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REVENUE OPTIONS TO CLOSE THE FISCAL GAP IN ALBERTA: PICK YOUR POISON

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ALBERTA FUTURES PROJECT PRE-PUBLICATION SERIES

Alberta has a long history of facing serious challenges to its economy, including shocks in the form of resource price instability, market access constraints, and federal energy policies. However, the recent and current challenges seem more threatening. It seems that this time is truly different.

The collapse of oil and gas prices in 2014 combined with the rapid growth of U.S. oil production, difficulties in obtaining approval for infrastructure to reach new markets and uncertainty regarding the impacts of climate change policies world-wide have proven to be strong headwinds for the province's key energy sector. Together, the negative effects on employment, incomes and provincial government revenues have been substantial. To make matters worse, in early 2020 the COVID-19 pandemic struck a major blow to the lives and health of segments of the population and to livelihoods in many sectors. The result has been further employment and income losses, more reductions in government revenues and huge increases in government expenditures and debt. These events, combined with lagging productivity, rapid technological shifts, significant climate policy impacts and demographic trends, call for great wisdom, innovation, collective action and leadership to put the province on the path of sustainable prosperity.

It is in this context that we commissioned a series of papers from a wide range of authors to discuss Alberta's economic future, its fiscal future and the future of health care. The plan is that these papers will ultimately be chapters in three e-books published by the School of Public Policy. However, in the interest of timeliness and encouraging discussion, we are releasing selected chapters as pre-publications.

INTRODUCTION

In this paper we examine government revenue options for Alberta in light of the “twin crises” precipitated by the COVID-19 pandemic and changes in the market for fossil fuels. The pandemic has dealt a historic blow to economies worldwide. Alberta is no exception. However, as we emerge from the pandemic, and converge to an uncertain “new normal”, Alberta faces additional challenges. The energy sector, which has been the backbone of Alberta’s economy for decades, was under pressure prior to the pandemic. While the sector will no doubt be subject to the “fits and starts” going forward that Albertans are well used to, this underlying pressure is unlikely to ease as Canada implements policies to meet its environmental obligations under the Paris Agreement by 2030 and the more ambitious “net zero” objective by 2050. Related to this is the decline in the growth of the demand for fossil fuels that will inevitably accompany similar obligations on an international level. And all of this is layered on top of uncertain technological developments in fossil fuels, carbon abatement and renewables going forward.

It thus seems clear that the Alberta of the future will differ from the Alberta of the past. While the precise pathway and speed of these changes are uncertain, they are inevitable in the broad strokes. And there is little doubt that they have important implications for Alberta’s economy and for its underlying fiscal framework. In this paper we focus primarily on the revenue side of the fiscal equation. However, it is important to consider Alberta’s revenue system within the broader fiscal context.

We anchor our discussion to the notion of fiscal sustainability. As explained by Trevor Tombe in his contribution to this volume,¹ the fiscal gap is a measure of fiscal sustainability based on the path of the debt/GDP ratio. A fiscal configuration that results in a rising debt/GDP ratio over time is said to be fiscally unsustainable. The fiscal gap measures the difference between revenues and program expenditures as a percentage of GDP required to maintain a stable debt/GDP ratio over a given period. The fiscal gap is therefore a forward-looking concept, reflecting projected future program expenditures and revenues under the current configuration as determined by underlying assumptions regarding population growth, demographics (aging), labour productivity, interest rates, inflation, etc. It is important to emphasize that the fiscal gap is a dynamic concept, and therefore differs from the deficit which is measured at a point in time.

Over a 10-year period Tombe calculates Alberta’s fiscal gap to be about 4.2 percentage points of GDP, which is the second highest in the country.² Using the nominal GDP forecast in the 2021 budget this is equivalent to about \$15.1 billion in 2022. This means

¹ Tombe (2021), which is an extension of Tombe (2020).

² Behind Newfoundland and Labrador. Tombe’s calculations of the fiscal gap measured over longer time periods are similar: 4.0% for 25 years, 4.3% for 50 and 75 years, 4.1% for 100 years. It should be noted that the Parliamentary Budget Officer (PBO) calculates Alberta’s fiscal gap to be significantly lower, at 2.1 per cent (https://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/RP-2021-033-S/RP-2021-033-S_en.pdf). As explained by Tombe (2020), the difference is because he considers various revenue streams individually on a disaggregated basis, while the PBO aggregates own-source revenue and assumes that it simply grows with GDP. Tombe also includes capital expenditures, while the PBO does not. For these reasons we think that the Tombe number is a more accurate depiction of Alberta’s fiscal situation.

that Alberta's finances are not sustainable under the current configuration of taxes and expenditures, and the debt/GDP ratio is projected to rise over this period. Any combination of an increase in revenues or decrease in program expenditures, as a percentage of GDP, that add to 4.2 percentage points is required to close the fiscal gap and put the province on a fiscally sustainable track by this definition.

The debate surrounding the sustainability of the province's finances is sometimes framed in terms of whether Alberta has a "revenue problem" or a "spending problem". This is a false dichotomy. Alberta has a "sustainability problem", one which can be addressed by working on either side of the budget, or both. While choosing how to address this problem may involve difficult economic and political decisions, with the inevitable trade-offs, the underlying math is simple and inescapable. And choose we must.

We therefore discipline our analysis by considering policy configurations that will, by our calculations, roughly eliminate the fiscal gap over a ten-year period. This is the dynamic equivalent to a revenue neutral or balanced budget analysis of changes to public finances. By constraining our analysis in this way, three idioms inform our discussion throughout: "there is no such thing as a free lunch", the province must "follow the money" and "pick its poison".

Having said this, we do not take a strong stand on whether completely closing the fiscal gap is indeed optimal from a welfare perspective. In a low interest rate environment this is in fact an open question.³ Rather, the approach taken here is to discipline the analysis so as to compare "apples to apples" in various scenarios that close the fiscal gap. To the extent that policies aimed at reducing, but not closing, the fiscal gap are adopted the numbers presented below can be scaled accordingly.

We argue that while Alberta's current fiscal configuration is not sustainable, and is in need of an overhaul, it is not as bad as may be thought. The reason for this is that the province has access to policy levers on both sides of the ledger, and in particular to some untapped revenue sources, that can be used to move the province's finances to fiscal sustainability. We present some alternatives below that, while recognizing that some difficult choices need to be made, retain at least some aspects of the "Alberta Advantage" in fiscal policy that the province has enjoyed in the past. And, yes, to address the elephant in the room at the outset, in our view this should include a provincial sales tax harmonized with the GST.

But to see where we need to go, we need to know where we have been and where we are at.

