



# THE SCHOOL OF PUBLIC POLICY

## SPP Research Papers



Volume 6 • Issue 2 • January 2013

## A PRIMER ON THE GOVERNMENT OF ALBERTA'S BUDGET<sup>†</sup>

Ron Kneebone

The School of Public Policy, University of Calgary

### SUMMARY

Provincial budgets may normally make for dry reading, but in Alberta's case, there is plenty of suspense lurking inside the pages — and that's not necessarily a good thing.

Your average family may know certain things about balancing a budget: keeping spending roughly in line with income; not relying on volatile, unpredictable income streams to cover expenses; and not leaving the kids with an inheritance of significant debt. But look at how Alberta has been managing its budget in the last decade, and it is obvious that the provincial government is breaking a lot of the financial management rules that most Albertans are disciplined enough to live by at home.

A clear way to get a sense of how the Alberta government has managed its finances is by analyzing how much provincial program spending relies on depleting provincial savings, either in the form of savings funds or non-renewable resource deposits, such as oil and gas. By 2011, Alberta's "Budget Gap" had grown to almost the same level it was in 1993, when the province was forced to adopt wrenching budget cuts in order to close what had become a yawning gap between revenue and costs amounting to \$4,000 in spending for every man, woman and child in the province.

This paper suggests there are three key questions that should be posed to our government and to any political party seeking to represent our interests as our government:

1. How tolerant are they of annual deficits? Do they advocate a strategy of relatively lower levels of government spending and/or higher tax rates, so as to avoid deficits no matter the state of the economy? Or will they tolerate deficits during economic slowdowns to enable higher levels of spending and/or lower tax rates?
2. To what extent are they willing to trust the payment of health-care costs and the costs of education and social assistance to oil and gas royalties as opposed to taxation?
3. How, exactly, does one define investments in social infrastructure; investments that can be funded by borrowing or by spending non-renewable resource royalties? What limits should be put on borrowing to fund such expenditures?

---

<sup>†</sup> The author wishes to acknowledge the helpful comments of the anonymous referees.

## INTRODUCTION

Government budgets rarely threaten to push the publications of Stephen King or J.K. Rowling off the bestseller list. That is because, to most people, budgets are as dry as dust. That's unfortunate because government budgets are wonderfully informative. They report on past successes and failures of government policy and they document our hopes and aspirations as they are understood by the people we elect to represent our interests. Government budgets tell us where we have been and where we are heading. They hint at what our taxes might look like in the future and how public services — from health to education to social assistance — might evolve over time. Government budgets are important for voters to understand, but few voters do.

While economists don't mind reading what others consider to be dry as dust — which is fair since economists write much of it — almost everyone else finds trying to understand government budgets enough of a challenge that they do not even bother to try. Yet for the democratic process to work effectively, it is important that governments make what is in their budgets easy to understand so that voters can make informed choices. Unfortunately, the need for governments to respect accounting conventions makes it difficult for taxpayers — those who must ultimately pay the government's bills — to wade their way through balance sheets, reconciliation statements and budgetary addenda. What is needed is someone to translate what is said in the budget into a simple-to-understand description. That's the purpose of this note.

In what follows, I will describe, as simply and as fairly as I can, the direction in which the most recent budget of the Government of Alberta — released February 9, 2012 — suggests our government's finances are moving. A lot of niggling details will be swept under the carpet because I will be painting a picture using broad strokes. But that's okay, because the details are less important than a broad understanding of where the budget suggests we have been and where we are heading.

## THE BIG PICTURE

All governments face a budget constraint in relating spending to revenue. Let's start by separating **Total Spending** and **Total Revenue** into the smaller components that comprise them. I'll start with Total Revenue.

Provincial governments have a number of sources of revenue, the most important of which is taxation. There are, of course, many forms of taxation. Provincial governments tax the incomes of individuals and corporations; they impose so-called “sin taxes” on our purchases of alcohol and tobacco; they tax us when we buy gasoline; they tax us on the value of property we own; and they tax us because we try to earn a living (payroll taxes). Other provincial governments, though not Alberta's, impose a tax equal to a percentage of most things we buy (a sales tax). Rather than delve into these details we will just refer to all such forms of revenue as **Taxation**.

The federal government imposes its own array of taxes on all Canadians and then transfers some of that revenue to provincial governments. These intergovernmental transfers arrive in a variety of forms. There are transfers tied to specific programs and transfers that the provincial government can use more or less as they please. Again, these details need not concern us and so we will refer to all such transfers from the federal government as **Federal Transfers**.

Provincial governments also receive revenue in the form of the income they earn on the financial assets they own. The government of Alberta holds the financial assets it owns in a number of savings funds. The most notable of these are the Heritage Fund, designed to act as a savings fund for the benefit of future generations, and the Sustainability Fund, intended to act as a kind of rainy day fund to absorb the budgetary consequences of unexpected events. The list also includes endowment funds intended to produce a stream of investment income to be used to fund medical research and research in science and engineering. I'll refer to all these sources of revenue as **Investment Income**.

Many provinces enjoy still another source of revenue; revenue realized as the result of the production and sale of non-renewable resources. The name given to these revenues — non-renewable resource revenues — accurately describes what these revenues represent; the revenue gained from the sale of natural resources that are in finite (non-renewable) supply. The government of Alberta enjoys the benefit of receiving a large amount of revenue from this source. It comes in the form of royalties (a form of tax) that the government imposes on the production of natural gas, crude oil, bitumen, and coal, and in the form of land sales and leases. I will refer to all of these sources of revenue as **non-renewable resource revenue** or **NRR** for short.

