



Policy



Paper

A Good Problem to Have

Lessons for Atlantic Canada from Alberta's
Experience with Natural Resource Revenue

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Two people win the lottery. The first winner quits his job and buys a bigger house. A year later, he is worried he will have to sell his new house and is trying desperately to get his job back. The second winner prudently pays off the mortgage on her existing home, keeps her job and invests the rest of the money. A year later, her investments are generating income that she uses to go on a great vacation. She is able to do this year after year. When she passes away, her children inherit the money.

Executive Summary

No matter how well intentioned governments are, when it comes to non-renewable resource revenue, they and the people who elect them tend to act like the first person rather than the second. Saving resource revenue and using the earnings pays off. No matter what the government wants to use the resource revenue for — be it tax relief, additional spending or annual dividend payments to residents — saving it increases the sustainability of public programs. But, because the government gets less in the short term, this option is elbowed out of the way by the temptation to spend resource revenue as fast as it comes in.

Atlantic Canada has significant non-renewable oil and gas deposits		
Province	Oil Reserves	Natural Gas
Newfoundland & Labrador	1.5 billion barrels Geoscience data indicate a further 6 billion barrels of oil	11 trillion cubic feet of reserves Geoscience data indicate an additional 60 trillion cubic feet could be discovered "To put that into context, one tcf of natural gas will heat all gas-heated homes in Canada – almost five million – for two years" (Canadian Association of Petroleum Producers)
New Brunswick	1.9 million barrels	78.2 trillion cubic feet (shale) 103 billion cubic feet (conventional) Offshore gas reserves could be significant
Nova Scotia	8 billion barrels offshore	120 trillion cubic feet offshore 70 trillion cubic feet onshore

See Appendix A (pg. 30) for more-detailed information on Atlantic Canada's resource potential.

In Newfoundland and Labrador, crude oil extraction has been yielding large amounts of royalty revenue for the province — **\$14.7-billion between 1998 and 2013**¹ — none of which has been saved for future use. Likewise, mineral royalties have proved lucrative for the province, netting **\$1.7-billion between 2005 and 2015**.² It is time for the people of Newfoundland and Labrador to develop a better plan



for the stewardship of their resource wealth. It is not too late, but the clock is ticking. Waiting until prices rebound wastes valuable time while the province's non-renewable resources are run down. Memories are, moreover, short, and the impetus to rethink how natural resource revenue is managed tends to weaken when the money is flowing and it seems as if the good times will last forever.

If the abundant natural resources in the other Atlantic provinces are developed, they, too, will be facing the question of how best to manage the financial benefits. They will have the chance to take a more thoughtful approach right from the start instead of having to play catch-up.

Out West, Alberta's long exposure to large amounts of resource cash highlights not only the incredible benefits of resource development, but also the critical importance of having a clear and thoughtful plan in place for dealing with the windfall revenue. The Atlantic provinces can learn a great deal from Alberta's turbulent history with resource revenue.

...The dramatic dip in oil prices that began late in 2014 has exposed the problems created by depending on resource revenue to fund annual expenditures...

The dramatic dip in oil prices that began late in 2014 has exposed the problems created by depending on resource revenue to fund annual

expenditures, be it in Alberta or in Newfoundland and Labrador. Hence, now is the time to debate what can be done to improve the stewardship of resource revenue in Atlantic Canada.

Key Findings

The following lessons can be drawn from Alberta's experience with non-renewable resource revenue:

- Both current and future residents of a province benefit from transforming a non-renewable and unpredictable revenue source that encourages price inflation into a permanent and more stable financial asset that pays off in perpetuity.
- Saving is not about putting money in a mattress. It is about spending **more** money **better** over a **longer** period. Putting the money to work in a highly visible fund that grows with the economy and earns a relatively steady amount of income year after year achieves this. It improves planning and accountability and avoids the cost inflation that tends to accompany large and sudden influxes of resource revenue.



- Investment funds are subject to volatility, but the volatility of a well-managed investment fund is much less than the historical swings in resource revenue that have rocked provincial government finances in Alberta. Since 2000, Alberta's annual resource revenue has increased by as much as 128 per cent and decreased by as much as 43 per cent.³ Riding this fiscal rollercoaster undermines effective public policy.
- A good argument can be made that a portion of the revenue generated by the sale of non-renewable resources should be shared with future residents. The only way to **guarantee** that this happens is to save resource revenue in a permanent fund.
- Public support for an aggressive savings program will not be immediate, but the inherent benefits may well carry the day if given a chance. Clear public support expressed through a referendum after a rich public debate is essential to a saving plan's success.
- The perception of wealth plus the overheating of the economy caused by unusually high resource revenue puts upward pressure on public sector costs.
- Saving is the best way to avoid spending commitments that cannot be kept when resource revenue inevitably falls and, in turn, the costly borrowing and sudden spending cuts and/or tax increases that are necessary when it does.
- Prudently investing resource revenue in the market will cause the initial investment to grow and yield more bang for the buck over time.
- There is always an argument about why saving is not a viable option. When revenue falls, the excuse is poverty. When revenue rises, the excuse is the need to make up for past shortfalls or to "invest" in the future by increasing spending in the present. Bold leadership is needed to break this cycle or, better, prevent it before it begins.

Recommendations

Given the intergenerational nature of, and fiscal damage caused by, non-renewable resource revenue, provincial governments should put the following in place:

1. Save 100 per cent of resource revenue with only the earnings available for operational or capital expenses.
2. Inflation proof the saving fund's principal.
3. Use the earnings to retire provincial debt before using it for other purposes.



4. Once out of debt, do not think of the saved revenue as a rainy day fund. Decide what the fund's income will be used for, begin using it and provide regular reports to the public.
5. Defer the use of the saving fund's annual earnings until the following year (i.e., have the earnings in the bank before incorporating them into the provincial budget).
6. Put the savings plan before a citizens' assembly for review. Submit the recommendations of the assembly to a binding provincial referendum.



Introduction

Resource revenue is great to have, but governments cannot rely on it. The revenue holes forming in the budgets of Alberta and Newfoundland and Labrador by the recent drop in oil prices are a case in point.⁴ Is this fiscal feast or famine inevitable, or is there something that can be done to smooth out the wild swings? The answer is actually quite simple: Save the natural resource revenue and use the earnings rather than spend it as it comes in.

This principle applies to the flow of resource revenue that Newfoundland and Labrador has been enjoying for almost two decades and to the revenue that would be generated by developing the substantial natural resource reserves that exist in other parts of Atlantic Canada (see Table 1).

TABLE 1		
Atlantic Canada has significant non-renewable oil and gas deposits		
Province	Oil Reserves	Natural Gas
Newfoundland & Labrador	1.5 billion barrels Geoscience data indicate a further 6 billion barrels of oil	11 trillion cubic feet of reserves Geoscience data indicate an additional 60 trillion cubic feet could be discovered "To put that into context, one tcf of natural gas will heat all gas-heated homes in Canada – almost five million – for two years" (Canadian Association of Petroleum Producers)
New Brunswick	1.9 million barrels	78.2 trillion cubic feet (shale) 103 billion cubic feet (conventional) Offshore gas reserves could be significant
Nova Scotia	8 billion barrels offshore	120 trillion cubic feet offshore 70 trillion cubic feet onshore

See Appendix A (pg. 30) for more-detailed information on Atlantic Canada's resource potential.

By highlighting the benefits of saving,⁵ this paper is attempting to shift policy from a counterproductive focus on immediate fiscal gratification to one of transforming unpredictable resource revenue⁶ into a less volatile financial asset that pays off in perpetuity.⁷

It seems counterintuitive, but people who win the lottery sometimes end up less happy than they were before they hit the jackpot. Some winners end up sitting on the steps of the house they can no longer afford as their sports car is being repossessed and wondering, "Where did it all go?" Some winners, of course, use the money to make their lives better and are happier as a result.



Governments and the citizens they represent who win the resource revenue lottery have to be careful not to end up like the unhappy lottery winners. Resource revenue is a good problem to have but it is still a problem.

Fortunately, there is a way to avoid virtually all the downside of a resource revenue boom while enhancing the benefits it brings: Save the revenue in an investment fund and use the earnings the fund generates. This report explains why this approach makes sense and draws some lessons for the Atlantic provinces from Alberta's approach to this "problem."

Fortunately, there is a way to avoid virtually all the downside of a resource revenue boom while enhancing the benefits it brings...