WHERE WE HAVE BEEN

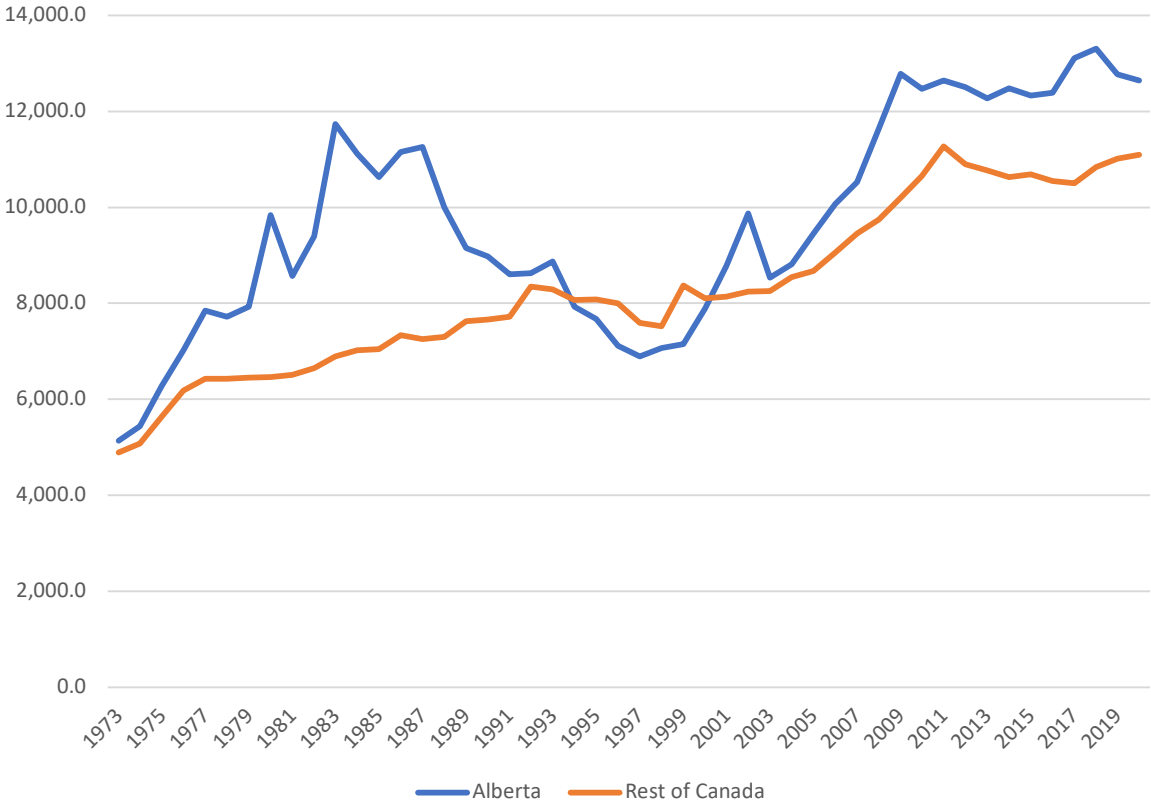
Figures 1 through 5 provide a glimpse of Alberta's fiscal situation over four and half decades. Looking first at provincial program expenditures⁴, Figure 1 shows real per capita program spending in Alberta compared to the rest of Canada (ROC), excluding

³ See, for example, Blanchard (2019).

⁴ Program expenditures exclude interest payments on government debt.

Alberta.⁵ It is evident that throughout much of the period per capita expenditures in Alberta have been higher than the rest of the country. The exception is the period between 1994 and 2000, when real per capita expenditures were reduced significantly under the “Klein Revolution”. In 2020, per capita expenditures in Alberta were almost 14 per cent higher than the rest of Canada. It is fair to say that this difference in per capita spending between Alberta and the rest of Canada is the source of the claim that Alberta has a “spending problem.” For example, many of the recommendations contained in the 2019 report of Blue Ribbon Panel on Alberta’s Finances (the “MacKinnon Report”) are justified on the basis of per capita spending in Alberta being out of line with other provinces on several dimensions.⁶

Figure 1: Real Per Capita Program Expenditures, Alberta and the Rest of Canada



Source: Finances of the Nation Government Finances Database at <https://financesofthenation.ca/>. Rest of Canada does not include Alberta.

Notes: 2012 dollars.

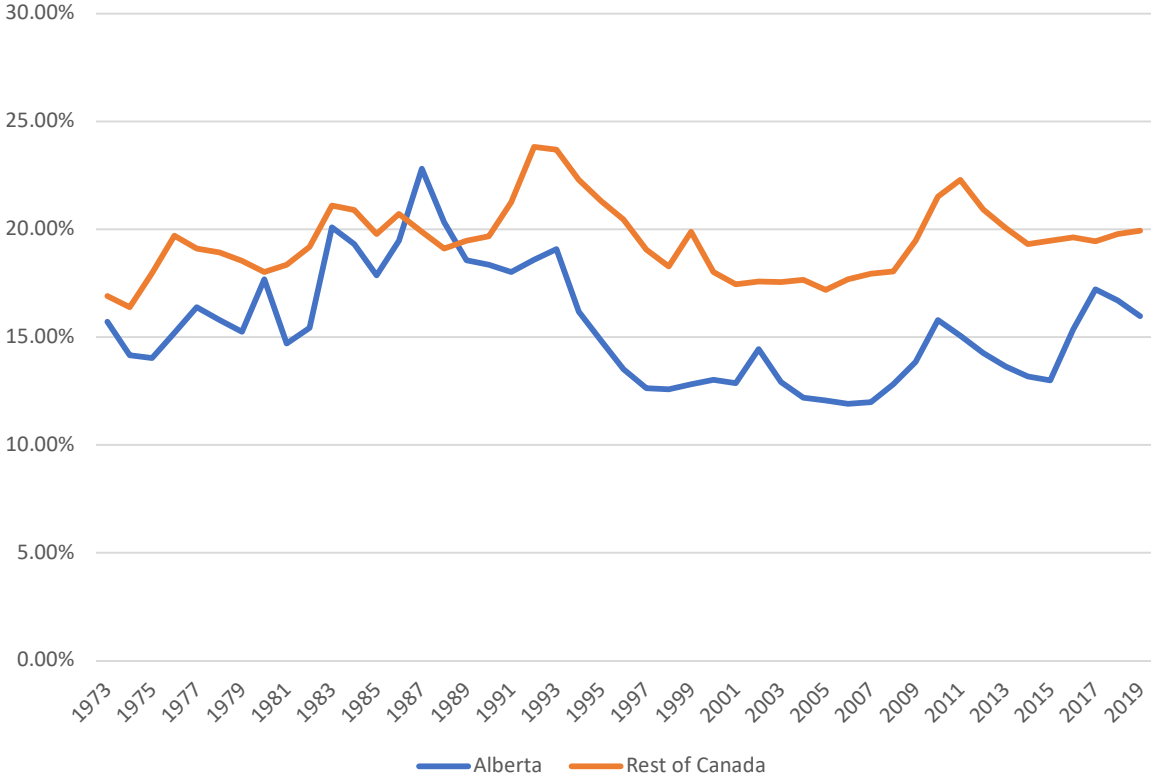
Expressing program spending relative to GDP in Figure 2 tells a different story. Here we see that spending as a percentage of GDP has typically been lower in Alberta than the rest of Canada, most particularly from the mid-90’s on. This is due in large part to the large role that the oil and gas sector plays in the Alberta economy relative to the rest of

⁵ Rather than using the “Rest of Canada” as a comparator the large provinces of Ontario, B.C. and Quebec are sometimes employed (e.g., in the MacKinnon Report). This does not make a substantial difference as the per capita figures for the “Rest of Canada” are dominated by the three largest provinces.

⁶ Blue Ribbon Panel (2019).

the country, which increases per capita GDP in Alberta significantly. As the anticipated decline in the relative importance of the oil and gas sector in the province's economy takes hold over the next several decades, this is expected to moderate.

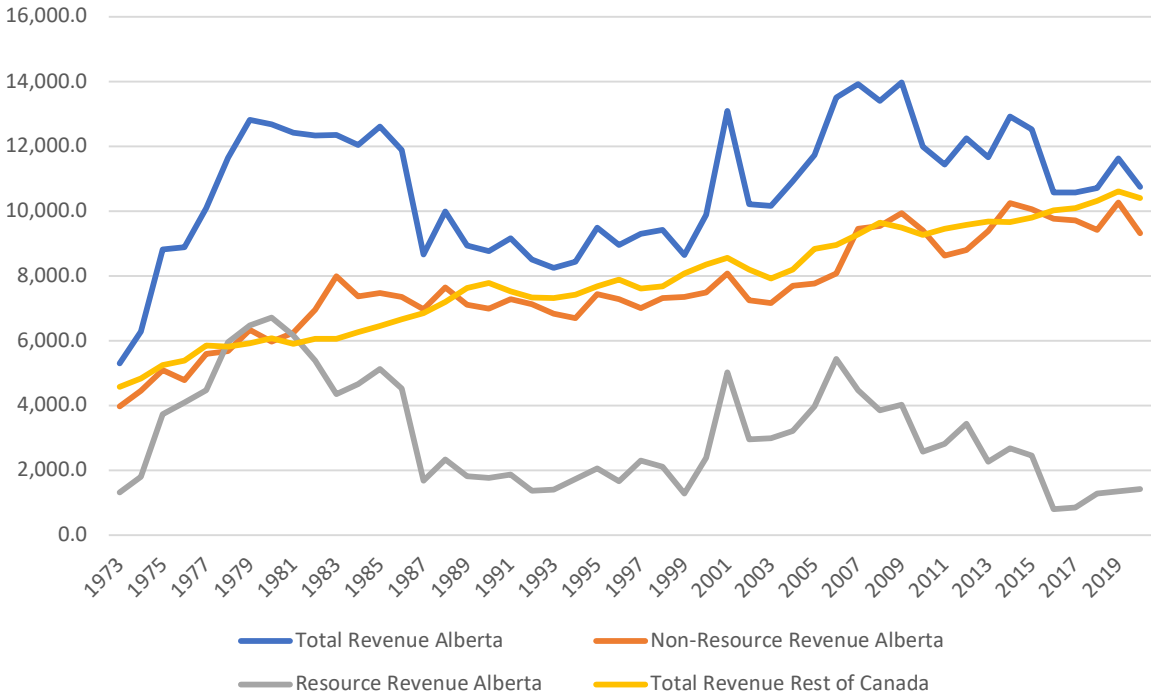
Figure 2: Program Expenditures as a Per Cent of GDP, Alberta and the Rest of Canada



Source: Finances of the Nation Government Finances Database at <https://financesofthenation.ca/>. Rest of Canada does not include Alberta.