A provincial government's Total Revenue, then, can be summarized as being the sum of all of the items described above. That is:

$$\text{Total Revenue} = \text{Taxation} + \text{Federal Transfers} + \text{Investment Income} + \text{NRR}$$

Now let's turn to Total Spending. This is much easier as there are only two broad categories of spending that provinces do. Most of the spending that governments do is called **Program Spending**. This is what the government spends on goods and services and what it transfers to people and to other levels of government. The "Big Three" areas of spending for any provincial government are health, education and social services, in that order. The other part of Total Spending will be discussed below. This is the cost of paying interest on borrowed funds, what we call **Debt Service**. Total Spending, then, is given by:

$$\text{Total Spending} = \text{Program Spending} + \text{Debt Service}.$$

For reasons we discuss below it is difficult for governments to always equate Total Revenue to Total Spending. If Total Spending exceeds Total Revenue, the imbalance is referred to as a **Deficit**. In this case the government can fund the difference between spending and revenue by borrowing or by selling financial assets. When they borrow, governments sell government-issued bonds to us. When they raise revenue in this fashion they must, of course, pay us interest on the amount they borrow. This payment of interest, what is called Debt Service, appeared above in our description of Total Spending. The other thing governments can do when they find their revenues are insufficient to pay for their spending is to sell some of their financial assets. The government of Alberta has been doing a lot of this lately by selling the financial assets it holds in its Sustainability Fund, something we will talk more about later. When a government sells financial assets, it of course reduces the amount of Investment Income it receives.

There are occasions when the amount of revenue collected by provincial governments is more than sufficient to pay for their Total Spending. In these cases the government is said to realize a **Surplus**. A Surplus requires that the government make a decision regarding what to do with these excess funds. One possibility is to repay funds it previously borrowed from us and so reduce Debt Service. A second possibility is to buy new financial assets and so earn additional Investment Income.

Deficits and Surpluses arise because of an imbalance between Total Spending on the one hand and Total Revenue on the other. Thus we can write:

$$\text{Deficit/Surplus} = \text{Total Spending} - \text{Total Revenue}$$

where the difference between Total Spending and Total Revenue is referred to as a Deficit or a Surplus depending on whether the imbalance is positive or negative. Over time, a Deficit causes Debt Service to increase (if the government borrows), or causes Investment Income to decrease (if the government sells financial assets). Over time a Surplus causes Debt Service to decrease (if the government repays old debt), or causes Investment Income to increase (if the government purchases new financial assets). When we think of Deficits and Surpluses we should understand that they are two sides of the same coin.

All of this suggests that a full statement of the government's budget can be written as:

$$\begin{aligned} \text{Deficit/Surplus} &= (\text{Program Spending} + \text{Debt Service}) \\ &- (\text{Taxation} + \text{Federal Transfers} + \text{Investment Income} + \text{NRR}). \end{aligned}$$

This big picture description of the government's budget is built on simple ideas that any household budgeter can relate to. Spending must be paid for. If income is insufficient to pay our bills, we run a deficit. In this case we must either borrow and add to our debt, or eat into our savings by selling assets. If income is more than sufficient to pay our bills, we run a surplus. In this case we can either repay old debts or add to our savings by purchasing new assets. The government is just like us when it comes to its annual budgeting exercise.

## DEALING WITH UNCERTAINTY

Governments must deal with the same problem we all must deal with: our budgets can only reflect our best guesses about an uncertain future. Sometimes income will be higher than expected, sometimes lower. The same is true for spending. Unexpected expenses arise and when they do, we must deal with them. Always maintaining a balanced budget — that is, always exactly equating our spending to our income — is near impossible. All of us deal with this uncertainty. We do so by using our savings or by drawing on our line of credit. If spending is unexpectedly larger than income, we can eat into our savings account or we can draw on our credit and take on debt. On the other hand, if spending is unexpectedly less than income, we can take the opportunity to add to our savings or repay debt.<sup>1</sup>

---

<sup>1</sup> A household can also respond to minor fluctuations in income by foregoing "movie night" this month, or by explaining to the kids the fun to be had on a "stay-cation." In this way, a family can avoid dipping into savings or increasing borrowing. Governments have some scope for responding in this way too, but most provincial spending, in areas like health care and education for example, are not the sort where we would like to see very much in the way of fluctuations.

The government deals with uncertainty in exactly these ways too. If spending is unexpectedly large, the government either eats into its savings or draws on its credit to borrow. If spending is unexpectedly less than income, the government adds to its savings or repays debt.

The government of Alberta's line of credit is with world financial markets. The government of Alberta has an excellent credit rating and, as a consequence, it can borrow money at attractive rates of interest. If the government needs to borrow, it has no trouble doing so. Borrowing does, of course, have implications for future budgets, because the government will need to pay more by way of Debt Service.

Should spending exceed its other sources of revenue, another option open to the government is that it can run down its savings. For this purpose, the Alberta government has established its Sustainability Fund. The Sustainability Fund is where the government parks savings that it may need on short notice, to fund revenue shortfalls. According to the budget released in February 2012, the Sustainability Fund should now contain about \$3.7 billion. That's down from \$7.4 billion this time last year and down from \$11.2 billion in March 2011.