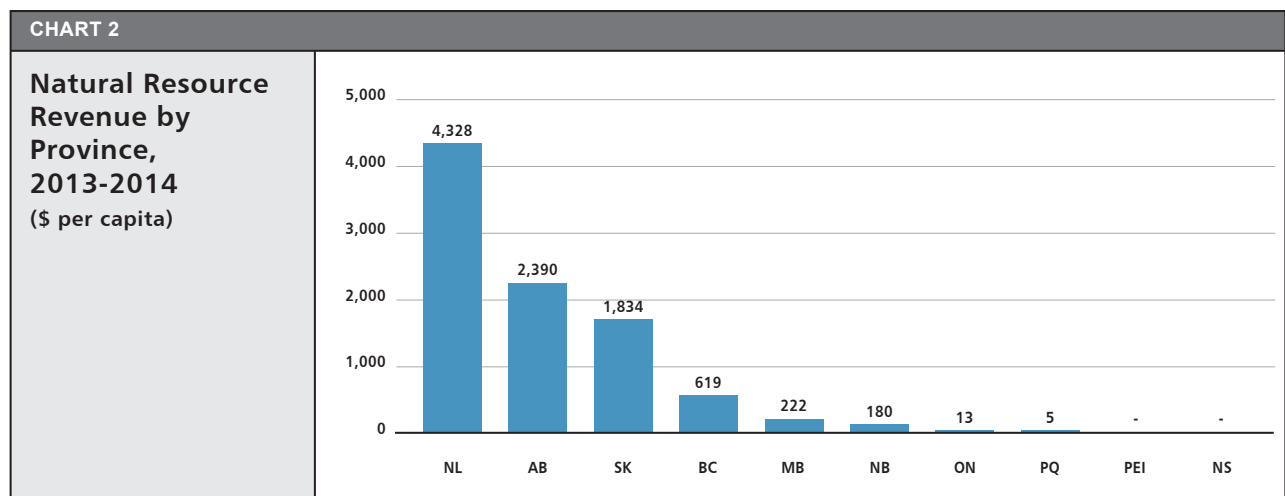
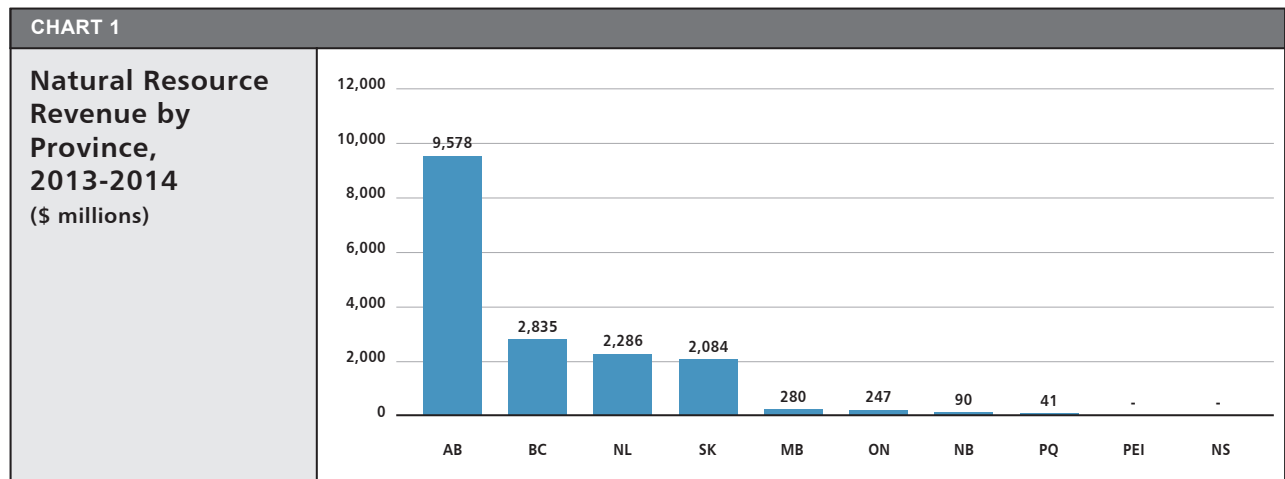
There are many great reasons for a provincial government to convert resource revenue into a permanent financial asset and only spend the earnings it generates. This approach improves planning and accountability, ensures the benefits of natural resources are around for both current and future residents, reduces the cost of government and avoids the large fluctuations in revenue that plague resource-rich provinces. The fiscal panic created by the current downturn in oil prices⁸ highlights the need to prevent the blessing of natural resource revenue from turning into a ride on the boom-bust rollercoaster.

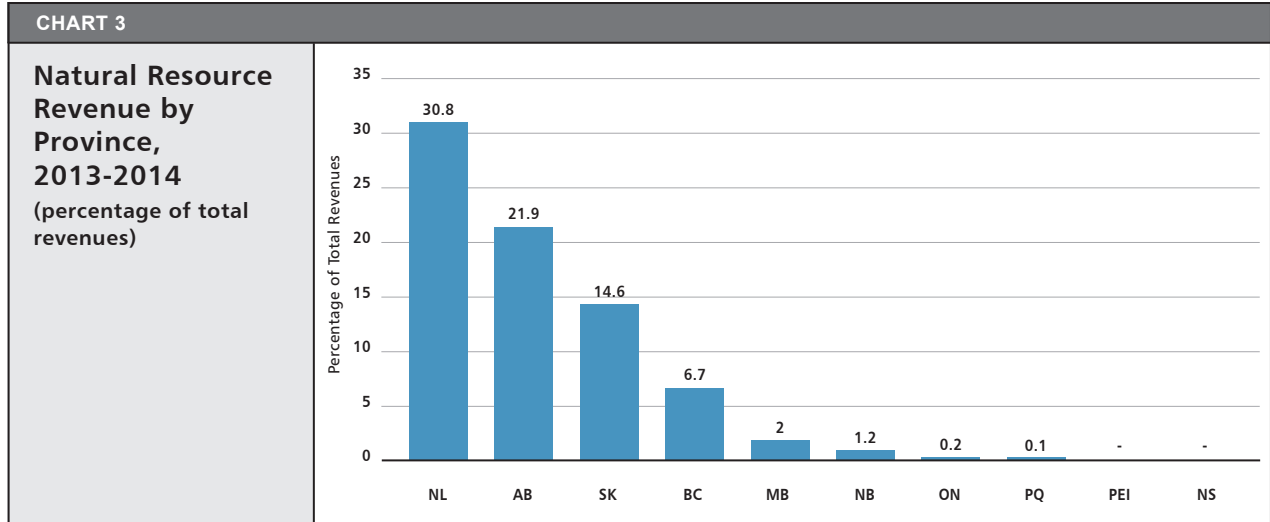


Natural resources 101

In Canada, the Crown owns almost all natural resources found under the ground (a.k.a. subsurface mineral rights).⁹ This is true even if the land above the resources is in private hands.¹⁰ According to section 92 of the *Constitution Act*, the provinces have jurisdiction over the natural resources found on and under provincial land.¹¹

In terms of Newfoundland and Labrador and Nova Scotia, both provinces have had to extract a degree of jurisdictional control from the federal government over offshore oil and gas deposits.¹² Thanks in part to federal-provincial management agreements signed in the 1980s with these two provinces, all provincial governments have the authority to collect royalties from the companies that extract these resources. The most lucrative royalties are from oil and gas extraction. This revenue forms a significant portion of provincial government revenue in British Columbia,¹³ Alberta, Saskatchewan and Newfoundland and Labrador (see Charts 1, 2 and 3).





Sources: Dominion Bond Rating Service. December 2014. *The Rebalancing Act: Managing Through Fiscal and Economic Adjustment*.



All revenue is not created equal

In the mid-2000s, the Alberta government posted a series of massive budget surpluses that were the result of unusually high natural gas royalty revenue.¹⁴ When there was no provincial debt remaining,¹⁵ some Albertans called for the surplus cash to be given back to taxpayers. At first blush, this makes a great deal of sense: A government should not squeeze more revenue from taxpayers than it needs.¹⁶

Resource revenue may not be the same as tax revenue, but it all ends up in one pot, making a tax refund a possibility. There are, however, two disadvantages to giving back the extra money. First, “extra” quickly becomes essential, as spending ratchets up and surpluses vanish, leaving little, if any, money to give back. Second, a portion of the resource revenue should be preserved for future generations to enjoy. As Brian Lee Crowley argues, resource revenue is “a capital asset, not income, and should be reinvested to benefit future generations as well as today’s population.”¹⁷ This will not happen if all the revenue is used for current expenses (including refunds). Both of these disadvantages disappear if the revenue is diverted from the current spending account into an investment fund that earns an annual return. This heads off overspending, protects the claims of future generations and yields a steady (or at least much steadier) stream of annual income that could, for example, fund an *ongoing* dividend program that puts money into taxpayers’ pockets *year after year*.



Alaska's Permanent Fund Dividend program

The best example of an ongoing dividend program is Alaska's Permanent Fund Dividend. Prompted by oil discoveries in Prudhoe Bay in 1968, the state government auctioned off oil leases for \$900-million (USD). This resulted in a spending spree that eventually became unsustainable and politically volatile. In 1976, Alaskan residents voted 2 to 1 in favour of a constitutional amendment requiring the state to allocate at least 25 per cent of its non-renewable resource revenue into a fund from which only the earnings could be spent. The Alaskan Constitution prohibits spending the principal.¹⁸

The first deposits to the Permanent Fund Dividend program were made in 1977. Subsequent legislative alterations in the 1980s saw the minimum allocation base level rise to 50 per cent for new petroleum fields. In 1980, the state government decided to use the Fund purely as an investment vehicle. The Alaska Permanent Fund Corporation (APFC) was thus created to manage the Fund's investments. Operating at relatively arm's-length, the APFC's Board of Trustees is composed of six members, four of whom are appointed by the governor for staggered terms of four years. These individuals are required to have expertise in investment, business, management and finance. A cabinet member and the state's Commissioner of Revenue fill the remaining two positions.¹⁹

Unlike Norway (see Appendix C, pg. 34), the APFC can invest in domestic assets that are not intended for economic or social development purposes. Alaskan law similarly prevents the Fund from being used to finance political activities. In light of treating the Fund as a return-maximizing investment instrument, state authorities established the Permanent Fund Dividend program to allocate the Fund's earnings to the state's residents. Alaska's 735,000 eligible residents share these dividends every October. In 2014, the payout was \$1,884 per person. The lowest payout was \$331 (1984) and the highest was \$2,069 (2008).²⁰

