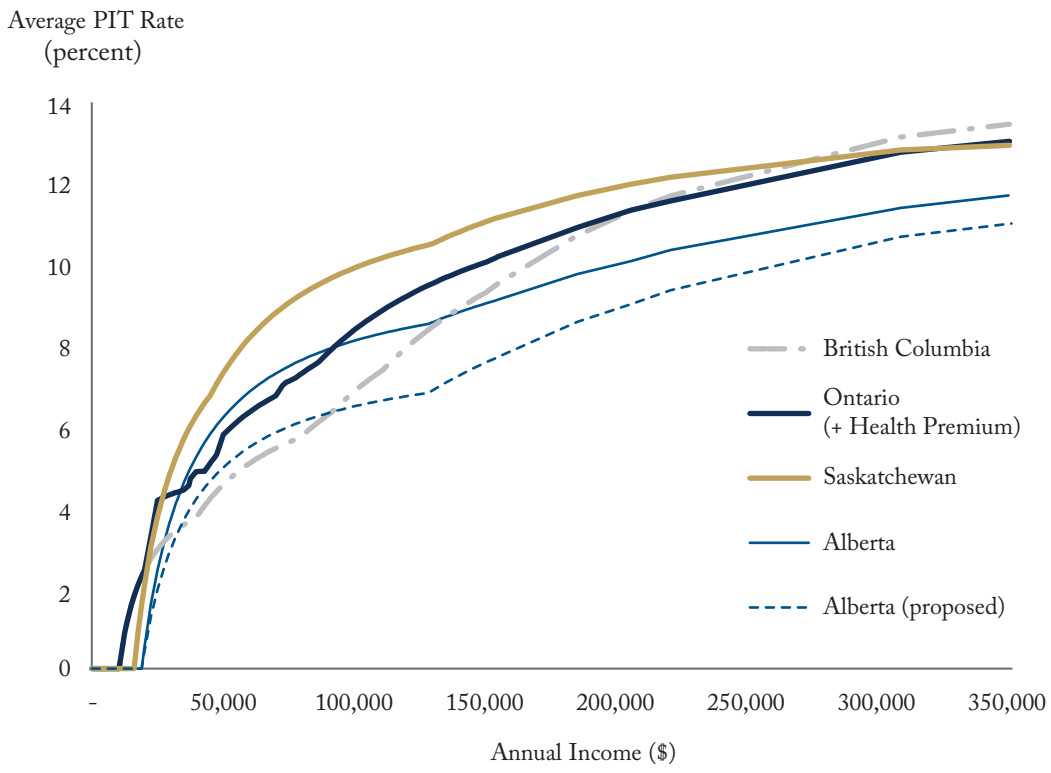
Such a reduction would lower Alberta's PIT share of personal disposable income from approximately 6.7 percent currently to 5.6 percent. Following the projected return to surplus in 2022-23, this Shadow Budget proposes a PIT cut of 2 percent to the marginal rate for the lowest tax bracket starting in 2023-24.

This reduction of the PIT rate should be accompanied by the implementation of a consumption tax. While a relatively high tax rate on personal income discourages earning income in Alberta, a consumption tax is paid only when goods and services are consumed. Relative to personal income taxation, a consumption tax rewards earning and saving income.

Replace Income Tax Revenue with a More Efficient Consumption Tax

The reduced revenue from CIT and PIT rate cuts should be offset by the implementation of a consumption tax, harmonized with the federal