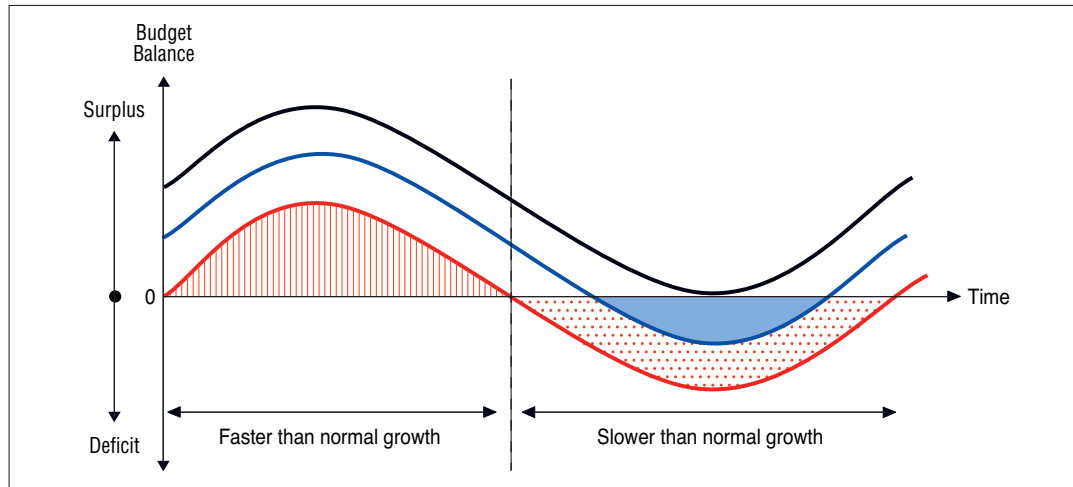
The uncertainty faced by governments stems from the fact that the economy suffers unexpected events that cause fluctuations in income and employment; what is commonly referred to as the business cycle. An economic contraction causes tax revenue to fall and spending on things like social assistance to increase. If the government's budget was formerly in balance, it falls into deficit during a contraction and it must either borrow or dip into savings. An economic expansion does the opposite. If the budget was formerly in balance, it moves into surplus during an expansion. The government can now either add to its savings or reduce its debt.

The figure below offers a stylistic representation of changes to the government's budget imbalance as it moves through a business cycle. It shows three alternative ways of dealing with the budgetary effects of the cycle. The government can choose which of these outcomes it obtains by choosing levels of spending and taxation.

The black wavy line shows the implication of the government never allowing a budget deficit to occur. To avoid a deficit, the surplus realized in favourable economic conditions must be large so that the same tax rates and spending programs produce no worse than a balanced budget during unfavourable economic conditions. This is the approach to budgeting adopted by the government led by premier Ralph Klein in the mid-1990s.

Avoiding a deficit in this way has two key implications. The first is that the government will either save or reduce outstanding debt in each and every year. The second implication of budgeting in this way is that it requires the government set tax rates higher, or design spending programs to be less generous, than would be necessary if it allowed for deficits to occur.

## ALTERNATIVE BUDGET POLICIES



To see that this is true, suppose the government were more tolerant of deficits. One possibility is a budgeting strategy favoured by some economists and represented by the red wavy line. With this approach smaller budget surpluses would be enjoyed during the expansionary part of the cycle and deficits would be endured during the contractionary part of the cycle. Appropriate setting of tax rates and appropriate design of spending programs could cause the surpluses to balance the deficits, and so could, *on average*, produce a balanced budget. If the government were tolerant of deficits in this way, tax rates would be lower, or spending more generous, than in the case described by the black line.

Like all budgeting strategies, that of the Klein government (represented by the black wavy line) involved both good news and bad news. The good news was that the strategy enabled the government to very quickly pay off its net debt.<sup>2</sup> The bad news is that the strategy required keeping spending lower than would otherwise have been necessary.<sup>3</sup>

The budgeting strategy represented by the red wavy line demands a tolerance for deficits. As the diagram shows, during periods of slower-than-normal-growth, the government budget falls into relatively large deficits. During these periods, the government must be tolerant of taking on debt or tolerant of running down savings. The amount of debt taken on, or the amount of savings used up by this strategy is identified by the sum of the areas in light blue and red dots. Adopters of this strategy need to be confident that faster-than-normal economic growth will come along to produce surpluses equal to the amount identified by the area filled with red vertical lines. The hope is that the value of the surpluses enjoyed during periods of faster-than-normal growth (the area identified by the red vertical lines) will offset the value of the deficits suffered during periods of slower-than-normal growth (the sum of the areas in blue and in red dots). In this way the surpluses will enable the repayment of the debt accrued earlier or the replacement of the savings used up.

<sup>2</sup> “Net debt” is a bit of jargon that is required if what I am saying is to be strictly accurate. All governments own financial assets and carry debt. This is necessary for many reasons, one of which is that the receipt of tax revenue does not always arrive on the same day that expenditures must be paid for. A government’s net debt — or, what is the same thing, the value of its net financial assets — is the balance between the value of gross financial assets and the value of gross debt. By sometime in fiscal year 2000, the Klein government had reduced gross debt to a level equal to the value of the government’s financial assets. Its net debt, therefore, was zero in that year.

<sup>3</sup> The Klein government could alternatively have raised tax rates to avoid deficits, but it chose instead to cut spending.



Getting the “red line” strategy exactly right is tricky business. Many economists argue that it is best to err on the side of setting tax rates somewhat higher — or keeping spending somewhat less generous — than this, so as to take on less debt (or eat up less savings) during periods of slower-than-normal economic growth. Such a strategy is represented by the blue wavy line. During periods of slower-than-normal economic growth, the amount of new debt taken on — or the amount of savings used up — is identified by the blue area. Over the full course of a business cycle, this strategy leaves debt somewhat smaller (or savings somewhat higher) than at the beginning of the cycle.