The Fund's cumulative net income from 1977-2014 was \$47.3-billion (USD), of which \$22.1-billion (USD) was paid out in the form of dividend payments, equating to 47 per cent of the Fund's income. The remaining 53 per cent, or \$25.2-billion (USD), was largely used for inflation proofing and operating expenditures. Only 1 per cent of the Fund's income has been transferred to the state government. As of late 2014, the total value of the Permanent Fund Dividend program was \$51.2-billion (USD).²¹ As a testament to its prudent management and the political foresight of state officials, the Fund generates more revenue for Alaska than oil does.²² The visibility of the dividend program helps ensure that the Fund is well managed and not used to achieve short-term political goals.²³



Get rid of debt

Regardless of why debt is taken on, paying interest on debt is money you do not have to spend or save. Paying off debt is a no-brainer that is good for both current and future residents. Hence, if you can pay off debt, you should. This applies to both individuals and to governments. Does a government put resource revenue toward debt directly (as Alberta did) or save the revenue and use the earnings to pay off the debt over time? The downside of the latter approach is that the debt will be paid off slower and, in turn, cost more. The upside of saving and using the earnings is that it ensures that there is a permanent fund in place that will generate income long after the debt has been retired. Our recommendation is to save and use the earnings to clear all debts and — only then — use the earnings for other purposes. We support this option because the Alberta experience demonstrates the importance of committing to save regardless of the other fiscal pressures in play and, by so doing, establishing a culture of saving that can resist those pressures in good times and bad.²⁴

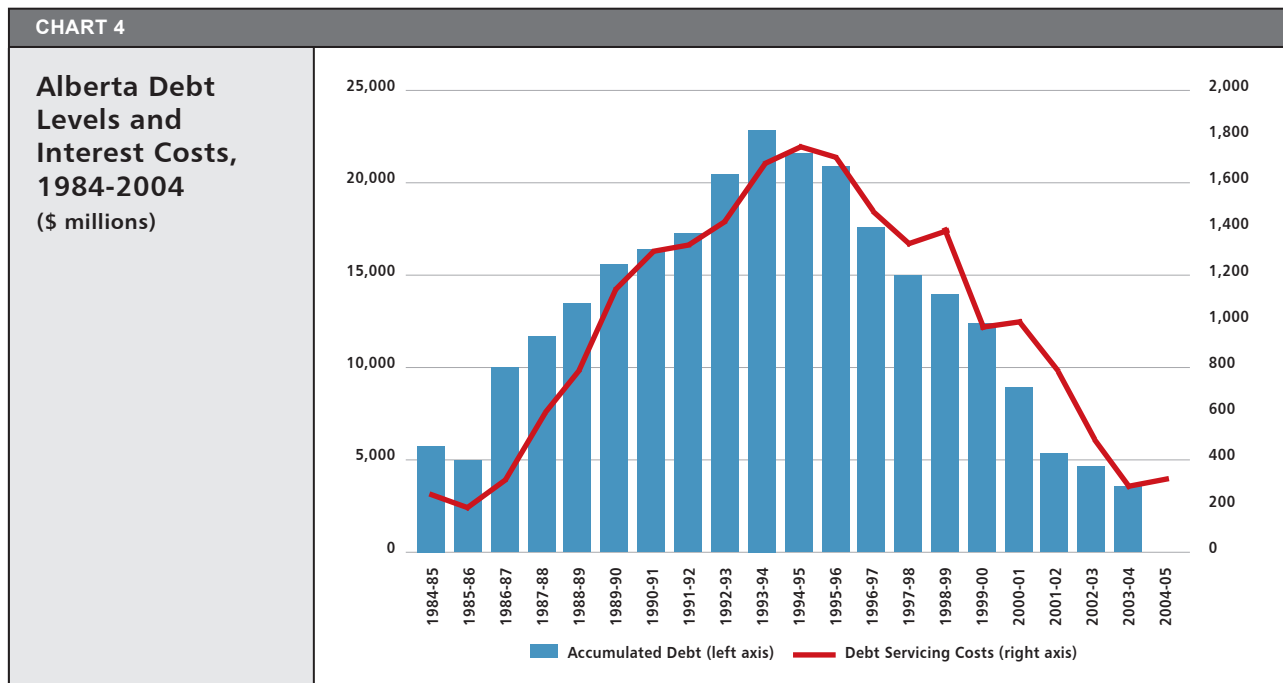
Regardless of which option is adopted, it is important not to confuse paying off debt with saving. Paying off debt is smart because it digs current and future taxpayers out of a costly hole. However, paying off your credit card is not the same as building an asset portfolio that earns you income in perpetuity.

Governments are not the same as individuals or families. A family will take out a mortgage on a house because it does not have the cash to pay for it outright. This makes sense because the family needs a place to live *now*, not 25 years from now. And, while it would be ideal not to have to pay all that interest, at least the mortgage payments chip away at the principal until the family owns an asset that has (it is hoped) increased in value over time. It is also an asset they can sell when it is time to downsize, and then use the profit for other purposes. The citizens that governments act on behalf of also need things — a hospital for a growing city, for example — *today* rather than after 30 years of saving up for them. But, precisely because governments can draw on the resources of an entire community, they do not *have* to finance big purchases through borrowing if they have a good long-term capital plan that is adequately funded by annual tax revenue. In addition, governments rarely get around to actually paying off the debt they take on. In this way, so-called good debt often becomes a smokescreen for charging *future* generations for *current* expenditures.

By paying off its debt,²⁵ Alberta reduced its annual debt-servicing costs from more than \$1.7-billion to approximately \$300-million.²⁶ That is \$1.4-billion less *per year* going to interest costs that is available for other uses (see Chart 4, next page).



In contrast with Alberta, debt-servicing expenses in Newfoundland and Labrador for 2014-2015 cost the province \$874-million or 11 per cent of total expenses.²⁷ In fact, the province has paid out a total of \$7.3-billion in debt-servicing expenses since 2006, consuming, on average, 12 per cent of all government expenses.²⁸ The provincial government projects that debt-servicing expenses will grow to \$1-billion per annum by 2018-2019.²⁹ Meanwhile, Newfoundland and Labrador’s net debt has increased by \$1.2-billion since 2011-2012, with the provincial Auditor General saying that net debt will likely exceed \$10-billion by March 31, 2016.³⁰



Source: Alberta Finance, Budget Documents (various years).

Paying off the debt helps current residents by reducing current interest costs and removing the burden on future generations. Current residents should not expect to see spending based on the resource revenue until the debt they contributed to, and benefitted from, is addressed.

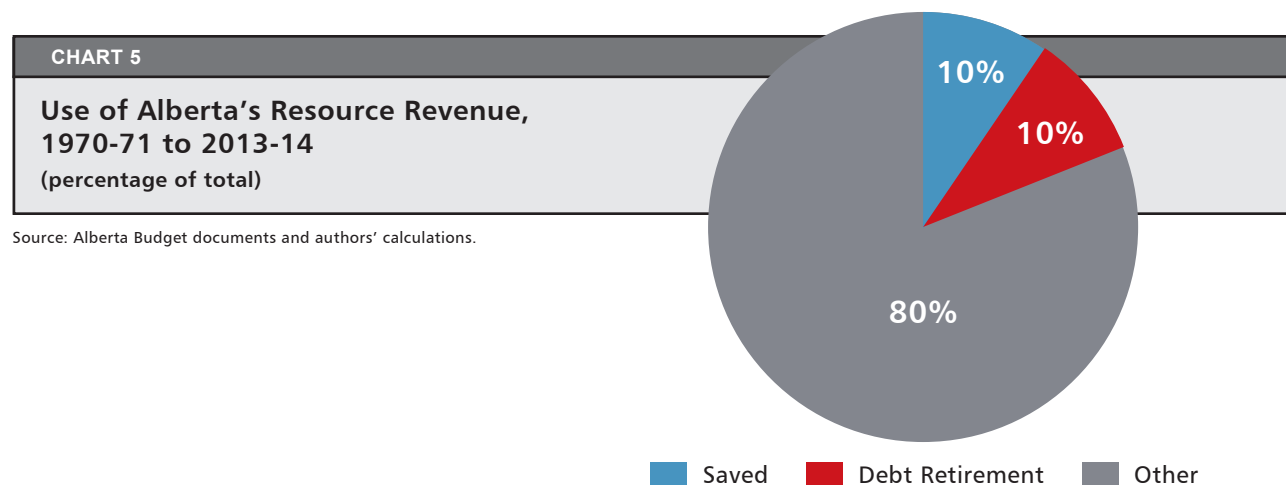


Why save?

There are two main reasons to consider saving resource revenue. The first is philosophical and involves the idea of intergenerational equity. It can be argued that natural resources — both renewable and non-renewable — belong to the residents of a province over time rather than at the moment of their extraction. Hence, we should steward renewable resources so they are around for future generations, and we should take pains to ensure that current and future residents share the benefits brought about by the sale of non-renewable resources. The second is practical. Unpredictable and large fluctuations in resource revenue upset the fiscal apple cart in all sorts of ways that reduce the benefits of having resource revenue in the first place.

The moral argument – intergenerational equity

Promoting intergenerational equity as a reason for saving resource revenue is a fancy way of saying that current residents have a duty to share their province's natural resource wealth with future residents. In this scenario, non-renewable natural resources are akin to renewable forms of natural capital such as a province's watersheds, forests and farmland. Many would agree that current residents should act as the stewards of these natural assets such that they are handed on to future residents in as good or better shape than when they were handed on to the current residents. In the same way, it behooves current residents to make sure that future generations benefit from their province's non-renewable resources, with oil and natural gas being prime examples. The best way, indeed, the only way, to ensure this happens is to save at least some of the money from the sale of non-renewable natural resources for future use.³¹



The emotional appeal here is that our children and grandchildren deserve a cut from the sale of our non-renewable resources. This is a *moral choice* rather than one required by law or practicality. In Alberta, and so far in Newfoundland and Labrador, it is a choice that has (notwithstanding much rhetoric to the contrary)³² been ignored in favour of spending the vast majority of non-renewable resource revenue in the here and now. In Alberta, 10 per cent of resource revenue has been saved (\$21.2-billion of \$217.9-billion),³³ and zero per cent of \$16.6-billion has been saved in Newfoundland and Labrador.³⁴ This rather poor showing in Alberta has been made even worse by the fact that the purchasing power of what has been saved has been allowed to erode by siphoning off the earnings without fully protecting the principal from inflation.