Turning to revenue, Figure 3 shows real per capita revenue in Alberta versus the rest of Canada. For Alberta we show total revenue, non-resource revenue, and resource revenue separately. Several things are evident from the figure. In terms of total revenue, Alberta's real per capita revenue has exceeded the average of the rest of the country throughout the period. This, of course, is because of resource revenue. Note, however, that in 2020 Alberta was very close to the rest of the country. Per capita non-resource revenue in Alberta has been closer to the rest of Canada but has tended on the whole to be slightly lower. Also evident from the figure is the high degree of volatility in total and resource revenue in Alberta, and the precipitous decline starting in 2006.

Figure 3: Real Per Capita Revenue, Alberta and the Rest of Canada

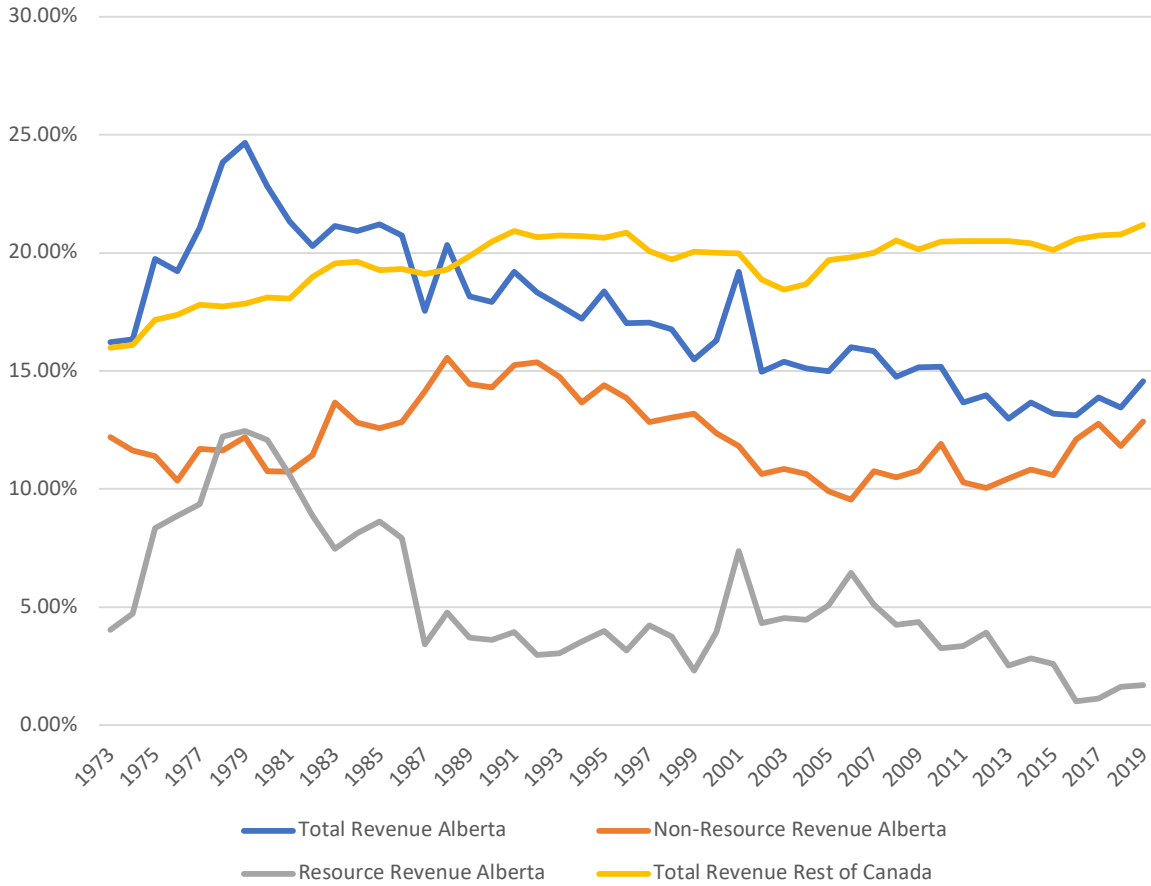


Source: Finances of the Nation Government Finances Database at <https://financesofthenation.ca/>. Rest of Canada does not include Alberta.

Notes: 2012 dollars.

Again, expressing revenue as a share of GDP in Figure 4 tells a different story. Here we see that since 1990 Alberta’s total revenue as a percentage of GDP has been lower than the rest of Canada, and has fallen significantly in the 2000’s. This is due in large part to drop in resource revenue, as non-resource revenue has remained relatively stable as a share of GDP.

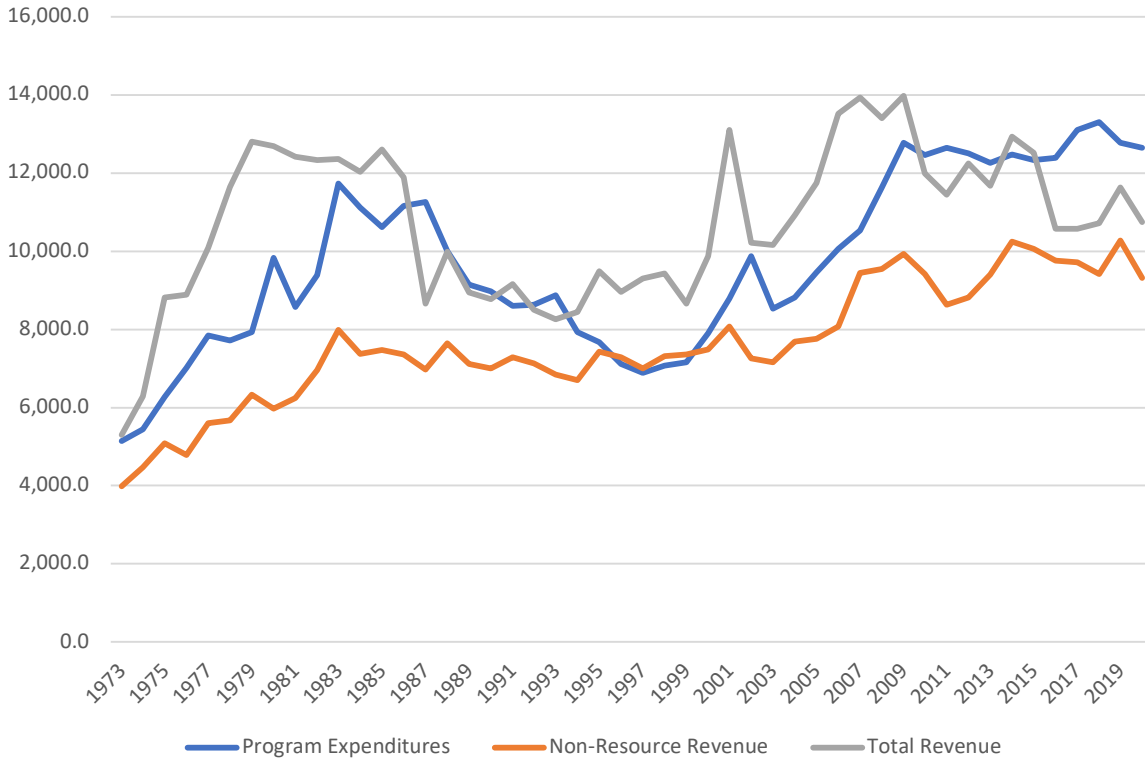
Figure 4: Revenue as a Per Cent of GDP, Alberta and the Rest of Canada



Source: Finances of the Nation Government Finances Database at <https://financesofthenation.ca/>. Rest of Canada does not include Alberta.