Figure 25: Average Personal Income Tax Rates, by Income



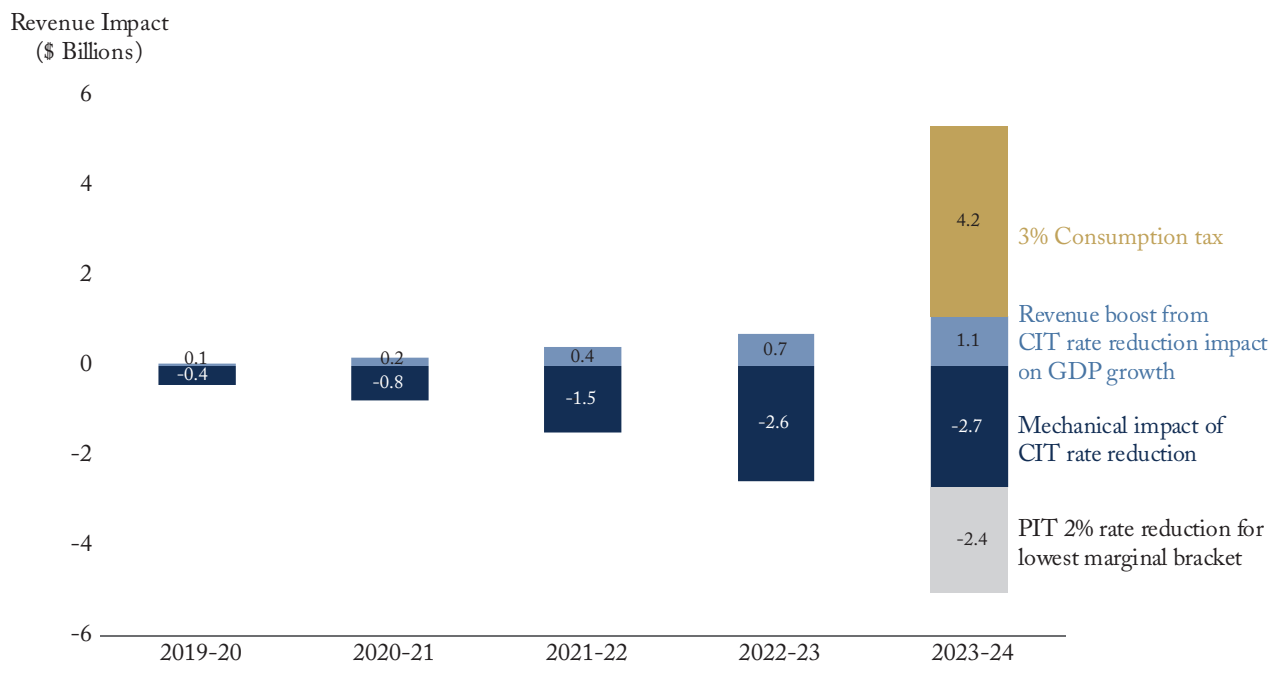
Source: Author's calculations based on Provincial and territorial tax rates for 2019 (https://www.canada.ca/en/revenue-agency/services/tax/individuals/frequently-asked-questions-individuals/canadian-income-tax-rates-individuals-current-previous-years.html#provincial).

GST, at a rate of 3 percent starting in 2023-24. By 2023-24, following the rate reductions, Alberta would raise approximately $3.8 billion less from PIT and CIT revenues than in the counterfactual.[26] However, by 2023-24, such a 3 percent consumption tax would raise around $4 billion annually, offsetting the revenue impacts of the PIT and CIT rate cuts.[27] Figure 26 exhibits the revenue impact

26 This is a static estimate of the revenue impacts of the CIT and PIT rate cuts. That is, this assumes no positive impact on GDP growth and revenues as a result of the CIT and PIT rate reductions. Even assuming a $1.1 billion uplift of revenues (following the estimates of Ferede and Dahlby), these rate reductions for CIT and PIT would still result in $4.5 billion less in revenues relative to the counterfactual.

27 Revenue from a consumption tax in Alberta is projected based on federal GST receipts from Alberta as a share of household final consumption expenditure. This is estimated from Statistics Canada data on National Accounts and Government Revenues. For 2017, GST revenue in Alberta was 3.7 percent of consumption at a GST rate of 5 percent, implying each percentage point of the GST rate yields 0.7 percent of consumption. To project consumption, this Shadow Budget uses the economic outlook in the MacKinnon Report and applies an assumed share for consumption from nominal GDP.

Figure 26: Revenue Impacts from CIT and PIT Rate Reductions and Consumption Tax



Source: Author's calculations using economic assumptions from MacKinnon Report (2019.

from implementing a consumption tax and the change in PIT and CIT revenue following the respective rate reductions.