“Without a binding rule that places a priority on saving, governments will tend to avoid the difficult choices that are required to ensure that future generations of Albertans will share in the benefits of the resource endowment the current generation of Albertans enjoys.”³⁵ Some people will no doubt argue that the future can look after itself. Fair enough, but this choice should be a conscious one and a truly public one.

TABLE 2	
Money Saved in Alberta	
Alberta Savings 1976-77 to 2013-14	\$ millions
Heritage Fund	17,736
Medical Research Endowment Fund	1,365
Science and Engineering Endowment	793
Scholarship Fund	793
Cancer Prevention Legacy Fund	500
Total Saved	21,187
Resource Revenue 1970-71 to 2013-14	217,931
Percentage Saved	10%

Sources: Heritage Fund 2013-14 Annual Report and Budget 2014.

But didn't Alberta pay off its debt and, in turn, do future Albertans (not to mention current taxpayers) a big favour? Paying off public debt does indeed remove this burden from the shoulders of future generations. However, paying back what you charged to the future using the public credit card is not the same as setting aside a portion of today's resource bounty for tomorrow's residents. Paying off debt avoids saddling future residents with a financial burden; it is not the same as leaving them a share of today's bounty.



But what about “investments” in infrastructure and education made possible by today’s resource revenue? Is this not a good way of sharing today’s wealth with future residents? The problem with this argument is that most of this spending would take place anyway (using tax dollars instead of resource revenue). There is nothing unusual about a government “investing in the future”; governments do this as a matter of course. We spend money today on education that will pay dividends in the future; future taxpayers will do the same and so on. We are not doing something special by “investing” in education. The same holds true for infrastructure. We built infrastructure 20 years ago; we are building infrastructure today; and we will build more 20 years from now. “Investing” in infrastructure is not a substitute for saving resource wealth for future use. In addition, because of the cost escalation that accompanies the influx of large amounts of resource revenue, these “investments” almost certainly mean that the government is spending more but getting less.

This is why, if you accept that future residents have a claim to a portion of today’s resource revenue, the only way to ensure that they have access to it and can use it as they see fit is to save it.³⁶ The problem is that the temptation to enjoy the money now has tended in the Canadian context to trump the rhetoric about intergenerational equity. This is why it is important to outline the practical benefits of saving as well as the moral obligation.

Why don’t we just leave the resources in the ground for future generations? The first drawback of this approach is that it does not benefit current job seekers, investors or taxpayers (the flipside of the generational coin is that current residents deserve to benefit as well as future residents). The second drawback is that it is a mistake to assume that the resources will be worth as much as they are today. As Brian Lee Crowley points out, “[N]atural resources left in the ground do not appreciate — they lose value.”³⁷ Waiting to develop natural resources leaves present residents without the benefits of that development, and it could mean that future residents do not benefit either.

Fiscal discipline – revenue causes spending

Imagine a group of friends who meet once a month to have dinner and catch up. They typically go to a good, reasonably priced restaurant. One of the friends — let’s call him Ernie — wins the lottery and suddenly his buddies are suggesting they go to the most expensive places in town and that Ernie should pick up the tab. Ernie’s plumber, seeing the big house that Ernie just bought, decides to charge him more because he figures Ernie can afford it.



Something similar happens when a provincial government wins the resource revenue lottery. “[B]allooning resource revenue rapidly generates new demands. Everyone is looking to get a share of the largess.”³⁸ The need to be efficient is less pressing; questionable projects seem worth a try; public sector workers want a little extra when it is time to renew their contracts (can you blame them?); and a burst of infrastructure spending in the midst of an already overheated economy pushes the costs of labour and materials up. Former Alberta Minister of Finance Jim Dinning summed this up nicely when he said, “Revenue causes spending.” And when it comes to resource revenue, it causes spending that locks governments into ongoing commitments such as salaries and infrastructure maintenance that do not go away when resource revenue inevitably falls. As Dr. Bev Dahlby notes, “A high level of government spending during a boom drives up the prices of non-tradable goods and services and wages”³⁹

Given this, it is perhaps not surprising that...

[s]ince 2000, [Alberta’s] public sector wage bill has shot up by 119 per cent — almost double the rate of growth in the rest of Canada. Wages, previously roughly at par with the rest of the country, are now higher (in many cases very substantially) across all public sector categories, including health care, social services, education and government, consuming 95 per cent of the increase in provincial revenues over the past decade.⁴⁰

And it is not just government that is affected. The infamous bumper sticker which first appeared in Alberta in the 1980s, “Please Lord, give us another oil boom and we promise not to piss it away this time” highlights how individuals, families and companies can also lose focus on frugality when the black gold is flowing.

Putting your money to work – the little fund that could

Peter Lougheed was Alberta’s premier during the oil boom of the 1970s, and he was no fool. He realized two things: First, there was too much revenue coming in at once for it to be spent wisely by his government. Second, the oil boom started by the OPEC crisis of 1973 was not going to last forever, so some of the money pouring in should be put in the bank.

A third impulse was to use the proceeds of the boom to diversify the economy to prepare it for the day the oil and gas ran out.⁴¹ This was a laudable goal, but the Alberta experience demonstrates that it is extremely hard for a government to spend its way to a more diversified economy. This does not mean that smart public policy



can do nothing to facilitate diversification (think infrastructure and human capital development) or that prudent efforts to encourage more value-added production, the expansion of existing industries, the launching of new ventures and the broadening of markets should be abandoned. The takeaway is that using resource revenue to pick winners or to try to sail against the headwinds of the market is a mug's game.

Whatever the exact mix of motives, the Lougheed government decided to put 30 per cent of the province's annual non-renewable resource revenue into a savings fund. With the initial deposit of \$2.12-billion in 1976, the Alberta Heritage Savings Trust Fund was born.

When the economy tanked in the early 1980s, the resolve to save resource revenue evaporated. The government raided the Fund to erase a budget deficit, and the deposit rate was cut to 15 per cent of resource revenue. By 1987, deposits stopped, and all resource revenue and Heritage Fund earnings went straight into general revenue and were spent. Alberta's experiment with saving was over. During the natural gas boom of the mid-2000s, the province made some new deposits into the Fund totalling almost \$4-billion. If, however, the original 30 per cent rule were adhered to, some \$52-billion more would have been deposited into the Fund by 2013-2014 (with a full 70 per cent of resource revenue still used for current spending).

Despite the shoddy treatment of the Heritage Fund over its history, it still demonstrates the power of saving resource revenue. Slightly less than \$18-billion in deposits and retained earnings have generated \$35.5-billion of investment income. Keep in mind that for most of the Fund's history, maximizing its earnings was not the priority. If it had been, the Fund would have generated even more income for the province. Nonetheless, \$35.5-billion from \$18-billion — plus the billions upon billions that same \$18-billion will generate in the years ahead — shows what happens when the government converts the sale of resources into a permanent income-generating financial asset. In this case, more saving would have been better, but even the limited saving that took place paid off in a big way.

In the case of Newfoundland and Labrador, the government has largely failed at diversifying the economy. While the province allocated \$137.4-million for attracting business over a five-year period, 2006-2011, less than 15 per cent was used. Furthermore, of the \$20-million in grants and loans funnelled by the government into business-attraction ventures since 2004, fewer than 100 net new jobs were created, and 25 per cent of them were seasonal.⁴² Newfoundland and Labrador has decided to allocate a significant portion of its oil wealth to building the Muskrat Falls hydroelectric dam in Labrador.⁴³ Expected to cost at least \$7.7-billion, this project



will be solely owned and largely financed through the public treasury.

A 2013 AIMS study by economist James Feehan determined that the project's high cost and risk have since been transferred to the rate-paying public thanks to monopolistic provincial legislation — in addition to the fact that it is being publicly financed.⁴⁴ Given the poor export opportunities for electricity to the Northeastern United States — thanks to the shale gas revolution — and the need to build expensive underwater distribution infrastructure, the provincial government has limited any potential future economic diversification with what are likely to be regionally uncompetitive electricity rates. It would be more prudent for the province to stop spending its oil-derived public money on such activities, pay down the debt and use the resulting savings for less-risky public infrastructure projects. The recent collapse of oil prices made this latter point abundantly clear when in January 2015, the province's Minister of Transportation and Works admitted that it was unlikely that the government could commit to its 2014 budget promise to spend \$200-million over three years on public infrastructure projects.⁴⁵