Finally, Figure 5 shows program expenditures together with total and non-resource revenue in Alberta in real per capita terms. This, in a nutshell, illustrates the essence of the so-called “Alberta Advantage”. For much of the last 45 years government spending in the province has somewhat closely tracked total revenue on a per capita basis, but been significantly higher than non-resource revenue, the exception being the Klein years from 1995-2000. As such, Albertans have been able to enjoy relatively high per capita program spending without having to pay for it through higher (non-resource) taxes. The reason, of course, is resource revenue. This has resulted in a sort of “fiscal illusion”, whereby Albertans don’t “see” the full cost of government goods and services reflected in their taxes, with resource revenue paying some of the freight.

Figure 5: Real Per Capita Program Expenditures and Revenue, Alberta



Source: Finances of the Nation Government Finances Database at <https://financesofthenation.ca/>. Rest of Canada does not include Alberta.

Notes: 2012 dollars.

This is changing. In response to the release of the MacKinnon Report Alberta Finance Minister Travis Towe opined, “We can no longer spend like we’re the rich kids on the block because, quite frankly, we’re not anymore.”⁷ The flip side is that we can no longer tax like we’re the rich kid on the block. The money generated from our “trust fund” (our endowment of natural resources) is being squeezed. It is time for the rich kids to cut the apron strings and face the “real world”.

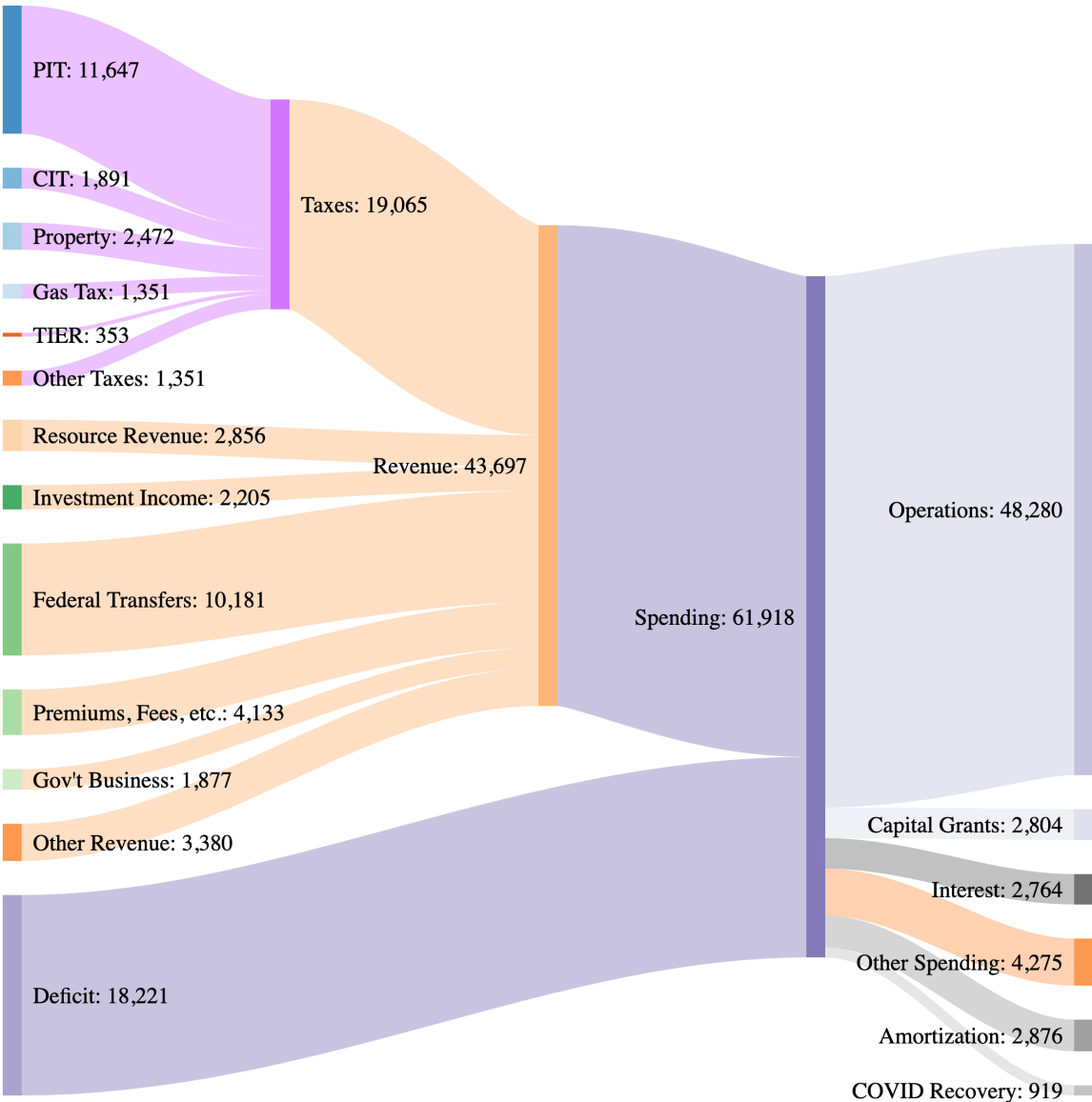
WHERE WE ARE AT

Before turning to a discussion of revenue options going forward, we briefly discuss the current financial status of the province.

Figure 6 presents the estimated financial flows for 2021/22 from the most recent Alberta budget. Total spending, including capital spending, is estimated to be about \$61.9 billion, financed by total revenue of \$43.7 billion and a deficit of \$18.2 billion.

⁷ <https://www.thestar.com/business/2019/09/04/no-longer-the-rich-kids-on-the-block-alberta-finance-minister-sells-restraint.html>

Figure 6: Government of Alberta Estimated Financial Flows 2021/22



Source: Government of Alberta Budget 2021, *Fiscal Plan: Protecting Lives and Livelihoods*. Created with Sankeymatic.com.

On the revenue side, which is the focus of our analysis, we see that taxes in aggregate are estimated to generate a little over \$19.0 billion, or 43.6 per cent of total revenue. Looking at tax revenue, personal income taxes are by far the single biggest source of revenue, accounting for 26.6 per cent of total revenue, followed by property taxes (5.7 per cent) and corporate income taxes (4.3 per cent). Resource revenue of \$2.9 billion accounts for about 6.5 per cent of total revenue. There are a plethora of fees, licenses, premiums and other tax and revenue sources that in aggregate account for about 20.2 per cent of total revenue. Also identified is \$353 million in revenue from the TIER (*Technology Innovation and Emissions Reduction*) regulations, which is the provincial carbon tax imposed on large industrial emitters. More on this below. Notably absent from the diagram, of course, is revenue from a provincial sales tax as Alberta is the only province in the country that does not impose such a tax. More on this below.

On the expenditure side government operations (program spending on health, education, advanced education, social services, etc.) account for the bulk (78.0 per cent) of total spending, with capital spending, interest, other spending, etc. taking up the rest. The government estimates \$919 million in spending for COVID-19 recovery in 2021/22.

WHERE WE NEED TO GO

From the perspective of the sustainability of its public finances, the current fiscal configuration in Alberta is untenable; the province has a sizable fiscal gap that needs to be addressed going forward, one way or another. We think a balanced approach is best.