Various economists – including McKenzie (2019), Dahlby (2012), Bazel and Mintz (2013), and Busby and Laurin (2013) – have argued for Alberta to shift from less efficient income taxes by adopting a consumption tax, harmonized with the GST. Since this is a value-added tax on final consumption, it would not distort decisions to earn income or invest. Replacing income taxes with a consumption tax rewards frugality and lets consumers choose when to pay.

The introduction of a consumption tax would be an important component of Alberta's fiscal rebalancing. This Shadow Budget envisions significant cuts to real per capita spending and the reduction of CIT and PIT rates to enhance Alberta's attractiveness to new businesses and skilled workers. However, Alberta's fiscal sustainability requires a stable long-term source of revenues. Even once Alberta's spending has been reined-in to nationwide benchmarks, Alberta would face a non-resource deficit unless offset by a consumption tax. With upcoming demographic pressures for increased program spending, Alberta would risk a tilt into spiraling deficits. A consumption tax is necessary to allow Alberta to sustainably reduce less efficient income taxes while saving resource revenues for future generations of taxpayers.

Alongside the implementation of a consumption tax, this Shadow Budget would implement a tax credit – structured like the federal GST tax credit – to offset the regressive impact on lower-income

households. Such a tax credit would reduce the net revenue from a consumption tax by roughly 10 percent.[28]

Notably, the *Alberta Taxpayer Protection Act* presently requires a referendum be put to the electorate before a bill to impose a general provincial sales tax can be put to the Legislative Assembly.[29] Understanding a consumption tax would need political approval from Albertans, this Shadow Budget envisions that the government first achieve a balanced budget through rigorous reductions in real per capita spending.[30] The government should seek approval from Albertans in a referendum, advancing the case for a consumption tax to replace other taxes, save resource revenues and ensure long-term fiscal sustainability in the face of demographic pressures.

Pricing Greenhouse Gases

A uniform economy-wide carbon price is the economically efficient approach for reducing GHG emissions to an economy-wide target. A price on GHG emissions will compel the lowest cost emitters to reduce their emissions – either by innovating to reduce the emission intensity of specific activities or restructuring towards less GHG intensive activities.

Allow a fuel surcharge under the federal backstop to replace the Alberta carbon levy

The Alberta government has removed the carbon levy facing consumers of fuels that priced GHG emissions. However, the federal government has indicated that it will impose the federal "backstop" carbon price in Alberta and recycle these revenues to Alberta households. Although a further appeal to the Supreme Court is pending, two references to Courts of Appeal in Saskatchewan and Ontario have yielded decisions that uphold the constitutionality of the federal carbon pricing backstop.

Snoddon (2018) has presented the rationale for fully recycling revenues from the fuel surcharge under the federal carbon pricing backstop to households as per capita transfers. The federal backstop preserves consumers' incentive to reduce their emissions of GHG since the fuel surcharge is an additional cost for fuel use in accordance with the GHG intensity of the fuel. However, the recycling of revenues offsets the welfare impact on households with a transfer that approximates the average cost

28 This is a conservative estimate based on data for federal GST revenue and expenditure on the GST tax credit in Alberta. The GST tax credit share of federal GST revenue in Alberta was 8 percent in 2017. See: Statistics Canada – Revenue, expenditure and budgetary balance – General governments, provincial and territorial economic accounts (Table 36-10-0450-01). Available online: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610045001.

29 See *Alberta Taxpayer Protection Act*, RSA 2000, c A-36. Given parliamentary supremacy, the Legislative Assembly could vote to rescind this legislation and thereby legally pass legislation for a consumption tax. However, this current legislative requirement is effectively politically binding for a government and reflects the understanding that Albertans should provide consent for such a new tax.

30 An economic argument might be made to accelerate the implementation of a consumption tax and the corresponding PIT reduction. To the extent that the consumption tax helps offset cuts to more distortionary corporate and personal income taxes, earlier implementation would be better. However, while less distortionary than CIT or PIT, a consumption tax still imposes some loss on the overall economy. Given Alberta's demonstrated overspending on public services, it is preferable to restore a positive budget balance through expenditure restraint rather than new revenues. As well, there is some international empirical evidence that spending-based austerity plans are significantly less costly than tax-based plans (see Alesina, Favero and Giavazzi 2019).

of a consumer's GHG emissions. In combination, the fuel surcharge provides a "substitution effect" by increasing the relative cost of GHG emissions, while the recycling of revenues as lump-sum transfers provides an "income effect" that offsets the average additional cost from the fuel surcharge.