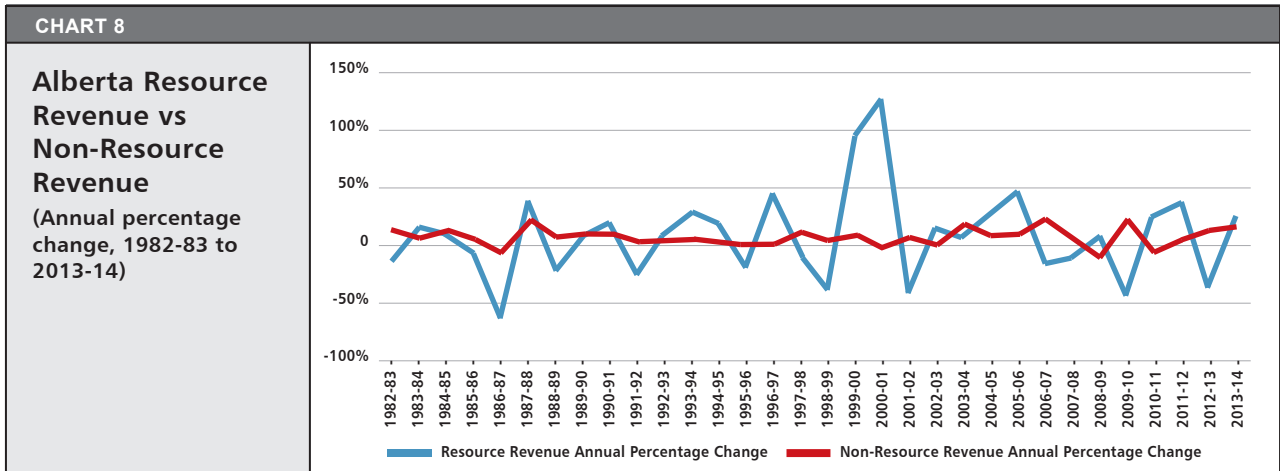
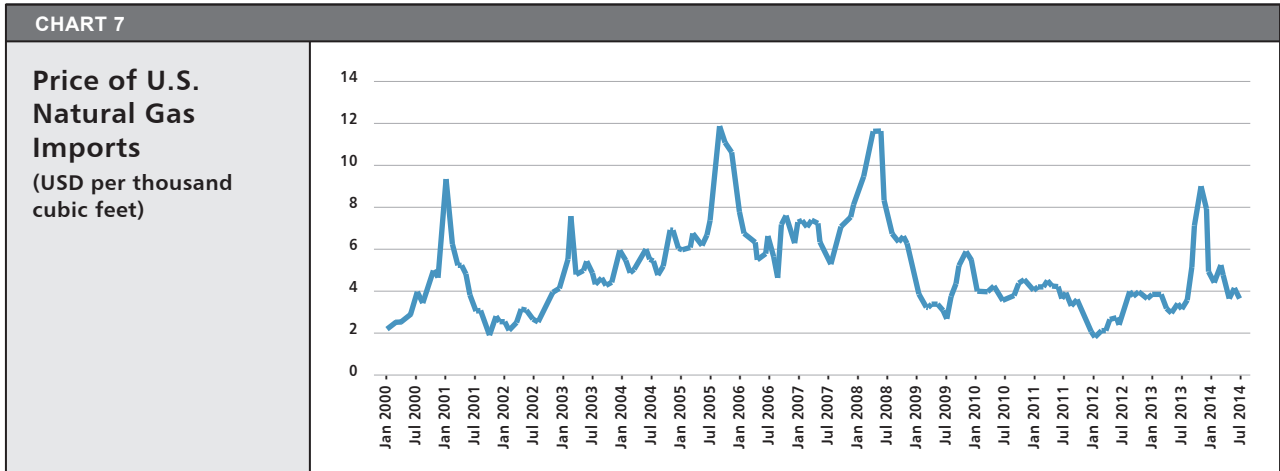
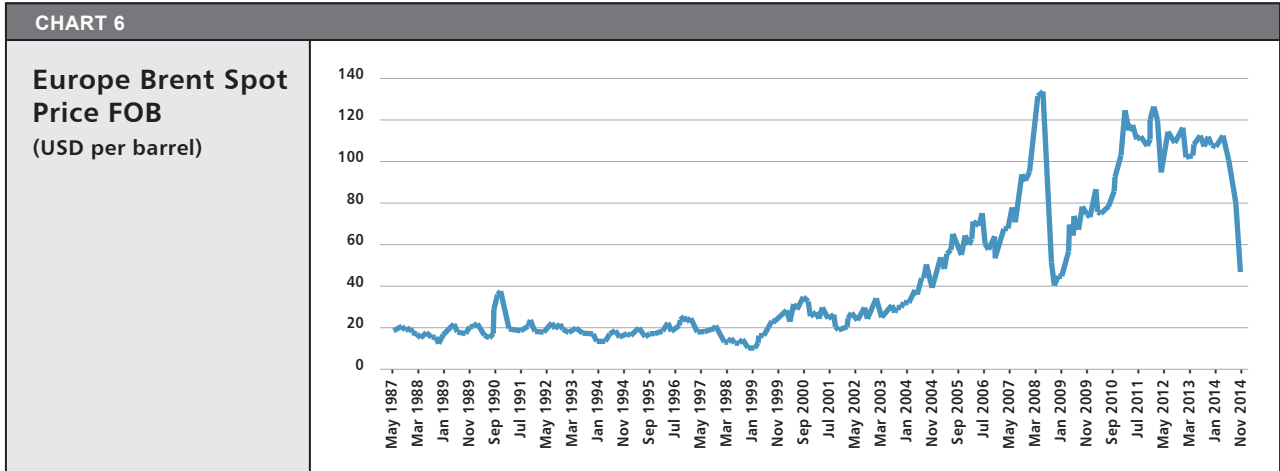
Getting off the rollercoaster – extreme volatility

“What goes up must come down.” – Ralph Klein, Premier of Alberta 1992-2006

Kennedy wins \$10,000 playing scratch-and-win lottery tickets. She wins another \$20,000 a week later and, unbelievably, \$20,000 more a few weeks after that. She decides to get rid of her fuel-efficient car and buys a cool new truck. A year later, she is thinking of selling her truck because she does not make enough to keep it full of gas. She has been buying lottery tickets, but none of them has been a winner for some time now.

As Kennedy's story suggests, it is foolish to base ongoing spending commitments on windfall revenue, yet this is what governments do when they rely on unpredictable annual influxes of resource revenue. All sources of government revenue are volatile and subject to fluctuations caused by, for example, business cycles, commodity cycles, population change, population aging, employment rates, stock market performance, severe weather and, in the case of Canadian provinces, changes to federal transfer programs. It is the *dramatic* swings of resource revenue that set its volatility apart from other sources.⁴⁶ These swings are illustrated by the price of crude in Chart 6. The Brent price benchmark went from \$133 a barrel in July 2008 to \$40 a barrel in December 2008. That is a drop in value of 70 per cent in five months. The rapid decline in oil prices that began in late 2014 is another example. As Chart 7 shows, natural gas prices also exhibit wild price swings.





Using the Alberta experience as an example, Chart 8 shows the much higher peaks and valleys that characterize resource revenue. When there is a revenue source that increases by 128 per cent one year and then contracts by 41 per cent the next (this happened in Alberta between 2000-2001 and 2001-2002) you know you are dealing with a highly unpredictable and wildly volatile revenue source. In Newfoundland and Labrador, resource revenue suddenly dropped by 33 per cent (\$931-million) between 2011-2012 and 2012-2013.⁴⁷

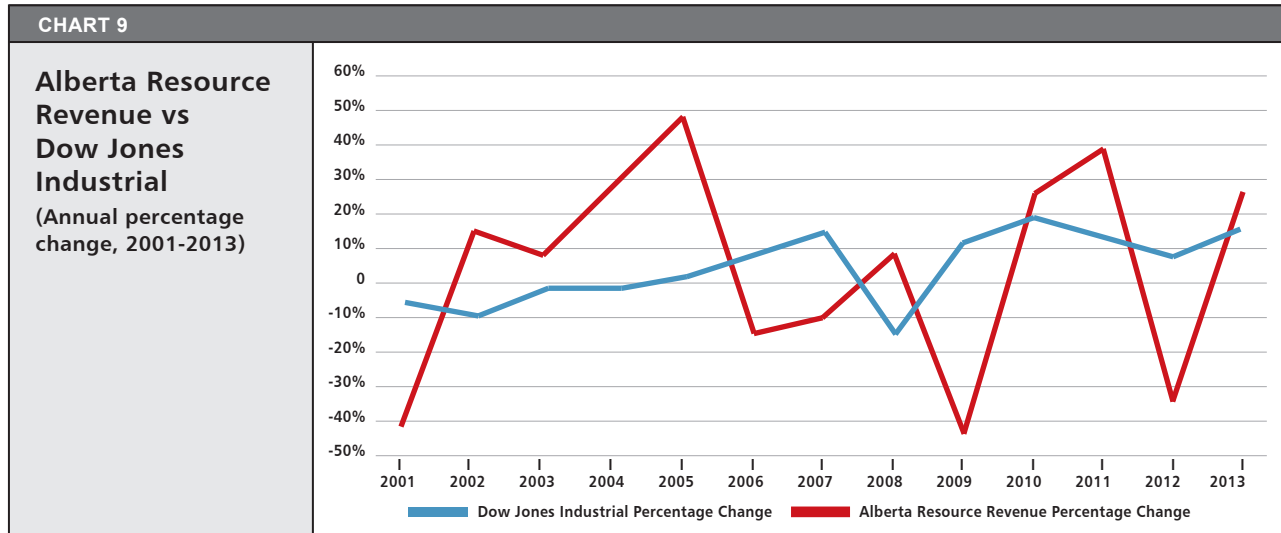
Using this revenue to fund ongoing expenditures that most assuredly do not fluctuate in the same way is a recipe for fiscal instability. Resource revenue cannot be relied on to fund core programs. It makes no sense, for example, to “invest” in education using resource revenue by hiring extra teachers one year and then having no money to pay them the next when resource revenue crashes. The manic-depressive nature of resource revenue can lead to poor planning, unrealistic expectations based on the peak periods, painful spending cuts and expensive borrowing and/or tax increases during the valleys. As Dr. Melville McMillan argues,

Pro-cyclical provincial government spending aggravates, rather than moderates, the economic cycle in the province. ... When resource revenue is plentiful, spending is easy. It encourages generous programs, questionable investments, and unsustainable tax cuts. ... [R]esource revenue cycles promote government that is sometimes too big and sometimes too small. In addition, the cycle itself discourages meaningful fiscal reform. When times are good, there is no call for it, when times are bad, everyone waits hoping for the next boom. Resource revenue, because it materializes in the provincial treasury without taking it from taxpayers’ pockets, seems like free money to both taxpayers and politicians. This faulty perception diminishes the transparency and accountability of the public sector.⁴⁸

This is why the long-term “revenue smoothing” made possible by saving resource revenue makes so much sense. As we all know, markets fluctuate, too, but not to the same degree as resource revenue (see Chart 9, next page). This is why a well-managed savings fund can reduce the fiscal shocks associated with resource revenue.