In this regard, recall from above that in per capita terms program spending is about 14 per cent higher than the rest of Canada (see Figure 1). Using Tombe's estimate of Alberta's fiscal gap of 4.2 percentage points of GDP, our calculations suggest that reducing per capita program spending in Alberta to the average of the rest of Canada would lower the fiscal gap by about 2.1 percentage points, or 50 per cent. Thus, if the province spends like the rest of Canada going forward, rather than the rich kids on the block, it can eliminate half of the fiscal gap, leaving the rest to be taken care of by higher revenues. We therefore take this as a reasonable starting point, and "anchor" our subsequent calculations accordingly. Indeed, in the April 2021 budget the government announced that bringing Alberta's spending in line with the other provinces as an explicit policy objective, and one of the intermediate term "fiscal anchors" guiding government finances going forward.⁸ The numbers presented below can be scaled appropriately if more or less is done on the expenditure side.

In considering alternative revenue sources to close the rest of the fiscal gap two broad concepts guide our discussion: efficiency and equity. Efficiency in "econ-speak" refers to the distortionary impact of a tax. All taxes are distortionary because they alter prices which in turn results in changes in economic behaviour. The greater are the behavioural effects the more distortionary and less efficient is the tax, and the greater are the costs imposed on the economy.⁹ Equity concerns the distribution of the burden of a tax, typically across different income groups. As a general rule, when evaluating alternative revenue sources there is an equity-efficiency trade-off; in order to get more of one you have to give up some of the other.

We now turn to an evaluation of some alternative revenue sources to assist in closing the fiscal gap. The revenue increases from various options we consider are shown in Table 1 as a percentage of GDP and as a percentage of the fiscal gap. This table is referred to throughout. We begin with the elephant in the room: an Alberta Sales Tax.

⁸ See Dahlby's (2021) contribution to this volume for more discussion on fiscal anchors.

⁹ See McKenzie (2019) for further discussion in this context.

Table 1: Options for Closing the 4.2 Percentage Point Fiscal Gap by 2030

	Expenditure Restraint to Equal ROC	6% PST	Carbon Tax Average Rebate	Carbon Tax Targeted Rebated	PIT Increase 2 pp Lower Three Brackets	PIT Increase 4 pp Top Two Brackets
Per cent of GDP	2.10	1.11	0.59	1.11	1.03	0.13
Per cent of Fiscal Gap	50.0	26.5	14.0	26.5	24.6	3.2

Source: Author calculations. Some of the calculations used Statistics Canada Social Policy Simulation Database and Model (SPSD/M). The assumptions and calculations underlying the simulations were prepared by the authors and the responsibility for the use and interpretation of these data lies entirely with them.

Notes: It is assumed that PST and PIT revenues grow proportionately with GDP. Carbon tax revenues are based on federal government projections. The PST scenario includes provincial credits commensurate with the federal GST credit. All calculations present the total impact on revenue, which is equal to the mechanical effect of the tax change less the behavioural effect which accounts for the associated shrinkage in the tax base.

THE ELEPHANT IN THE ROOM: AN ALBERTA SALES TAX

We are certainly not the first to address the issue of a provincial sales tax (PST) in Alberta.¹⁰ The introduction of a sales tax harmonized with the federal GST (a harmonized sales tax, or HST) has been recommended by economists for years, for different purposes. Several School of Public Policy papers have analyzed sales taxes in an Alberta context. For example, Bazel and Mintz (2013) argue that a PST of eight per cent (a 13 per cent HST) would enhance Alberta’s competitiveness by providing enough revenues to eliminate the personal income tax for the majority of Albertans and to reduce the corporate income tax by more than 15 per cent. McKenzie (2019) similarly argues that a sales tax in Alberta would be an efficient, stable and non-volatile revenue source that would help get the province off of the royalty roller-coaster. Finally, and more in keeping with the theme of this paper, Tombe (2018) discusses the role of a sales tax in addressing Alberta’s fiscal gap.

The lack of a PST appears to be a matter of provincial pride, and an important part of the often touted “Alberta Advantage”. However, the absence of a sales tax in the province’s fiscal tool-kit is an outlier, both nationally and internationally. Of course all of the other provinces have some form of a sales tax.¹¹ The United States is the only Organization for Economic Co-operation and Development (OECD) member country without a national value-added tax,¹² however 45 U.S. states levy sales taxes, and local sales taxes are imposed in 38 U.S. states.¹³ In 2018, VAT/GST-type taxes were responsible for an average of 20.4 per cent of total tax revenues (equivalent to 6.8 per cent of GDP) in OECD countries (OECD 2020 Annex 1.A.4). In Canada this figure was only 13.6 per cent (4.4 per cent of GDP), where the low 5 per cent national GST rate is supplemented by provincial sales taxes in all provinces except Alberta.

¹⁰ Throughout we use PST to refer to the provincial part of a harmonized sales tax (HST). The total HST rate is the sum of the PST and the federal GST.

¹¹ None of the three territories levy a sales tax.

¹² OECD (2020) Annex 1.A.4

¹³ <https://taxfoundation.org/publications/state-and-local-sales-tax-rates/>

The introduction of a PST is clearly challenging from a political perspective. Consumption taxes are visible and, as a result, unpopular. In October 1990, less than two months before the introduction of the federal GST, a Maclean's article called it "an obsession" and "the most unpopular levy since the days of the Boston Tea Party",¹⁴ with a slim chance of success. However, a little more than a decade later, the GST is viewed as perhaps the most important legacy of Brian Mulroney's tenure of Prime Minister, more important than the signing of the Free Trade Agreement with U.S. and Mexico.¹⁵

Leaving aside how difficult it might be to "sell" a PST in Alberta, from an economic point of view it is commonly viewed as one of the least costly ways of generating revenue.¹⁶ As a general rule, people do not like paying taxes and try to avoid them by avoiding the goods or activities being taxed. Income taxes discourage earning (or reporting) income, corporate taxes discourage investment, sales taxes discourage consumption. Economists refer to these as behavioral changes. Relative to other taxes, both theory and evidence suggest that the behavioural changes in response to sales taxes are quite small; in economic jargon, the elasticity of the tax base with respect to the tax rate is relatively low. Due to these relatively small behavioral effects, sales taxes are largely viewed as one of the least distortionary and therefore most efficient ways of raising revenue, more so than personal income taxes, and certainly corporate income taxes.¹⁷ From a growth perspective there is some evidence suggesting that changing the tax mix to favour consumption taxation is associated with higher growth in GDP per capita.¹⁸

Another advantage of sales taxes is that they raise revenue from everyone who spends their income in a jurisdiction: residents, tourists, visitors, temporary workers. Bazel and Mintz (2013) estimate that approximately 10 per cent of the tax revenues expected to be collected from an eight per cent Alberta PST would come from non-residents.

One of the common arguments against sales taxes is that they are regressive, imposing a greater burden on low-income families than high income families. This is debatable. A progressive tax system imposes a higher tax rate on those with a higher "standard of living." The question then becomes how do we measure the "standard of living?" Many economists argue that consumption is in fact a better measure of standard of living than current income. Consumption out of inherited wealth, or offshore income not reported to tax authorities, etc., is subject to sales taxes, but not income taxes. Moreover, increased reliance on sales taxation can shift some of the burden of taxes to older generations who have benefited from previous periods of buoyant economic growth, and who will benefit from publicly funded health care as the population ages going forward. Finally, and importantly, even if sales taxes are regressive, this can be

¹⁴ Newman (1990)

¹⁵ Policy Options (2003).

¹⁶ See Dahlby and Ferede (2016).

¹⁷ See McKenzie (2019) for a discussion.

¹⁸ For example, see Arnold et al (2011).

taken care of by way of a refundable tax credit similar to the federal GST credit aimed at low-income earners.