The budgeting strategy identified by the blue wavy line is a compromise in that it shaves off a bit of the good news associated with the red line strategy (tax rates need to be higher or spending less generous with the blue strategy) but also shaves off a bit of the bad news (the blue strategy requires less debt to be taken on or less savings to be used up).

To implement the budgeting strategy that yields the red or the blue wavy line, a government must be willing to take on debt or to dig into savings during periods of slower-than-normal economic growth. In recent years, the government of Alberta has chosen to dig into savings rather than draw on its line of credit with world financial markets. It has done so, presumably, because it wants to avoid the consequences of borrowing, namely, increased Debt Service costs. Rather than do that, the government of Alberta has instead eaten into savings held in the Sustainability Fund. By doing so, it reduces Investment Income.

The preference for financing deficits with borrowing, as opposed to drawing down savings, is not at all clear. From a purely economic point of view, the preference depends on the rate of return that can be expected on savings versus the rate of interest the government must pay on borrowing. Households face the same sort of choice when deciding whether to buy a new car with savings or with borrowing; it depends on the rates of interest earned on savings as opposed to borrowing. If savings are earning eight per cent, but the car purchase can be financed at three per cent, most households quite sensibly choose to borrow. Economists find it shocking that the choice governments make on this question might reflect considerations other than these, but it is likely true nonetheless. I suspect that the politics of incurring debt differs from the politics of running down savings, and this may explain the government’s preference for the latter. But I’m an economist, not a political scientist, and so I probably should not venture very far in that direction.<sup>4</sup>

This discussion of how governments can deal with uncertainty has made some simple points that, again, households can easily relate to: the future is uncertain and as a result, so are spending commitments and revenue plans. Whether to deal with uncertainty by digging into savings or by borrowing is a choice that ought to be made by comparing rates of return on savings versus the cost of borrowing. Borrowing means having to make interest payments, while digging into savings means forgoing the interest earned on savings. Unless interest rates

---

<sup>4</sup> Still, it is interesting to have some idea of these relative rates of return. The Sustainability Fund held an average of \$9,327 million in fiscal year 2011/12. In that year, the government received \$495 million in interest from the Sustainability Fund. That means it earned an average rate of return equal to 5.3 per cent. The federal government can currently sell bonds with a 10-year date to maturity by promising to pay an interest rate of about 2.2 per cent. The government of Alberta typically needs to pay more than what the federal government pays. An interest rate of three per cent would be a good guess.

on these options differ by a noticeable amount, it's six of one and a half-dozen of the other. Finally, moving from one budgeting strategy to another reflects choices about levels of spending versus levels of income (or, if you are the government, taxation). Moving from the black to the blue to the red budgeting strategy involves increasing spending without a matching increase in income. As all households know, and as the figure shows, more spending sounds great, but if it is not matched by additional income, then savings disappear or debt piles up.<sup>5</sup>

To this point, I have not talked about the elephant that sits in the middle of the government's budget. The biggest source of uncertainty that the government of Alberta must deal with has to do with non-renewable resource royalties (NRR). So let's talk about that next.

## **NRR AND THE BUDGET GAP**

The effect of economic conditions on the government's budget is especially acute in Alberta because one of the government's most important revenue sources — non-renewable resource (NRR) revenues — is particularly volatile. In 1999, for example, the government received only \$2.4 billion in NRR revenues while two years later, in 2001, it was enjoying access to four times that amount (\$10.6 billion). That bounty was short-lived. A year later (in 2002) NRR revenues had fallen by 40 per cent to \$6.2 billion. NRR revenues in 2010 (\$6.8 billion) are less than half what they were in 2006 (\$14.3 billion) but are expected, in turn, to be less than half what the February 2012 budget predicts NRR revenues will be in 2015 (\$16.0 billion). Clearly, NRR revenues are much like that special girl or guy from our past: exciting, to be sure, but not very reliable.

Remembering that any budget is based on what is only a best guess of what the future may look like, the volatility of NRR means it poses a particularly daunting challenge for the government. When households are faced with such a large and unpredictable source of income they generally choose to avoid relying on that income to fund key expenditures like the mortgage, food and the kids' teeth. Instead what they do is form a best guess of what portion of that income they can safely rely upon. They use that portion to fund the mortgage and pay for groceries and braces. The rest, because it is too uncertain to be relied upon to fund such basic expenditures, is usually saved. Those savings grow over time and spin off a more or less steady stream in investment income; just the sort of income that can be relied upon to finance important expenditures.<sup>6</sup>

---

<sup>5</sup> Moving from the black to the blue to the red budgeting strategies can also involve cutting taxes without an offsetting cut in spending. We come to the same conclusion: Lower taxes sound nice, but without a reduction in spending, debt accumulates or savings disappear.

<sup>6</sup> This reaction to uncertain income fits nicely with what economists believe is a rational way for households to behave. The fact that households actually do behave in this way represents one of those few occasions when what economists theorize must be true is actually observed in reality.