The other side of the volatility coin is permanence. You want smoother and more predictable revenue so you can plan effectively. It is not about saving for the sake of saving but so you can convert a volatile revenue stream into a steady (or at least steadier) one. You also want it to be permanent such that the revenue stream is available today, tomorrow, the next day and so on. It is not about the distant future.





The bumper sticker mentioned above (pg. 20), highlights the fleeting nature of resource booms and the need to find a way to make them last. It is also critical to remember that these booms are driven by non-renewable resources that will, at some point, run out or become unprofitable to extract.

If you want to avoid the tax man

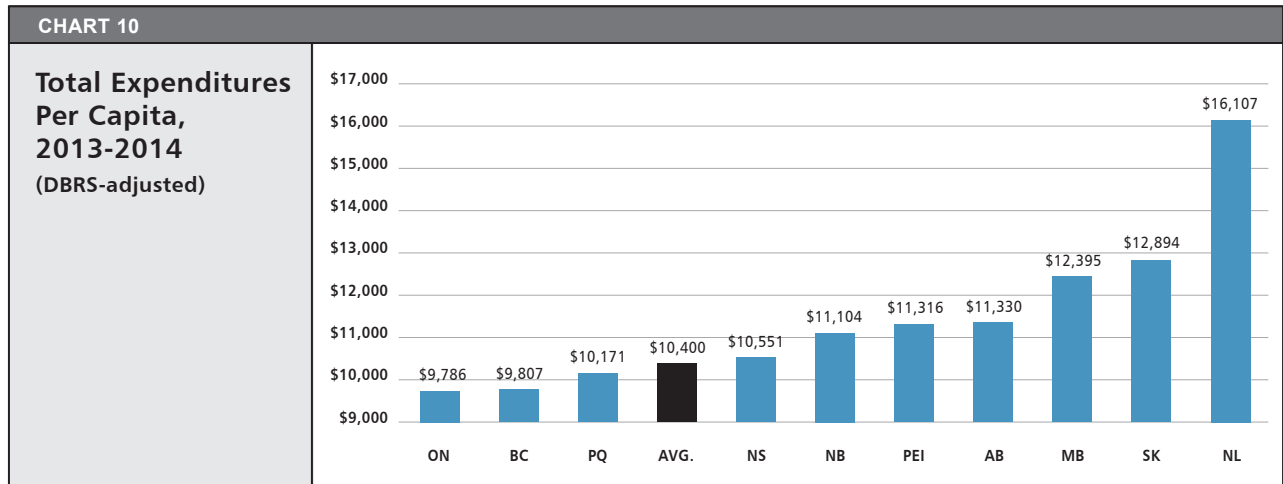
If you could have the exact same meal for \$40 instead of \$50, why wouldn't you? The same argument can be applied to taxes vis-à-vis resource revenue. Every dollar of resource revenue is one less dollar that has to come from the pockets of taxpayers. To some extent, this path has been taken by Alberta. The province has relatively low taxes compared with other provinces⁴⁹ and relatively generous levels of spending (see Chart 10, next page).

If a government's goal is lower taxes, resource revenue comes in very handy. However, the lesson from Alberta is that the volatility problem remains, as does the issue of intergenerational equity.

With regard to volatility, tax rates do not rise and fall with annual resource revenue and nor should they.⁵⁰ As a result, Alberta has experienced periods of both too much revenue and too little. If a lower tax burden is the objective, **the better approach is to save the resource revenue and use the earnings** (averaged over a number of years to address market fluctuations) to keep taxes lower than they would be otherwise. Saving and tax relief, in other words, can go hand in hand while avoiding the feast and famine problems that have plagued Alberta finances.

With regard to intergenerational equity, it is not appropriate to borrow from future





Sources: Dominion Bond Rating Service. 2014. Canadian Federal and Provincial Governments Overview: The Rebalancing Act: Managing Through Fiscal and Economic Adjustment.

generations to keep current taxes artificially low any more than it is to do so to keep current spending artificially high. If you are getting your \$50 meal for \$40 dollars by taking \$10 from your retirement account, you are not practicing good fiscal management and you are robbing your children to pay for your lifestyle.

Show me the money – improving accountability

The Alberta experience shows that volatile levels of annual resource revenue lead to inflation. This leaves citizens wondering if they are paying more than they need to. Volatile resource revenue also generates large surpluses that do not encourage good planning. As a result, even if the money is spent wisely, it can be hard to determine if this is actually the case. Money that is temporarily parked in contingency funds only exacerbates the confusion.

These accountability shortfalls are addressed by the permanence and stability that saving the revenue and using the earnings make possible. Money flowing in and out of a well-managed savings fund is highly visible and easy to track in both the short- and long-term such that both current and future residents will never wonder, “Where did it all go?”

In Alberta, we know that \$21.2-billion of resource revenue has been saved in permanent funds. We also know that \$22.7-billion of debt was retired. The other \$174.1-billion enabled some combination of lower taxes, more programming and more-expensive programming. Given the special nature and intergenerational qualities of resource revenue, a record of “we spent more and taxed less” is not sufficient. A savings program does not guarantee a less fuzzy historical record, but it does make it easier and more likely to keep track of how a province’s resource bounty is used.



Lessons from Alberta

In addition to the benefits of saving resource revenue outlined above, a number of other lessons can be gleaned from the Alberta experience.

It is not a rainy day fund

Alberta's Heritage Fund is often referred to as the province's "rainy day" fund. This moniker captures the notion that you save when the money is flowing, so you have some to use when that flow turns into a trickle. Coincidentally, the government of Newfoundland and Labrador recently hinted that it is considering a rainy day fund to deal with its deficit issues.⁵¹ The problem with this label is that it makes a savings fund sound as if it will only be of use in some distant future and then only because something has gone wrong. This obscures the fact that a savings fund will generate substantial cash for spending *in the here and now*. You don't have to wait for the "rainy day" and the money can be used for a wide range of things, not just emergencies.

The problem with this label is that it makes a savings fund sound as if it will only be of use in some distant future and then only because something has gone wrong.

A "rainy day" fund also suggests to some that the principal will be drawn down when the rain starts to fall, which should not be the goal of a savings fund.⁵²

Saving is about the future. However, that future can be as soon as next year. Hence, current residents stand to benefit as much or more than those living in the province five, 10 or 20 years on. This is why it is also a bad idea to think of a resource revenue savings fund as a province's RRSP. As with the "rainy day" label, this makes sense insofar as it stresses the value of saving during periods of high income, putting the money to work in the market and then using the savings when income falls. The problem is that "retirement" creates the same misimpression that the money will only be of use years and years from now. This feeds the desire among both policy-makers and citizens to spend the money now when they know they will be around to enjoy it.

Regardless of the original purposes behind Alberta's Heritage Fund, a savings fund inferiority complex caused by much bigger funds such as Norway's, the "rainy day fund" moniker and a general lack of awareness of the Fund's contributions to Alberta's



annual bottom line have left most Albertans unimpressed. As a result, the benefits of the savings option have not been given the attention they deserve.

Be clear about the Fund's purpose and benefits

Because, by definition, saving delays gratification, people need a reason to be patient. The government can say it is saving to achieve intergenerational equity, better planning and more-sustainable spending, but the collective yawn this will inspire is not going to convince a wary public. Hence, it is important to have a public debate about what to use the earnings (not the principal) for and to report on this on a regular basis. If the earnings are used for tax relief, show how much less the taxpayers are being pinched. If they are used for infrastructure, provide details of what is being built and how the earnings are supporting it. If earnings are for special projects such as funding the transition to a more prevention-based health system, make this clear.

Recommendations

Given the intergenerational nature of, and fiscal damage caused by, non-renewable resource revenue, provincial governments should carry out the following:

1. Save 100 per cent of resource revenue with only the earnings available for operational or capital expenses.
2. Inflation proof the saving fund's principal.
3. Use the earnings to retire provincial debt before using it for other purposes.
4. Once out of debt, do not think of the saved revenue as a rainy day fund. Decide what the fund's income will be used for, begin using it and provide regular reports to the public.
5. Defer the use of the saving fund's annual earnings until the following year (i.e., have the earnings in the bank before incorporating them into the provincial budget).
6. Put the savings plan before a citizens' assembly for review. Submit its recommendations to a binding provincial referendum.



Conclusion:

Saving to spend

The idea of a government socking money away in a mattress for use in the distant future has about as much appeal as a root canal. This is why it is important to stress that the goal of saving non-renewable natural resource revenue is a *stable* and *permanent* stream of revenue that is available to *spend* — be it on lower taxes, enhanced services or special projects — year after year after year.