We consider a PST rate of six per cent harmonized with the federal GST, giving an HST of 11 per cent in Alberta. This would be the lowest HST rate amongst the Canadian provinces (tied with Saskatchewan) and would put Alberta slightly above all U.S states¹⁹ but it would still be the sixth lowest rate among the 38 OECD countries.²⁰

The total effect on revenue of introducing a PST in Alberta consists of the mechanical effect, which ignores any shrinkage in the tax base, less the behavioural effect, which accounts for the shrinkage in the base as consumers respond to the tax by reducing expenditures. While the behavioural effect of sales taxes is small, it is not zero. Thus, unlike most previous studies, we incorporate behavioural responses into our calculations. There are not many studies of the sensitivity of the sales tax base in Canada to changes in the PST rate. One recent examination by Smart (2021) considers the impact of the reduction in the PST rate in Saskatchewan in 2006 from seven to five per cent. He estimates this led to a 5.4 per cent increase in retail sales. We use this result to model the behavioural effect of the introduction of a PST in Alberta.²¹

By our calculations the mechanical effect of a PST of six per cent, coupled with a provincial low-income credit equivalent to the federal GST credit, would generate about \$4.86 billion in revenue in 2022, which is about 1.35 per cent of GDP. Thus, ignoring behavioural effects, a six per cent PST would lower the fiscal gap by 32.1 per cent. However, accounting for the shrinkage in the tax base due to behavioural effects lowers the revenue generated by the tax by about \$860 million, giving total revenue of \$4.0 billion, which is 1.11 per cent of GDP and would close about 26.5 per cent of the fiscal gap.

Thus, by our calculations, incorporating behavioural effects and providing a credit to low-income households, a six per cent PST in Alberta coupled with a reduction in per capita expenditures to equal the rest of Canada, would close about 3.21 percentage points, or about 76.5 per cent, of the fiscal gap (see Table 1). The question then becomes, where can the province get the rest of the money?

¹⁹ California has the highest state-level sales tax rate, at 7.25 per cent. After including city, county and municipal sales taxes the average sales tax in California is 8.68 per cent. Five U.S. states have combined state-local sales tax rates of more than 9 per cent (Tennessee, Louisiana, Arkansas, Washington, Alabama). See <https://taxfoundation.org/publications/state-and-local-sales-tax-rates/>.

²⁰ After U.S. (no national sales tax), Switzerland (7.7 per cent), Japan, Australia and Korea (10 per cent). The OECD average VAT rate is 19.3 per cent.

²¹ We assume that the Saskatchewan PST is applied to the same base as the federal GST, recognizing that this is an approximation. The 2 percentage point reduction in the PST thus results in a 16.7 per cent reduction in the combined provincial plus federal sales tax rate. Combined with Smart's estimate of the increase in sales of 5.4 per cent, this suggests an elasticity of the sales tax base of 0.32. We then use the standard formula to decompose the total revenue effect of a change in the sales tax rate into a mechanical effect less the behavioural effect.

REPATRIATE THE CONSUMER CARBON TAX

The history of carbon taxes in Alberta has been, to say the least, a long and winding road. By our count, the province is currently operating under its third carbon tax regime in the last 14 years. In our view, and in light of the Supreme Court of Canada establishing the constitutional authority of the federal government to impose a so-called “backstop” carbon tax in provinces that do not comply with federal standards, it is time to move to a fourth-generation regime. But first a bit of history. It is important to distinguish between carbon taxes applied to large industrial facilities and to consumers and other businesses separately.

Alberta was the first jurisdiction in Canada to impose a carbon tax, under the *Specified Gas Emitters Regulation* (SEGR) introduced in 2007. The SEGR applied to large industrial facilities emitting more than 100,000 tonnes of carbon dioxide equivalent per year. In 2018 SEGR was replaced by the *Carbon Competitiveness Incentive Regulation* (CCIR). Alberta has been a pioneer in the use of output-based pricing systems (OBPS) in the application of carbon taxes to large industrial emitters. The OBPS is intended to provide a price incentive for large industrial facilities to reduce emissions while maintaining competitiveness for carbon-intensive trade-exposed industries, and protect against “carbon leakage” to other jurisdictions. Under the OBPS intensity-based emission targets, or benchmarks, are established. If a facility’s emissions exceed the benchmark, it must purchase carbon credits at the price set by the carbon tax; if emissions are lower than the benchmark, it may sell credits accordingly. Under the CCIR, the OBPS emissions targets for individual facilities were, for the most part, based on industry-wide intensity benchmarks, whereby each facility in a specific industry shared a common emission intensity standard. The CCIR was replaced by the *Technology Innovation and Emissions Reduction* (TIER) Regulation in 2020, which modified the OBPS, moving away from the industry-wide benchmarks to facility specific benchmarks based on historical performance.²² The industrial carbon tax under TIER applies to about 60 per cent of Alberta’s carbon emissions.²³ The TIER meets the federally mandated carbon standards for large emitters established by the federal government. As such, the backstop federal carbon tax on large emitters does not apply to large facilities in Alberta and all of the revenue generated by TIER stays in Alberta. As mentioned above, in 2021/22 the TIER is estimated to generate about \$353 million in revenue.

The so-called consumer carbon tax was introduced in Alberta in 2017. The tax was applied economy wide to various fuels based on their carbon content. This tax was eliminated in 2020, ostensibly to “create jobs and put more money back into the pockets of hard-working Albertans”.²⁴ However, under the federal government’s *Greenhouse Gas Pollution Pricing Act* (GGPA), the provincial carbon tax was replaced with the federal backstop, the *Federal Fuel Surcharge*. Under the federal backstop,

²² Each facility’s allowable emissions threshold is based on the average past performance of that facility between 2016-2018.

²³ Smaller firms, emitting less than 100,000 tonnes, may choose to opt-in to the TIER.

²⁴ Jason Kenney, as quoted in a government press release at <https://www.alberta.ca/release.cfm?xID=63919C897F608-B026-62E8-61626ECCC59B50FC>.

a federal tax is imposed in any province that does not levy the equivalent of the federal carbon tax. Albertans therefore continue to pay a carbon tax at the consumer level, however it is collected by the federal government rather than the provincial government. The Federal Fuel Surcharge also applies to businesses and industrial emitters that are not subject to the TIER. Under the GGPA 90 per cent of carbon tax revenue collected in Alberta by the federal government are returned to Albertans as lump sum “rebates”.²⁵

To sum up, since 2007 Albertans have been subject to three different carbon tax regimes: 1) 2007-2017, SEGR levied on large industrial emitters, no consumer carbon tax; 2) 2017/2018-2019, CCIR levied on large industrial emitters, provincial consumer carbon tax levied on fuel; 3) TIER levied on large industrial emitters, federal consumer carbon tax levied on fuel. In our view, it is time for a fourth-generation carbon tax regime, one which repatriates the consumer carbon tax, and the associated revenue, to Alberta.

We think that there are two compelling arguments to do this. First, the federal government has been quite flexible in accepting provincial carbon tax and pricing regimes as meeting the federal standard to avoid the imposition of the backstop; and indeed, there is a relatively wide variation across the provinces. This means that Alberta has some flexibility to implement a “made in Alberta” consumer level tax on its own. Second, and more relevant to this discussion, the province would be able to keep the revenue and do what it wants with it. Frankly, politics aside, in our view repatriating the consumer carbon tax is the proverbial “no brainer”.

In 2021 the carbon tax rate is \$40 per tonne of CO² emissions. According to federal government data, for 2021 carbon tax revenue in Alberta under the federal policy is expected to be about \$1.8 billion, increasing to over \$2.2 billion when the tax increases to \$50 per tonne in 2022, and to over \$2.8 billion when the tax increases to \$60 in 2023. By 2030, when the carbon tax is slated to reach \$170 per tonne, taking account of estimated behavioural effects as emissions decline in response to the rising tax, consumer carbon tax revenue from Alberta is anticipated to be about \$6.3 billion.²⁶ If Alberta was to repatriate the carbon tax this revenue would accrue to the province rather than the federal government. The question is then what should it do with the money? There are, of course, a myriad of possibilities.

One of us has argued previously that carbon tax revenues should be used to lower other distortionary taxes, such as the PIT and the CIT, rendering the tax revenue neutral.²⁷ From the perspective of pure economic efficiency this is widely thought to be the best approach, dominating the return of the revenue in the form of lump sum

²⁵ The term “rebate” is a misnomer, as the revenues are in fact returned on a lump sum basis to all Albertans independently of how much carbon tax they actually pay. However, we use the term “rebate” in what follows as it reflects its common usage in Canada in this context. The remaining 10 per cent of revenue is allocated to universities, schools, nonprofits, indigenous communities and medium-sized businesses to help offset the impact of the carbon tax.

²⁶ This is based on federal government forecasts of carbon tax rebates in Alberta discussed below, which suggest about a 20 per cent reduction in emissions over this period due to the rising carbon tax rate. See footnote 20.