If reacting to uncertain income in this way makes sense to households, then surely it must make sense to governments as well. It certainly does in Norway. Like Albertans, the citizens of Norway enjoy the benefits of owning substantial oil and gas deposits and, like Alberta, their government collects large royalties from energy producers who drill and process that resource. Like Alberta, Norway also suffers the problem of dealing with a large and volatile revenue source. The Norwegians deal with this problem in the same way that I described how sensible households behave: by saving that which they have found they cannot rely upon to fund important programs such as health and education. Norway has plowed almost all of its non-renewable resource revenue into eliminating debt and building a giant savings fund. It is for this reason that the 4.9 million citizens of Norway control a savings fund worth about \$600 billion.<sup>7</sup>

To try to get a handle on how much the government of Alberta relies on NRR, and the implication of that reliance, I am going to adjust our budget accounting slightly and introduce a new term. Let's remind ourselves of what we derived earlier:

$$\begin{aligned} \text{Deficit/Surplus} &= (\text{Program Spending} + \text{Debt Service}) \\ &\quad - (\text{Taxation} + \text{Federal Transfers} + \text{Investment Income} + \text{NRR}). \end{aligned}$$

I am going to remove from this accounting statement those budget categories that are influenced by relying on NRR. The first thing to go, obviously, is NRR. Next, I am going to assume that the size of Alberta's savings funds — the largest of which are the Heritage and Sustainability Funds — reflects deposits of NRR revenues into those funds. This means that the Investment Income earned on those funds would not be available to fund spending were it not for NRR revenues. By removing NRR and Investment Income from the budget statement we get an idea of what life would be like for the government if it weaned itself off this volatile source of revenue. The result is:

$$\text{Deficit/Surplus} = (\text{Program Spending} + \text{Debt Service}) - (\text{Taxation} + \text{Federal Transfers}).$$

Next, I am going to rename the term on the left-hand side because it no longer measures exactly what it did before. Previously it measured the amount of borrowing or the amount of dis-saving that needed to be done when total spending exceeded all sources of revenue, including NRR and Investment Income. Now it measures something a bit different; it measures the amount of borrowing or dis-saving that needs to be done when total spending exceeds the revenue the government collects by way of just Taxation and Federal Transfers. In other words, it measures the size of the Deficit/Surplus if the government were forced to save all NRR and Investment Income revenues. Let me call that difference the Budget Gap.<sup>8</sup> This gives us:

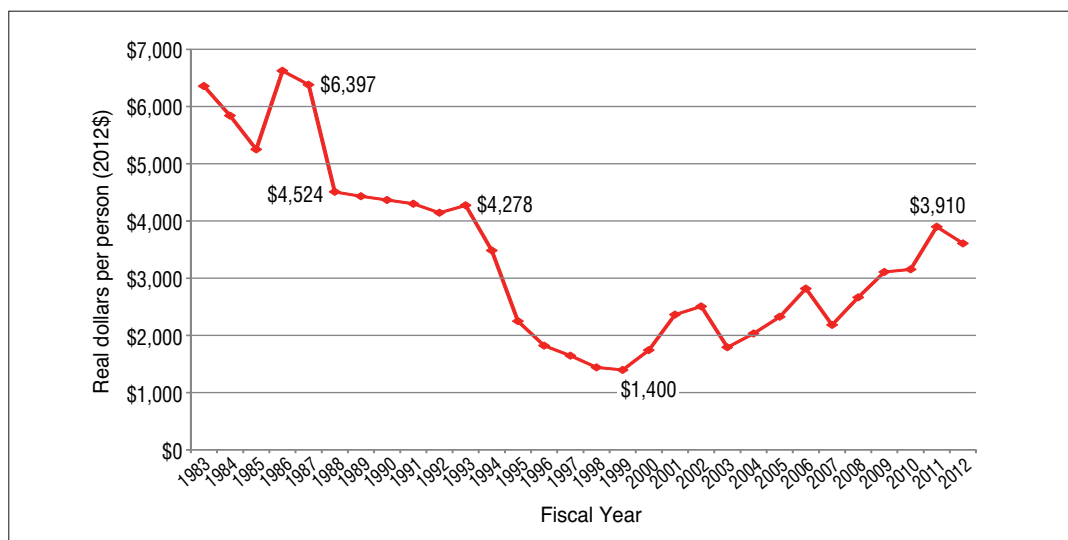
$$\text{Budget Gap} = (\text{Program Spending} + \text{Debt Service}) - (\text{Taxation} + \text{Federal Transfers}).$$

<sup>7</sup> That works out to \$120,000 per Norwegian. By way of comparison, 3.8 million Albertans control a total of between \$36 billion and \$51 billion depending on how one counts these things. That works out to between \$9,500 and \$13,400 per Albertan.

<sup>8</sup> The government's budget constraint can be re-arranged in all sorts of ways. The Alberta Financial Investment and Planning Advisory Commission, which released its report to the government in December 2009, defined a variable it called the "fiscal gap." The fiscal gap was meant to identify the extent to which the government of Alberta relies on the taxes it imposes on its own citizens. The fiscal gap differs from my budget gap mainly because the fiscal gap omits Federal Transfers: the tax revenue the government of Alberta receives by way of federal taxes imposed on all Canadians.

The next figure uses data from Alberta government budgets to calculate the Budget Gap and show how it has evolved since 1983. Because over time inflation causes spending and revenue to grow, and because population growth requires that the government increase spending to accommodate more kids in schools and more people in hospitals, I present the data in *real per capita dollars*. This means I have removed the influence of inflation and I have presented the size of the Budget Gap on a per-person basis.<sup>9</sup> For example, the first dollar value shown in the graph, representing the size of the Budget Gap in fiscal year 1987, indicates that for every man, woman and child in Alberta, the provincial government spent \$6,397 more than it raised in taxes and received in the form of federal government transfers.

