THE SCHOOL OF PUBLIC POLICY

UNIVERSITY OF CALGARY

MASTER OF PUBLIC POLICY CAPSTONE PROJECT

Alberta Heritage Savings Trust Fund: Securing Alberta's future

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1.0 Executive Summary

Alberta has an abundance of natural resource wealth. In recent decades the oil and gas component of the resource sector has accounted for a large proportion of the provincial government's total revenue and, directly and indirectly, accounted for approximately half of total economic activity within the province. It has also made significant contributions to the economic growth in Alberta, allowing the province to have a high level of public services and a competitive tax regime that has further contributed to economic growth.

The substantial non-renewable resource revenues (NRRRs) generated by the oil and gas sector are volatile and subject to decline over the long term. Along with resource depletion there are many risks to the sustainability of NRRRs arising from shifting energy markets, prices and costs, constraints in access to new markets and numerous environmental challenges. Given this, Alberta will need to save a higher proportion of its NRRRs in order to sustain prosperity and meet intergenerational equity objectives.

Alberta's current NRRR savings plan, the Alberta Heritage Savings Trust Fund (AHSTF) has not been as successful as originally envisioned. With only sporadic contributions from resource revenues, a lack of inflation proofing and frequent withdrawals of fund earnings to support government budget shortfalls, the real (or inflation adjusted) value of the fund per-person has fallen sharply since the early 1980s.

In comparison there are other similar funds that have performed much better. Two, which provide an interesting contrast, are Norway's Government Pension Fund—Global, and Alaska's Permanent Fund. A comparative analysis of the their approaches applied to an Alberta context can provide useful policy direction in changing the AHSTF to better serve the objectives of sustainable prosperity and intergenerational equity for Alberta.

Based on an evaluation of the uncertainty and risks to future flows of NRRRs and a comparative analysis with other fund approaches, a number of policy recommendations are advanced. These include the following.

- The key objectives of the AHSTF should be to achieve intergenerational equity, to sustain Alberta's competitive tax level (with a high quality of government services) and to maintain overall economic prosperity in the province.
- The introduction of safeguards to protect the fund. It is recommended that there be a provincial referendum to support the implementation of a new structure and a new independent, arm's length governing body that would make it more difficult for political opportunism to undermine the long-term performance and objectives of the Fund. This would be further reinforced through an amendment to legislation outlining a set contribution of NRRRs to the Fund. The annual contribution rate should never be allowed to fall below 30 percent and should be increased whenever NRRRs are above average levels. Moreover there should be a long-term commitment to inflation proof the fund and to ensure that the Funds principal cannot be redirected to the General Revenue Fund until a target value for the Fund is achieved. The NRRRs in excess of the minimum 30 percent contribution rate can be transferred to the General Revenue Fund and contribute to current funding for programs in education, healthcare and infrastructure that will pay future returns.
- The Fund should diversify its investments. Investments should be disproportionately in sectors that are not highly correlated with returns in the oil and gas sector. Moreover Investments should not be large enough to take controlling share of any companies and should be made outside of Alberta.

2.0 Introduction

2.1 Background

Alberta has been fortunate to have an abundance of natural resource wealth, a large portion of which is in the form of non-renewable energy resources (NRRs). In recent decades the oil and gas component of the resource sector has accounted for about 29% of the provincial governments total revenue.[1] Moreover the industry has directly and indirectly accounted for almost one half of the activity in the provincial economy.[2] These contributions have allowed Alberta to have the lowest personal and corporate tax levels in Canada,[3] which have attracted high levels of investments and entrepreneurship. This success has resulted in the province having the highest standard of living in Canada.[4]

The contributions of non-renewable resource revenues (NRRRs) to the province's government revenues are not only large but also highly variable. This results in large variations from year to year in total government revenues, which creates challenges for managing government spending. Further, given a combination of ultimate depletion of the NRRs and uncertainty about their long run economic viability given threats arising from environmental, pricing or market access issues, it is not reasonable to assume that the high levels of NRRRs can be maintained over the long term. This, in turn, raises concerns about the long-term sustainability of Alberta's economic prosperity and issues of intergenerational equity. These concerns provided the justification for the

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[1] Ronald Kneebone and Margartia Gres, *A Recovery Program for Alberta: A 10-Year Plan to End the Addiction to Resource Revenues* (Calgary, Alberta: The School of Public Policy University of Calgary, 2013), 2.