²⁷ See McKenzie (2019).

transfers.²⁸ However, this implicitly presumes that the province is in a sustainable fiscal balance. In light of the substantial fiscal challenge facing the province this may not be a prudent use of the revenue under the circumstances. As such, in keeping with the perspective of this paper we argue that some of the revenue from repatriating the consumer carbon tax could be used to help close the fiscal gap, effectively forestalling the need to raise more revenue for this purpose by increasing other more distortionary taxes like the PIT or CIT. There is no such thing as a free lunch.

In 2021 the average household in Alberta is expected to pay \$598 in carbon taxes under the federal system; however, the average lump sum rebate per household is forecast to be \$953.²⁹ This is because higher income households pay more in carbon taxes. By 2030 the average household is expected to pay about \$1,740 in carbon taxes and receive \$2,764 in rebates. Thus, under the federal carbon tax regime the average household receives a rebate about 1.6 higher than the amount of carbon tax they actually pay.

Carbon taxes are generally viewed as being regressive, falling more on lower income households than higher income households. This is based on the observation that households at the bottom of the income distribution spend a larger share of their income on carbon-intensive products like gasoline, electricity, and natural gas than do higher income households.³⁰ This suggests that from an equity perspective some sort of rebate to lower income households is desirable. However, it is apparent from the above that the rebates under the federal system are overly generous for the bulk of the population. One option under a repatriated consumer carbon tax would be for the province to lower the rebates to coincide with average carbon taxes paid. Rather than returning 90 per cent of carbon tax revenue to households in the form of rebates this would return 60 per cent. Based on the 2021 figures, this would free up \$355 per household that could be used to address the province's fiscal gap; by 2030 this would increase to about \$1,024 per household.

Recall from above that by our rough calculations reducing per capita expenditures in Alberta to the average of the rest of Canada, coupled with a six per cent provincial PST (with a low income credit), would eliminate about 3.21 percentage points, or 76.5 per cent, of the 4.2 per cent fiscal gap. Repatriating the carbon tax and lowering the lump sum rebates to reflect carbon taxes paid by the average household would close an additional 0.59 percentage points (14.0 per cent) of the gap by 2030. These three measures combined would thus close about 3.80 percentage points, or 90.5 per cent, of the fiscal gap by 2030.

However, we think there is a better approach. B.C. targets the lump sum rebates from their carbon tax to middle- and low-income families, with payments declining by 2 per cent over a family income threshold. For example, for a household with two adults

²⁸ See McKenzie (2016, 2019).

²⁹ <https://www.canada.ca/en/department-finance/news/2020/12/climate-action-incentive-payment-amounts-for-2021.html>.

³⁰ This view is not universally held. For example, Beck et al (2015) find that the carbon tax in British Columbia is slightly progressive across the income distribution even before taking account of rebates or other measures.

and two children, the family income threshold in 2021 is \$42,165 and the rebates cease at income of \$64,665. Under this more targeted approach, B.C. allocates about 16 per cent of their carbon tax revenue to rebates.³¹ If Alberta took a similar targeted approach to rebates, it could eliminate about 1.11 percentage points, or 26.5 per cent, of the fiscal gap with the carbon tax revenue (see Table 1). Coupled with a six per cent HST and expenditure cuts that bring Alberta in line with the other provinces this would close the entire fiscal gap by 2030.

Of course, many other combinations are possible. Our point is that Alberta can achieve a fiscally sustainable path over the next decade with a combination of expenditure restraint that would bring the province in line with the rest of the country, the imposition of a six per cent provincial PST (with low-income credits) that would be the lowest in the country, and repatriating the consumer carbon tax coupled with targeted lump sum rebates similar to the approach followed in B.C.

It bears mentioning that carbon tax revenue is likely to fall after 2030 as emissions decline and no further increases in the tax rate are anticipated. As such, the province may need to adjust its fiscal configuration again at that time. But first things first.

There are, of course, other revenue levers available to the province. We discuss some of these briefly below.

PICK YOUR POISON: INCREASES IN PERSONAL INCOME TAXES

As indicted at the outset, we constrain our analysis by tying it to the objective of closing the 4.2 percentage point fiscal gap calculated by Tombe. As such, if the province does not adopt a provincial PST or repatriate the consumer carbon tax as discussed above, it must close the gap in some other way. In our framework, the province must pick its poison. Here we briefly consider increases in personal income taxes (PIT).

There are many ways of increasing PIT, but we focus here on just one, admittedly somewhat arbitrary, approach to get a feel for the magnitudes involved. To fix ideas, we consider a configuration of increases in PIT rates that would generate about the same revenue as a six per cent provincial PST.

Specifically, we consider a two-percentage point increase in the bottom three provincial tax brackets (currently 10, 12, and 13 per cent) and a four-percentage point increase in the top two brackets (currently 14 and 15 per cent). The two-percentage point increase is thus applied to all taxable income less than \$209,952, and the four-percentage point increase is applied to taxable income in excess of this, roughly to the top 1 per cent of tax filers in Alberta.³²

³¹ In B.C. forecast carbon tax revenues for 2021/22 are \$1.985 billion and the Climate Action Tax Credit is projected to cost \$312 million. See https://www.bcbudget.gov.bc.ca/2021/pdf/2021_Budget%20and%20Fiscal%20Plan.pdf.

³² See Statistics Canada high income tax filers data base at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110005501&pickMembers%5B0%5D=1.12&pickMembers%5B1%5D=3.3&cubeTimeFrame.startYear=2014&cubeTimeFrame.endYear=2018&referencePeriods=20140101%2C20180101>

As discussed above, one of the advantages of the PST as a revenue source is that the underlying tax base is not very responsive to changes in the tax rate. Thus, the behavioural effects are relatively small, and the tax is generally viewed as being one of the most efficient ways of raising revenue. Personal income taxes are a little less so. In particular, there is significant evidence that individuals at the top of the income distribution, in particular the top 1 per cent, react to changes in the marginal tax rate by reducing their taxable income, though there is some disagreement on the precise magnitude of this behavioural effect. The primary mechanism is tax planning and avoidance by way of income shifting. On the other hand, individuals at lower income levels are relatively unresponsive to changes in tax rates. In our calculations we therefore take account of behavioural effects associated with the increase in the tax rates for the top two brackets only.³³

As shown in Table 1, the two-percentage point increase applied to the bottom three brackets does the heavy lifting here, generating about \$3.7 billion in revenue, or 1.03 per cent of GDP, in 2022. This is because it applies to a very broad base of all taxpayers earning more than the basic personal amount of \$19,369. It is interesting to note that the four-percentage point increase in the top two brackets, after accounting for behavioural effects, generates only about \$480 million, or 0.13 per cent of GDP in 2022.³⁴ Thus, we see that despite common perceptions, generating significant revenue by increasing tax rates on the “1 per centers” is difficult, even in the absence of behavioural effects — there is simply not enough money there on an aggregate basis.³⁵ In this regard, it is important to emphasize the obvious point that taxpayers in the top two brackets pay higher taxes due to the increase in the tax rates in the first three brackets.

Together, our calculations thus suggest that the PIT increases described above would generate slightly more revenue than a six per cent PST, about \$4.2 billion in 2022, or 1.17 per cent of GDP. Thus, if the choice is made to eschew the introduction of a provincial PST, a significant across the board increase in PIT rates would be required to close the fiscal gap.

Of course, there are other revenue generation options open to the government. We do not explore these here other than to say that none of them has the potential to increase revenues to the same extent as broad-based taxes like the PST or PIT. In tax policy the simple rule is “follow the money.” Further, as a rule narrowly based tax increases tend to give rise to larger behavioural effects, and are therefore less economically efficient than broad based taxes.³⁶

³³ We assume an elasticity of taxable income for the top 1% with respect to the net-of-tax rate of 0.60, which is roughly consistent with Milligan and Smart (2015).

³⁴ Ignoring behavioural effects, the increase in the top two brackets would generate about \$626 million.

³⁵ See, for example, Smart (2019).