Governments should save so that they can spend *smarter* (because they are not rushing to figure out how to spend when resource revenue spikes or panicking when it drops and because there is less inflation of the cost of public services), *more* (because the investments grow over time), and *over a longer period of time* (because the revenue stream is permanent rather than temporary).

Saving helps our grandchildren, but it also helps us today. The trade-off is that we have somewhat less to spend right away, though much of this is eaten up by the higher costs that accompany an overheated economy and the perception of an overflowing provincial treasury. In the case of Alberta, the temptation on the part of both policy-makers and citizens to spend resource revenue as fast it comes in has carried the day. As a result, the benefits of saving *and then spending* the earnings generated by that saving have not been fully realized.

It is hoped that the missed opportunities of the past will persuade Albertans to convert their resource bounty into a permanent financial asset that dwarves the Heritage Fund. It is not too late — at least not yet.

In Atlantic Canada, the citizens of Newfoundland and Labrador should look to the lessons provided by Alberta and commit to a course that will see the province's oil resources pay off for decades to come. If the untapped oil and gas resources in New Brunswick and Nova Scotia are developed, these provinces will have the opportunity to do it properly from the beginning and initiate savings programs before falling into the unsustainable practice of spending resource revenue as it comes in. When it comes to existing resource revenue flows, their modest size should not be used as an excuse not to save, as the principles and benefits outlined in this paper still apply.

They say that a mind is a terrible thing to waste. So is a resource boom!



Appendix A

Oil and Gas Resources in Atlantic Canada

Newfoundland and Labrador

In 2013, Newfoundland and Labrador produced 83.6 million barrels of oil. Between 1997 and 2014, 1,516 million barrels of oil were produced, and production peaked in 2007 at 134.5 million barrels.⁵³ The total financial benefit of production to the provincial treasury between the years 1998 to 2013 was \$14.7-billion.⁵⁴

Estimated reserves on March 31, 2013:⁵⁵

- Hibernia and Hibernia South Extension: 555 million barrels
- Hebron (due to come on stream in December 2017): 707 million barrels of reserves
- White Rose: 54 million barrels
- White Rose Expansion: 43 million barrels
- Terra Nova: 167 million barrels

Total Offshore Estimated Reserves: 1,526 million barrels.

There have been several significant finds in recent years:

- In September 2013, Statoil announced that it had discovered three new fields: Mizzen (estimated to be 200 million barrels), Harpoon (still under investigation) and Bay du Nord (300-600 million barrels).⁵⁶
- In December 2014, ExxonMobil, in conjunction with Suncor Energy and ConocoPhillips, announced that it was bidding \$559-million for exploration rights at the Flemish Pass Basin near Statoil's discoveries.⁵⁷
- The government of Newfoundland and Labrador estimates the province's oil and gas potential at 6 billion barrels of oil and 60 trillion cubic feet of gas.⁵⁸



New Brunswick

“New Brunswick saw its first oil well drilled in the province in 1859 near Dover, in Westmorland County, representing one of the first wells drilled in North America. It was in 1909 near Stoney Creek that the province’s first successful gas well began production.

New Brunswick has producing natural gas and oil wells from two operators, Corridor Resources and Contact Exploration. Currently, there are 24 active leases and 31 licences to search for oil and natural gas in New Brunswick totalling over 1.2 million hectares.”⁵⁹

McCully Gas Field:

- Discovered in 2000
- Gross gas reserve is 103 billion cubic feet

Stoney Creek Oil Field:

- Discovered in 1909
- Gross gas reserve is 7.9 billion cubic feet
- Gross oil reserve is 1.9 million barrels

Shale Gas:

- Target reservoir is Frederick Brook Shale
- Shale resource estimate in Sussex-Elgin area is 67.3 trillion cubic feet
- Shale resource estimate in Hillsborough area is 10.9 trillion cubic feet⁶⁰
- There is a moratorium on hydraulic fracturing.

New Brunswick’s offshore areas “may contain significant oil and natural gas reserves.”⁶¹ In addition to its hydrocarbon deposits, New Brunswick continues to obtain royalties from forestry and mining — particularly potash — which could be allocated to a fund similar to Alberta’s Heritage Fund. In 2014-2015, these royalties amounted to \$94.3-million.⁶²



Nova Scotia

Nova Scotia has operated a variety of offshore oil and gas projects since the early 1990s. From 1992 to 1999, the Cohasset-Panuke Project produced 44.5 million barrels of crude oil.⁶³ There are two offshore natural gas projects in development: the Sable Offshore Energy Project and the Deep Panuke Offshore Gas Development.

- *Sable* is operated by ExxonMobil Canada Ltd. with its partners Shell Canada Limited, Imperial Oil Resources Limited, Pengrowth Corporation, and Mosbacher Operating Ltd. It involves six fields: Venture, South Venture, Thebaud, North Triumph, Glenelg and Alma. These fields contain three trillion cubic feet of recoverable gas reserves and 74.8 million barrels of condensate.⁶⁴
- *Deep Panuke* is operated by Encana. Production began in 2013 and it is estimated that 892 billion cubic feet of natural gas will be produced.⁶⁵

Nova Scotia also has the potential for major onshore natural gas development: “Nova Scotia has a long history of oil and gas drilling with records dating back to 1869. Since then dozens of companies have drilled 133 wells throughout the region, though only minor quantities of oil and gas have been obtained.”⁶⁶ Hydraulic fracturing is currently under review — no approvals for drilling will be granted until the review is complete.

Offshore and Onshore Reserve Estimates:

- The government of Nova Scotia estimates that it has reserves of 120 trillion cubic feet of natural gas and 8 billion barrels of oil offshore.⁶⁷
- Rough onshore natural gas estimates are pegged at 70 trillion cubic feet.⁶⁸

The total financial benefit to the Nova Scotia treasury between 1996 and 2012 was almost \$1.8-billion in royalties from oil and natural gas production.⁶⁹



Appendix B

TABLE 3		
Historical Overview of Newfoundland and Labrador's Debt-servicing Expenses (2006-2015)		
Fiscal Year	Cost \$ millions	% of Total Expenses
2006-2007	778.0	14.5
2007-2008	726.9	13.0
2008-2009	724.5	12.0
2009-2010	923.8	13.7
2010-2011	809.1	11.5
2011-2012	804.4	11.0
2012-2013	830.7	11.1
2013-2014	847.6	11.2
2014-2015	874.0	11.0
Total		7,319.00

Source: Provincial budgets and authors' calculations. See Provincial Budget 1995-2014 at <http://www.budget.gov.nl.ca/>.



Appendix C

Norway and North Dakota

The Norwegian Model

Established in 1990, the Norwegian Government Pension Fund Global (GPF) began receiving oil-derived revenue in 1996. Since then, the GPF has morphed into one of the world's largest sovereign wealth funds. The fund is currently worth \$882-billion (USD). Considering Norway's population is roughly five million people, this works out to be \$174,000 (USD) per person.⁷⁰ The GPF is projected to reach \$1.1-trillion (USD) by 2020. Despite its name, the GPF is not directly used for pension costs; "pension" was intentionally used to emphasize "its role in supporting government savings."

The GPF absorbs all of the country's net oil revenue including money generated from petroleum activities, returns on GPF investments and even taxes from CO₂ emissions. In this sense, it is the optimal savings vehicle in that 100 per cent of all oil revenue is allocated to it. Norges Bank Investment Management, an arm's-length division of the Norwegian Central Bank, oversees the Fund management. Fiscal policy states that the Fund's revenue is commensurate with the real rate of return, currently set at 4 per cent. The principal is never to be touched. In 2011-2012, the Norwegian government benefitted from a return of \$15.2-billion (USD), roughly equivalent to all of the oil royalties Newfoundland has collected since 1998. That \$15.2-billion translated into approximately \$3,000 per capita — below the \$4,300 per capita of resource revenue Newfoundland spent in 2013-2014 but above the \$2,400 per capita Alberta spent that same year. Saving enables spending.

A few points about the GPF are worth keeping in mind. First, unlike the Alaska Permanent Fund Corporation, it does not fund domestic investments. This ensures that the non-oil sectors of the Norwegian economy are protected somewhat from the worst excesses of oil revenue fluctuations.⁷¹ Second, neither the Norwegian government nor the private sector can "use the fund to access credit." In this regard, a Norwegian Muskrat Falls-like project would be exceedingly difficult to finance via oil royalties. Third, the Norwegian government can only access the GPF's capital through a parliamentary resolution. The combination of these factors ensures the structural integrity of the Fund and keeps politicians and managers accountable for its use. Within wider Norwegian society, there exists much pride in the success of the GPF; consequently, the combination of both public and media pressure provides an additional check on any potential deviation from the Fund's stated aims.⁷²



The North Dakota Legacy Fund

The North Dakota Legacy Fund was established in 2010, roughly 13 years after Newfoundland's Hibernia went into production in November of 1997. While it is neither the oldest nor the largest of its kind, the North Dakota Fund shows how a fund can grow relatively quickly when the will exists to preserve and increase public funds from natural resource income. As such, there are lessons to be learned from North Dakota about the rules by which to set up a fund, but the biggest lesson to be emulated is the government's *disposition and commitment* to saving.