## THE BUDGET GAP



An important thing to notice about the Budget Gap is that it has always been greater than zero. This means the government's Total Spending has always exceeded what it collects from Albertans by way of Taxation and receives from the federal government by way of Federal Transfers. Were it not for NRR revenues and Investment Income, the government would always have suffered very large budget deficits.<sup>10</sup>

The history of movements in the Budget Gap is interesting and suggestive of a close relationship with NRR revenues. The first example of this was the precipitous reduction in the size of the Budget Gap between 1987 (\$6,397) and 1988 (\$4,524). This was the response of the government of premier Don Getty to the collapse of energy prices in 1987; a collapse that saw the government lose over 60 per cent of the revenue it collected from that source and nearly 25 per cent of its total revenue. Although the Budget Gap was dramatically reduced, NRR revenues were nowhere near enough to balance the budget and so the government began to accumulate debt.<sup>11</sup>

<sup>9</sup> I have used Alberta's Consumer Price Index to adjust for inflation.

<sup>10</sup> Norway tends to keep its Budget Gap close to zero. By doing so, it avoids relying on uncertain NRR revenues to fund its spending on health, education and social services.

<sup>11</sup> The Getty government had a choice: It could have reduced the Budget Gap still further with some combination of spending cuts and tax increases, it could have accumulated debt or it could have dug into savings held in the Heritage Fund. It chose to accumulate debt.

As the figure shows, the Getty government hung on for a number of years, holding the Budget Gap more or less constant, accumulating debt and hoping for a return to higher energy prices. Energy prices did not recover and between 1985 and 1994, the government burned through \$39 billion (measured in today's dollars) because it failed to align its spending to its tax revenue and close the budget gap.

The next big adjustment in the Budget Gap was introduced during the first government of premier Ralph Klein. Elected on a platform calling for deep spending cuts, Klein did exactly that and the Budget Gap was dramatically reduced from \$4,278 in 1993 to \$1,400 by 1999. At \$1,400 per person, the Budget Gap was now small enough that NRR revenues were more than sufficient to fill it and indeed provided enough revenue that government could quickly retire the debt accumulated during the Getty years.

Since 1999, the Budget Gap has been allowed to grow through a combination of tax cuts and, mainly, spending increases. By 2011 it had grown to \$3,910 per person; just short of the \$4,278 gap that Ralph Klein inherited in 1993. The growth in the Gap parallels the growth in NRR revenues between 1999 and 2006. Rapid growth in NRR revenues meant that the government could seemingly afford rapid spending increases, but affordability was dependent on high energy prices. When, in a repeat of history, energy price began to fall in 2006, NRR revenues also fell. By 2010 NRR revenues were less than half what they were in 2006. The revenue foundation for high spending was dramatically eroded and the government was faced with a familiar choice: reduce the size of the Budget Gap with some combination of spending cuts or tax increases, accumulate debt, or dig into savings. This time the government decided to dig into savings. Between 2008 and 2012 the government reduced savings by \$16.5 billion.<sup>12</sup> The average annual rate of burn of the government's savings during this period — \$4.1 billion per year — is eerily similar to that during the Getty years — \$4.3 billion per year.

## INFRASTRUCTURE SPENDING

The provincial government has recently suggested that spending on infrastructure should be financed by borrowing as opposed to taxation. The idea is that spending on infrastructure is an investment with returns to be enjoyed both now and in the future. To understand the logic of this argument, think of spending on new roads, new schools and new hospitals. All of these things will benefit individuals and private companies for decades. Is it fair that current taxpayers be asked to pay the full cost of these expenditures? If future taxpayers also benefit from these expenditures, we can cause them to pay their fair share by paying for these projects with borrowed dollars rather than taxation. The accumulated debt can then be paid by taxpayers in the future.

---

<sup>12</sup> Measured in inflation-adjusted 2012 dollars. According to the February 2012 budget, the digging is expected to continue until 2014, by which time, savings will have declined by more than \$19.8 billion since 2008. Most analysts believe this is a very optimistic assessment. In a publication released nearly four years ago, my colleague Herb Emery and I forecasted that that digging would occur if the government did not reduce its dependence on non-renewable resource revenues (see "Will it be Déjà Vu All Over Again?" School of Public Policy, Volume 2, Issue 1, April 2009). We're disappointed that we have been proven correct.

This is a sensible argument and it is one that economists know as the so-called Golden Rule of government borrowing. The idea is that over the course of a complete business cycle, the only borrowing that should be done is for investment in social infrastructure. In terms of our earlier graphic, applying the Golden Rule involves shifting the red wavy line down (by increasing spending and/or reducing tax rates) so that the deficits incurred during periods of slower-than-normal growth exceed the surpluses enjoyed during faster-than-normal growth. At the end of the business cycle, then, the government has more debt than when it started.

While the Golden Rule seems eminently sensible, it's a bit slippery in its application. What exactly do we mean by "social infrastructure"? Roads and hospitals seem like good bets, but how about the cost of hiring teachers to educate our children? Today's well-educated kids will surely benefit future taxpayers, so shouldn't future taxpayers share in the cost of hiring today's teachers? How about moving people out of poverty so their children have a better opportunity to contribute to society? Surely that is a worthwhile investment that is more than comparable to, say, the cost of a new road.

Economists have suggested that one way of defining the spending that should be financed with borrowing is to measure the rate of return on that spending. That is, financing infrastructure with borrowing is justified if the rate of return on that spending exceeds the rate of return that would have been earned had that borrowed money been left in the private sector. That helps our thinking on this issue a bit, perhaps, but leaves us with the tricky question of identifying the rate of return on public projects. What, for example, is the rate of return on ending poverty?