³⁶ Some have raised the possibility of introducing a “health care levy” based on income. This, for example, was floated in the 2015 budget, but never implemented due to a subsequent change in government. From an economic perspective a health care levy is just an income tax by another name.

TIME TO GET RADICAL ON THE CIT?

Under the *Job Creation Tax Cut* introduced in 2019 the statutory corporate income tax (CIT) rate in Alberta was slated to decline from 12 per cent in 2018 to 8 per cent by 2022. However, as a part of the *Alberta Recovery Plan* in response to the pandemic, the government accelerated the tax cut to 8 percent effective July 1, 2020. At 23 percent, the general combined (15 per cent federal plus 8 per cent provincial) CIT rate in Alberta is one of the lowest in North America.³⁷ If the U.S. proceeds with an increase in the federal CIT rate to 28 percent, as proposed by the Biden administration, Alberta's CIT tax rate advantage would increase even more.

The corporate income tax (CIT) is widely viewed to be one of the more distortionary and economically costly taxes because of relatively large behavioural effects.³⁸ For example, capital investment is thought to be relatively sensitive to corporate taxes.³⁹ There are also income shifting and tax avoidance considerations which arise due to differences in statutory tax rates, both internationally and interprovincially.⁴⁰ Thus, corporate income tax increases receive a low grade from an economic efficiency perspective.

What about equity? The key issue here involves who bears the ultimate burden of the CIT, and in particular whether it falls mostly on owners of capital in the form of lower returns, and is therefore more progressive, or on labour in the form of lower wages, in which case it is less progressive. This is an unsettled issue amongst economists. However, there is good reason to believe that in a small open economy with mobile capital, which is a reasonable depiction of Canada generally and certainly for Alberta specifically, much of the burden of the CIT falls on labour through lower wages.⁴¹ This is due to the sensitivity of investment to increases in the CIT, which lowers the productivity of labour, which in turn dampens the demand for workers.

For these reasons closing the fiscal gap by way of increasing the CIT rate would not in our view be the best approach, and Alberta would be wise to maintain its current advantage on this dimension. There may nonetheless be scope for corporate tax reform in Alberta, not from the perspective of generating more revenue, but rather with a view to implementing a more efficient corporate tax system, one which encourages investment and job creation.

First some context. All of the provinces and territories except Alberta and Quebec are part of the corporate Tax Collection Agreements (TCA).⁴² The provinces subject to the TCA agree to adopt the federal tax base (taxable income) but may levy their own tax

³⁷ The federal rate in the U.S. is currently 21 percent. Nevada, Ohio and Texas do not levy a state CIT, but do impose a gross receipts tax instead. South Dakota and Wyoming are the only states that levy neither a CIT nor a gross receipts tax. The CIT rate in Mexico is 30 percent. With provincial rates of 11.5 percent, B.C. and Ontario have the next lowest combined rate in Canada at 26.5 percent.

³⁸ See Dahlby and Ferede (2016).

³⁹ See Wen and Yilmaz (2020).

⁴⁰ See McKenzie and Smart (2019) for a discussion.

⁴¹ See McKenzie and Ferede (2017).

⁴² Alberta is part of the Tax Collection Agreements for the personal income tax.

rate on that base.⁴³ For corporations with entities in several provinces, taxable income is allocated according to a formula based on wages and sales in each province. Alberta and Quebec are not part of the TCA for corporate tax purposes and levy their own CIT separately from the federal government. However, both provinces have tended to closely follow the federal CIT base. For example, when the federal government introduced accelerated tax depreciation in 2017 in reaction to the federal tax cuts in the U.S., Alberta automatically followed suit.

This needs not be the case. Alberta can adopt a different tax base than the federal government. The question is, should it?

In this regard, there is an alternative approach to taxing corporations that would, in principle, increase investment, jobs, and wages: a so-called rent-based tax. Economic rent is income earned in excess of the “normal” return on capital required to just satisfy the shareholders/owners of a business. The idea is to remove taxes levied on the “normal” return to capital and impose taxes only on the “above normal” return, or economic rent. A pure rent-based tax is thus largely non-distortionary and, at the margin, does not affect investment.⁴⁴

There are many ways of taxing economic rents, the simplest being a cash-flow tax. We will not go into a discussion of these alternative approaches here. One of us has argued elsewhere for the implementation of a rent-based tax at the federal level in Canada.⁴⁵ The question here is, can Alberta go it alone, abandon the federal corporate income tax base and replace it with a rent-based tax?

This is a complicated question, which would require careful consideration along several dimensions. We do not propose to resolve these issues here. However, as Alberta is not a part of the TCA the possibility certainly exists. Indeed, Alberta already imposes a type of rent-based tax (in addition to the CIT) under the province’s “royalty” system applied to oil sands operations. This involves levying a cash-flow tax on oil sands facilities that have achieved “pay-out”, and generated sufficient income to cover capital expenditures plus a “normal” rate of return. Is it time to take a conceptually similar approach to the entire provincial corporate tax system?

Moreover, one of the advantages of Canada’s decentralized federal system is that individual provinces can experiment with different policies. We have seen this in Canada several times, for example historically with the introduction of medicare first in Saskatchewan before it was adopted country wide, and more recently with the proposal to introduce a national childcare program based on the experience of Quebec. Further on this, some have mused that it may be time for Alberta to “go it alone” on several dimensions of policy as it seeks a “fair deal” from the rest of the country.⁴⁶ Is it time for Alberta to “go it alone” and act as a “laboratory” for a fundamental change

⁴³ Provinces can, and do, grant various tax credits which lower provincial corporate taxes payable directly.

⁴⁴ Rent-based taxes could have inframarginal effects and affect firm location decisions. For a discussion see McKenzie and Smart (2019).

⁴⁵ McKenzie and Smart (2019).

⁴⁶ <https://www.alberta.ca/fair-deal-panel.aspx>. See also Mintz et al (2020).

in the taxation of corporate income in Canada? These are complicated questions for another day. We raise them here as being worthy of further study and consideration going forward.

CONCLUSION

The purpose of this paper is to examine some revenue options that will help put the province of Alberta on a sustainable fiscal track. The analysis is anchored, disciplined if you will, by the need to eliminate the province's fiscal gap of 4.2 percentage points of GDP by 2030, as calculated by Tombe (2021) in his contribution to this volume.

Our operating assumption throughout is that Alberta can close half of the fiscal gap by way of expenditure restraint that brings the province roughly in line with the rest of the country in per capita terms. This leaves the remainder of the gap to be closed by new revenue.

The analysis is by no means exhaustive. Rather we focus on a few selected alternatives in order to provide a feel for the magnitudes involved. In particular, we argue that if relatively modest expenditure restraint is coupled with a six per cent provincial sales tax (harmonized with the GST and with target low-income credits) and a repatriation of the consumer carbon tax (with targeted low-income rebates) Alberta can achieve fiscal sustainability. We think that this provides a reasonable path to sustainability for the province, while maintaining some of the vaunted "Alberta Advantage" with similar expenditures to the rest of Canada on a per capita basis, coupled with the lowest CIT and sales tax rates in the country. However, other options are obviously available which rely more or less on expenditure restraint, more or less on sales and carbon taxes, and more or less on personal income taxes. Regardless of the approach taken, further research on the efficiency and distributional implications is merited.

We emphasize that we take a long-run perspective in this paper. It is possible that commodity prices will rise, and the province's fiscal situation will improve, over the next few years as we emerge from the COVID-19 pandemic. Or not. As stressed by Tombe (2021) in his contribution to this volume, there are considerable uncertainties ahead which have significant implications for the province's fiscal sustainability.

Ignoring the fiscal realities facing the province won't make them go away. Hoping for a surge in resource revenues is not a plan. And if it occurs at all it would offer at best a temporary respite from the province's fiscal reality. Indeed, if such a surge occurs there is merit in using some of the revenue to bolster saving or paying down the provincial debt.⁴⁷ But this is a discussion for another day.

One thing is clear – postponing the day of reckoning for too long will only make matters worse. In keeping with the themes of the paper, "there is no such thing as a free lunch", the province must "follow the money" and "pick its poison". The choices may be difficult, but the math is simple; and choose we must.

⁴⁷

Paying down debt or investing in a savings fund is essentially a portfolio composition decision.

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