By legislative mandate, 30 per cent of revenue from extraction and production of oil and gas in North Dakota goes into the Legacy Fund. The money cannot be touched before June 2017, and then only income generated from the fund can be spent. The principal can only be accessed under very strict rules. Two-thirds of both state houses must approve the use any of the capital, and even then, no more than 15 per cent of the capital may be spent within any two-year period. North Dakota, which has a population of approximately 700,000 people, has also created a State Investment Board, which is responsible for making the principal grow⁷³ The Legacy Fund is designed to be a savings fund. Several other well-nourished funds exist in North Dakota for other purposes.⁷⁴

While it is true that the Shale Revolution accelerated the production that contributed to the rapid growth of the Legacy Fund, the story out of Bismarck is one of discipline and consistency. By July 2013, three years after its creation, the Legacy Fund contained \$1.23-billion. Recent projections, after a much-needed redesigned investment policy to protect the Fund against inflation, see the fund grow in excess of \$5-billion by 2017.⁷⁵



Endnotes

1. Auditor General of Newfoundland and Labrador. January 2014. Report to the House of Assembly: On Reviews of Departments and Crown Agencies. Available online at <http://www.ag.gov.nl.ca/ag/annualReports/2013AnnualReport/AR2013.pdf>.
2. Authors' own calculations. Data found in the Annual Estimates produced by the Department of Finance, Government of Newfoundland and Labrador. Available online at <http://www.budget.gov.nl.ca/>.
3. Alberta Energy and authors' calculations.
4. **Alberta:** "Due to the severe drop-off in energy-related revenues, the province is facing an annual revenue shortfall of up to \$7-billion. That's about 15 per cent of total provincial revenue." Available online at <http://alberta.ca/budget-fiscal-situation.cfm>. **Newfoundland:** According to the 2014-2015 Fall Update, oil royalties will be \$791.7-million lower than budgeted for. Available online at http://www.fin.gov.nl.ca/fin/publications/fallupdate_2014_15.pdf. **Alberta:** Then premier Prentice told *The Globe and Mail* that if oil sits at \$65 a barrel in 2015-2016, it would mean a \$6.7-billion drop in revenue for the province. Available online at <http://www.theglobeandmail.com/news/alberta/tumbling-oil-prices-mean-alberta-surplus-this-year-now-500m-deficit-premier/article22372108/>.
5. Calls for saving resource revenue are not new. See, for example, Gibbins, Roger and Robert Roach, eds. 2006. *Seizing Today and Tomorrow: An Investment Strategy for Alberta's Future*. Canada West Foundation. Available online at <http://cwf.ca/publications-1/seizing-today-and-tomorrow-an-investment-strategy-for-albertas-future>; Financial Investment Planning and Advisory Commission. 2008. *FIPAC Final Report – Preserving Prosperity: Challenging Alberta to Save*. Available online at <http://alberta.ca/release.cfm?xID=24786B1AE3659-F3BF-39F1-519A63F0E373A3EE>; MacKinnon, Peter. *A Futures Fund for Saskatchewan: A Report to Premier Brad Wall on the Saskatchewan Heritage Initiative*. Available online at <http://www.gov.sk.ca/adx/asp/adxGetMedia.aspx?mediaId=2db41e74-30f1-4397-bf4f-fa051bc6182e&PN=Shared>; Alberta Chambers of Commerce. 2006. Milke, Mark. *Vision 20/20: Saving for the Future Alberta Advantage*. Available online at <http://www.abchamber.ca/files/762.pdf>.
6. When we refer to "resource revenue" in this paper, it is shorthand for non-renewable natural resource royalty revenue. This revenue does not include the income, capital gains, sales tax and corporate tax revenue generated by the extraction, processing, trading and transportation of non-renewable natural resources. Our analysis is also restricted to the royalty revenue that flows into provincial coffers (the majority) rather than into federal coffers. We also do not address what is or is not an appropriate royalty rate.
7. Two studies released in February 2015 are very much in this vein. Novak, Anja and Peter Severinson. 2015. *Exploring the Potential of BC's Prosperity Fund*. Resource Works. Available online at https://d3n8a8pro7vhmx.cloudfront.net/resourceworks/pages/237/attachments/original/1423861404/Exploring_the_potential_of_BCs_Prosperty_Fund.pdf?1423861404; Poelzer, Greg. 2015. *What Crisis? Global Lessons from Norway for Managing Energy-based Economies*. MacDonald-Laurier Institute. Available online at <http://www.macdonaldlaurier.ca/files/pdf/MLICommentaryPoelzer02-15-V7-WebReady.pdf>.
8. The price of a barrel of Brent crude dropped from more than \$100 in August 2014 to \$47.76 in January 2015.
9. This is typically interpreted to mean that the Crown owns the resources *on behalf of* citizens. It should be noted that Crown ownership is "contested by many indigenous groups." See Mining Watch Canada. Hart, Ramsey and Dawn Hoogeveen. 2012. "Introduction to the Legal Framework for Mining in Canada." Available online at <http://www.miningwatch.ca/publications/introduction-legal-framework-mining-canada>.
10. "This means that private property can be staked and the mineral rights granted to an exploration company." *Ibid*. Freeholders own a small percentage of subsurface mineral rights in Canada.
11. Provincial jurisdiction over natural resources helps prevent the exploitation of resource-rich regions by other parts of the country. In the case of Newfoundland and Labrador, the "province's onshore and offshore oil and gas resources are regulated by two different systems. Resource development onshore is regulated by the *Petroleum and Natural Gas Act* while offshore petroleum resources are jointly managed by the federal and provincial governments through the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB). The C-NLOPB manages the regulatory



- regime established by the Atlantic Accord in 1985 and the subsequent implementation legislation.” Newfoundland and Labrador Department of Natural Resources. Oil & Gas. Available online at http://www.nr.gov.nl.ca/nr/royalties/oil_gas.html.
12. Plourde, André. 2012. “Canada” in Anderson, George, ed. *Oil & Gas in Federal Systems*, p. 114.
 13. If British Columbia is able to export large amounts of liquefied natural gas to Asian customers, its resource revenue will rise sharply. For a discussion of why and how British Columbia should save resource revenue, see Novak, Anja and Peter Severinson. 2015. *Exploring the Potential of BC’s Prosperity Fund*. Available online at https://d3n8a8pro7vhmx.cloudfront.net/resourceworks/pages/237/attachments/original/1423861404/Exploring_the_potential_of_BCs_Prosperty_Fund.pdf?1423861404.
 14. The crash in natural gas prices that saw Alberta’s revenue from this source drop from \$5.8-billion in 2008-2009 to \$1.5-billion in 2009-2010 is an excellent example of why natural resource revenue should not be relied on to cover ongoing expenses.
 15. This did not include unfunded pension liabilities.
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 24. A NOTE ON EQUALIZATION – If the growth in the tax base driven by natural resource activity is not enough on its own to lift the province’s fiscal capacity above the Canadian average (as defined by the equalization program), a case can be made to use resource revenue to do so. Still, the best approach is to save the revenue, and use the earnings to raise the province above the Canadian average for the same reasons: It is permanent and less volatile, and it protects the claims of future generations.



- [25.](#) Using surpluses driven by high resource revenue, Alberta reduced its accumulated debt from a peak of \$22.7-billion in 1993-1994 to zero by 2004-2005 (not including unfunded pension liabilities). Alberta has since taken on additional debt.
- [26.](#) Debt-servicing costs did not fall to zero because the actual debt was not paid off immediately due to large penalties for early repayment. The money needed to retire the remaining debt was set aside in an account. The final payment was made in March 2013.
- [27.](#) Budget 2014.
- [28.](#) Budget documents and authors' calculations. See Appendix B.
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- [31.](#) Because of the massive size of Alberta's oil sands (according to the [Canadian Association of Petroleum Producers](#), Alberta's oil sands contain 167 billion barrels of oil), it could be argued that there will be ample oil left for future generations to extract, so there is no need to save current oil sands revenue for future use (this is not the case with Newfoundland and Labrador's oil reserves, which are much smaller). This does not excuse spending the majority of the wealth generated by Alberta's conventional oil and natural gas. It also does not take into account the very real possibility that the oil sands industry may not survive in the face of future changes in global demand. If the government gets it wrong and resource revenue continues to flow long after the government thinks it will, the only "problem" the government will have is a large savings fund that has been generating and will continue to generate income year after year.
- [32.](#) In the Speech from the Throne given on March 7, 2007, Alberta's Lieutenant Governor said, "Now, more than ever, the government must work with Albertans to ensure the good fortune we enjoy today is not squandered. ... We must plan ahead to ensure that the prosperity the province enjoys today is secured for our children and grandchildren." In practice, the province pulled in \$67-billion in resource revenue between 2007-2008 and 2013-2014 and had net savings (Heritage Fund deposits plus earnings retained for inflation proofing – transfers from the Fund) of \$3.5-billion. This does not include money placed in temporary accounts that are drained when revenue falls or is used to fund infrastructure.
- [33.](#) Between 1970-1971 and 2013-2014, Alberta collected \$217,931 in resource revenue. Between 1976-1977 (when saving began) and 2013-2014, Alberta deposited \$17.7-billion in the Heritage Fund (deposits plus retained earnings minus withdrawal from the principal) and another \$3.5-billion (plus retained earnings) in other endowment funds.
- [34.](#) This is the amount of royalties reported in provincial budgets between 1997-1998 and 2013-2014. These figures are slightly different from the ones reported in the Auditor General's report of January 2014.
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- [36.](#) It has been pointed out that the reduced tax burden made possible by spending resource revenue in the present makes it possible for greater private sector saving that will be passed on through inheritances and/or spent on things such as private education that will benefit future generations (see Dahlby, Bev. 2006. "Learning from the Past and Preparing for the Future" in Gibbins, Roger and Robert Roach, eds., *Seizing Today and Tomorrow: An Investment Strategy for Alberta's Future*). The problem here is that there is no guarantee this will happen; private consumption could eat up the share of the collective asset owed to the future just as effectively as public consumption could.
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