In order to limit the temptation for governments to forever broaden the definition of public infrastructure, applications of the Golden Rule are often associated with a limit on the size of the annual deficit and the level of public indebtedness. If the government of Alberta were to adopt a Golden Rule, it would be good to know how it intends to define social infrastructure and what limits it might place on the amount it intends to borrow for that purpose. But before going there, there is another issue that needs to be considered, and once again it arises because of non-renewable resource revenues (NRR).

Albertans share ownership of oil and gas deposits; what you might think of as a capital asset. In partnership with private industry, Albertans, whose interests are represented by the provincial government, turn these oil and gas deposits into financial assets in the form of royalty payments. Economists have long advocated that the government save these royalty payments as a way of ensuring our capital asset never disappears. Saving royalty payments means the capital asset is changed from oil and gas in the ground to dollars in a savings fund. In this way, an asset in finite supply is turned into an asset that need never be depleted and can forever spin off investment income.

Despite this advice, since 1983 the government has arguably saved only eight per cent of NRR.<sup>13</sup> For the past five years, not a penny of NRR can be claimed to have been saved and indeed, as noted earlier, savings have been rapidly eaten up.

---

<sup>13</sup> This is calculated by taking the change in the value of net financial assets between 1983 and 2012 (\$14.1 billion) as a percentage of the sum of all NRR received by the government over that same period (\$176 billion).

What does it mean when the government does not save NRR? It means it is depleting capital, leaving less for future generations. Put differently, it means the government is asking future Alberta taxpayers to pay for today's spending. By the Golden Rule, that is legitimate so long as the amount of today's spending paid for with NRR and with borrowing is roughly comparable to the benefits future generations will enjoy thanks to today's spending.

How are we doing on that score? To try to get a handle on this, I'll start by calculating how much of today's spending the government is asking future generations of Albertans to pay for. Between 1998 and 2012, an average of 21 per cent of our provincial government's Total Spending was funded by borrowing from future generations of taxpayers. This average hides a steady growth in the fraction of total spending paid for by borrowing from future taxpayers. In 1998, borrowing represented only seven per cent of total spending while in 2012 it represented 32 per cent.

I dare say that few analysts would feel comfortable suggesting that 32 per cent of provincial government spending is going towards goods and services that will mainly benefit only future generations of taxpayers. If, perhaps, seven per cent is more like it, then the government — and Alberta taxpayers — have some hard decisions to make about cutting spending, raising additional tax dollars, or some combination of the two.<sup>14</sup>

## CONCLUDING COMMENTS

Understanding what our governments are doing with respect to budgets is made easier if we relate their choices to those we must make with respect to our own finances. We must pay our bills so that when spending exceeds income we can either borrow, and go into debt, or we can dig into savings. Borrowing or digging into savings are not very different from one another; the former means we pay interest on our debt while the latter means we forego investment income. Once we get our spending and income into balance, we tend to maintain that balance. Any new spending is matched by new income so that the gap between spending and income remains constant. We do not rely on income that is high one month and low the next to fund important family expenditures. Spending on infrastructure (a house, for example) is an investment that can sensibly be financed with borrowing. However we put limits on the size of that debt and we are careful about the things we pay for with borrowing. In particular, we don't ask our children to pay for groceries by borrowing and passing the debt to them. I have tried to show in this note that the government faces these very same issues and choices.

---

<sup>14</sup> Interestingly, seven per cent of total provincial government spending in 2012 was equal to about one per cent of Alberta's GDP. The Alberta Financial Management Commission ([http://www.finance.alberta.ca/publications/other/2002\\_0708\\_fmc\\_final\\_report.pdf](http://www.finance.alberta.ca/publications/other/2002_0708_fmc_final_report.pdf)), appointed by the government in 2002 to offer advice on budgeting choices, suggested that the government annually spend 0.9 per cent of GDP on infrastructure projects.

My description of the budgeting problem suggests there are three key questions that should be posed to our government and to any political party seeking to represent our interests as our government:

1. How tolerant are they of annual deficits? Do they advocate a strategy of relatively lower levels of government spending and/or higher tax rates, so as to avoid deficits no matter the state of the economy? Or will they tolerate deficits during economic slowdowns to enable higher levels of spending and/or lower tax rates?
2. To what extent are they willing to trust the payment of health-care costs and the costs of education and social assistance to oil and gas royalties as opposed to taxation?
3. How, exactly, does one define investments in social infrastructure; investments that can be funded by borrowing or by spending non-renewable resource royalties? What limits should be put on borrowing to fund such expenditures?

The answers to these questions are contentious. They are contentious because they involve trade-offs that are required by the government's budget constraint. But all governments must answer these questions and, so, must make these choices. Nor are there necessarily any correct answers to these questions. What I deem to be a correct answer will reflect my preferences and what you deem to be correct will reflect yours. There is room for disagreement. We are fortunate in that we live in a country that allows disagreements to be voiced and debated and finally resolved in a peaceful democratic vote. A good result is only possible, however, if the options are clearly stated and understood. The purpose of this note was to lay out those options.

### About the Author

**Ronald Kneebone** is a Professor of Economics and Director of Economic & Social Policy in The School of Public Policy, both at the University of Calgary. His published research has dealt with issues pertaining to the political economy of government deficit and debt reduction, the history of government fiscal and monetary relations in Canada and the characteristics of Canadian federal, provincial and municipal fiscal policy choices. More recently, his research has examined issues pertaining to the problem of homelessness and income support for persons with disabilities.