Notably, Alberta could exert more control over these revenues by re-introducing a carbon levy itself or requesting the federal backstop. Arguably, this would allow Alberta to better tailor the recycling of these revenues.[31]

Nonetheless, since the federal government will recycle fuel surcharge revenues directly to Alberta households, this Shadow Budget would not re-introduce a fuel surcharge in Alberta. While not as efficient as recycling these revenues through the reduction of other taxes, the lump-sum transfers ensure a transparent return of the revenues. The elimination of the carbon fuel surcharge represents a reduction in revenues of approximately $1.3 billion in 2019-20. This reduction in revenues would be partially offset by reduced spending under Alberta's Climate Leadership Plan.[32]

Retain product-specific benchmarks for output-based carbon pricing facing large emitters

For large emitters, this Shadow Budget would maintain an output-based pricing system with product-specific benchmarks, similar to that under the Carbon Competitiveness Incentive Regulation (CCIR).

Notably, Alberta's government has proposed a Technology Incentive Emission Reduction (TIER) that would impose a facility-specific benchmark based on a facility's historical performance. Importantly, like an output-based pricing system with a product-specific benchmark, the TIER would preserve the marginal incentive for a facility to invest in new technology that reduces emission intensity. However, a facility-specific benchmark would provide no carbon cost advantage for a lower emission facility that might have already invested in lowering its emission intensity.

Nonetheless, the Alberta government's discussion document for TIER indicates an openness to applying product-specific benchmarks to new and significantly expanded facilities, as well as allowing facilities to opt in to a product-specific benchmark (see Alberta Environment and Parks, 2019). A submission by the C.D. Howe Institute to the Alberta government's consultations on TIER recommended product-specific benchmarks as the most economically efficient and fair approach for output-based carbon pricing (see Bishop 2019).

Conclusion

The upcoming budget will be a defining moment in Alberta's fiscal trajectory. It presents a once-in-a-generation opportunity to shape the economic and fiscal direction for this province for the next decades. This budget will either confront Alberta's present unsustainable fiscal outlook or postpone hard decisions, meaning more painful adjustment down the road.

This Shadow Budget has outlined a fiscal program that freezes expenditures and rebalances revenue for a more competitive tax system. This program shows how Alberta can save resource revenues for our future, ensuring that future generations share in the benefits of the province's

31 For example, in comparison with the lump-sum transfers to individuals, McKenzie (2019) argues that Alberta could more efficiently recycle revenues from the carbon levy though a CIT rate cut or directing these to other public expenditures.

32 Beyond 2019-20, not all revenues from the carbon levy and the Climate Change and Emissions Management Fund were recycled in planned spending through the Climate Change Leadership Program (CCLP). Therefore, the reduction of revenue from the elimination of the carbon levy cannot be offset through decreases in expenditure through the CCLP.

present wealth. Importantly, this Shadow Budget illustrates the magnitude of fiscal adjustment that will be required to move to a sustainable long-run fiscal course in the face of inevitable demographic trends.

As well, given the pledge for a freeze on program spending in the United Conservative Party's election platform, this Shadow Budget emphasizes the practical requirement for real per capita spending reductions and proposes reining in key components of health and education spending to nationwide benchmarks. With the aim of restructuring Alberta's taxation to attract new business and workers, this Shadow Budget echoes a long line of economists in advocating a consumption tax to replace revenue from reductions in rates on corporate and personal income.

While there are other paths to a sustainable fiscal balance than that laid out in this Shadow Budget, these would require trade-offs – either further raising taxes or cutting public services. The outlook must not be limited to next year's budget tally, but include the implications for the decades to come. In making the difficult decisions ahead, Albertans must take a long and hard look at how the province compares to its peers and support action to ensure that Alberta remains a competitive place to live, work and invest.

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