## ABOUT THIS PUBLICATION

The School of Public Policy Research Papers provide in-depth, evidence-based assessments and recommendations on a range of public policy issues. Research Papers are put through a stringent peer review process prior to being made available to academics, policy makers, the media and the public at large. Views expressed in The School of Public Policy Research Papers are the opinions of the author(s) and do not necessarily represent the view of *The School of Public Policy*.

## OUR MANDATE

The University of Calgary is home to scholars in 16 faculties (offering more than 80 academic programs) and 36 Research Institutes and Centres including *The School of Public Policy*. Under the direction of Jack Mintz, Palmer Chair in Public Policy, and supported by more than 100 academics and researchers, the work of The School of Public Policy and its students contributes to a more meaningful and informed public debate on fiscal, social, energy, environmental and international issues to improve Canada's and Alberta's economic and social performance.

*The School of Public Policy* achieves its objectives through fostering ongoing partnerships with federal, provincial, state and municipal governments, industry associations, NGOs, and leading academic institutions internationally. Foreign Investment Advisory Committee of the World Bank, International Monetary Fund, Finance Canada, Department of Foreign Affairs and International Trade Canada, and Government of Alberta, are just some of the partners already engaged with the School's activities.

For those in government, *The School of Public Policy* helps to build capacity and assists in the training of public servants through degree and non-degree programs that are critical for an effective public service in Canada. For those outside of the public sector, its programs enhance the effectiveness of public policy, providing a better understanding of the objectives and limitations faced by governments in the application of legislation.

---

### DISTRIBUTION

Our publications are available online at [www.policyschool.ca](http://www.policyschool.ca).

### DISCLAIMER

The opinions expressed in these publications are the authors' alone and therefore do not necessarily reflect the opinions of the supporters, staff, or boards of The School of Public Policy.

### COPYRIGHT

Copyright © 2013 by The School of Public Policy.

All rights reserved. No part of this publication may be reproduced in any manner whatsoever without written permission except in the case of brief passages quoted in critical articles and reviews.

### ISSN

1919-112x SPP Research Papers (Print)  
1919-1138 SPP Research Papers (Online)

### DATE OF ISSUE

January 2013

### MEDIA INQUIRIES AND INFORMATION

For media inquiries, please contact Morten Paulsen at 403-453-0062.

Our web site, [www.policyschool.ca](http://www.policyschool.ca), contains more information about The School's events, publications, and staff.

### DEVELOPMENT

For information about contributing to The School of Public Policy, please contact Courtney Murphy by telephone at 403-210-7201 or by e-mail at [cmurphy@ucalgary.ca](mailto:cmurphy@ucalgary.ca).

## **RECENT PUBLICATIONS BY THE SCHOOL OF PUBLIC POLICY**

PROGRESSIVE INCREMENTALISM: U.S FOREIGN ECONOMIC POLICY OVER THE NEXT FOUR YEARS

<http://policyschool.ucalgary.ca/?q=content/progressive-incrementalism-us-foreign-economic-policy-over-next-four-years>

John M. Curtis | January 2013

INSTRUMENTS FOR FOREST HABITAT CONNECTIVITY

<http://policyschool.ucalgary.ca/?q=content/instruments-forest-habitat-connectivity>

Elizabeth A. Wilman | January 2013

THE SYRIAN CRISIS: WHAT IT MEANS FOR THE WORLD; IS THERE A ROLE FOR CANADA?

<http://policyschool.ucalgary.ca/?q=content/syrian-crisis-what-it-means-world-there-role-canada>

Ferry de Kerckhove | December 2012

MANAGING TAX EXPENDITURES AND GOVERNMENT PROGRAM SPENDING: PROPOSALS FOR REFORM

<http://policyschool.ucalgary.ca/?q=content/managing-tax-expenditures-and-government-program-spending-proposals-reform>

John Lester | December 2012

CHANGING LANDSCAPES FOR CHARITIES IN CANADA: WHERE SHOULD WE GO?

<http://policyschool.ucalgary.ca/?q=content/changing-landscapes-charities-canada-where-should-we-go>

A. Abigail Payne | November 2012

A PROFOUND TAX REFORM: THE IMPACT OF SALES TAX HARMONIZATION ON PRINCE EDWARD ISLAND'S COMPETITIVENESS

<http://policyschool.ucalgary.ca/?q=content/profound-tax-reform-impact-sales-tax-harmonization-price-edward-islands-competitiveness>

Duanjie Chen and Jack Mintz | November 2012

THE COMPREHENSIVE TRADE AGREEMENT WITH INDIA: WHAT'S IN IT FOR CANADA (OR INDIA FOR THAT MATTER)?

<http://policyschool.ucalgary.ca/?q=content/comprehensive-trade-agreement-india-whats-it-canada-or-india-matter>

Eugene Beaulieu | November 2012

ENERGY LITERACY IN CANADA

<http://policyschool.ucalgary.ca/?q=content/energy-literacy-canada.pdf>

André Turcotte, Michal C. Moore, Jennifer Winter | October 2012

CAN WE AVOID A SICK FISCAL FUTURE? THE NON-SUSTAINABILITY OF HEALTH-CARE SPENDING WITH AN AGING POPULATION

<http://policyschool.ucalgary.ca/sites/default/files/research/emery-generational-balances-final.pdf>

J.C. Herbert Emery, David Still and Tom Cottrell | October 2012

CAPTURING ECONOMIC RENTS FROM RESOURCES THROUGH ROYALTIES AND TAXES

<http://policyschool.ucalgary.ca/sites/default/files/research/mintz-chen-economic-rents-final.pdf>

Jack Mintz and Duanjie Chen | October 2012