[2] Calgary Chamber, *Teetering on the Brink of Prosperity: 2013 Calgary and Alberta Economic Outlook*, Outlook (Calgary: Calgary Chamber, 2013), 20-28.

[3] Roger Gibbons and Robert Roach, "The Transformative Potential of Alberta's Natural Resource Wealth," in *Seizing Today and Tomorrow: An Investment Strategy for Alberta's Future* , 1-24 (Canada West Foundation , 2006).

[4] Andrew Sharpe Lars Osberg, *Beyond GDP: Measuring Economic Well-Being in Canada and the Provinces, 1981-2010*, Research (Ottawa: Centre for the Study of Living Standards, 2011).

establishment of the Alberta Heritage Savings Trust Fund (AHSTF) in 1976.[5] It was created as an instrument to address intergenerational equity, help diversify the economy, reduce the government's reliance on NRRRs and, generally, to more responsibly manage the wealth generated by the province's oil and gas sector. Later the objective of the AHSTF was changed to prudent stewardship of the savings by providing the greatest financial returns on savings for current and future generations.[6]

Unfortunately, the original goals of the AHSTF have not been met. Contributions to the Fund have been sporadic, the revenues generated by it have typically been transferred to the General Revenue Account to fund current government services and, with inflation, the real value of the fund has declined substantially. Along with jeopardizing the province's ability to sustain prosperity for future generations, this has created considerable instability in fiscal management. During boom periods with all or most of the NRRRs going into general revenues and current spending, overall government expenditures have become unsustainable during more normal periods and during downturns. Covering the gap in these latter periods has meant painful bouts of debt accumulation and/or destabilizing cuts in government expenditures.

2.2 Study Objective

The objective in this paper is to examine the case for changes in the way NRRRs are managed in Alberta, with a particular focus on the goal of sustaining over the long term the province's economic prosperity and the quality of life for future generations.

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[5] Government of Alberta, "Alberta Heritage Savings Trust Fund Act," *http://www.qp.alberta.ca*, http://www.qp.alberta.ca/documents/Acts/A23.pdf (accessed September 02, 2013).

[6] Ibid

2.3 Organization

The importance of and arguments for consistent saving of a significant portion of NRRRs (non renewable resource revenues) is the focus in Section 2. Key arguments include the need to have a low taxation regime to maintain growth, the need to reduce the volatility of government expenditure patterns, the need for greater attention to intergenerational equity and the importance of taking into account the considerable uncertainty about the future of NRRRs arising from shifts in environmental constraints, prices, technology and market access.

Background information on the AHSTF is provided in Section 3 and a summary of other non-renewable resource savings funds is presented in Section 4. The latter focuses on Norway's Government Pension Fund—Global (GPFG) and Alaska's Permanent Fund (APF) both of which have a substantial history and provide interesting contrasts.

A comparative analysis is provided in Section 5. This includes an assessment of the situation in Alberta had the province followed the investment strategies in Alaska and Norway, along with a comparative analysis of the three models taking into account the differences in resource size, governance, structure, economy and standard of living. Included is an examination of the potential had Alberta's model followed that of Norway, Alaska or the original AHSTF model.

Recommendations for Alberta and a discussion of policy choices that Alberta could consider in order to generate a fund that would contribute to intergenerational equity are presented in Section 6. Included is a summary of the reasons why Alberta should adopt a higher NRRR savings model to provide intergenerational equity by sustaining a low taxation system.

3.0 The Case for Saving Non-Renewable Resource Revenues

Alberta has an enviable tax advantage owing to the large non-renewable resource revenues (NRRRs) primarily contributed by the oil and gas sector. However, it is uncertain how long these revenues can be sustained. The abundant hydrocarbon resources have allowed Alberta to attract people and businesses to the province with competitive tax rates and high public program expenditures. The substantial NRRRs are subject to considerable volatility and it is not prudent to assume that they can be maintained over the long term. In order to sustain prosperity a significant portion of these revenues need to be saved.

To date, 91.4% of Alberta's NRRRs have been spent on current consumption.[7] On average, these revenues account for 29% of the provincial government's budget.[8] They have provided Alberta with significant revenue to fund high levels of public services without a sales tax while maintaining low personal and corporate tax rates. However, looking to the future, there are a number of factors suggesting that a substantial portion of the NRRRs should be saved on a consistent basis. These include the importance of maintaining economic growth and taking into account major uncertainties and risks associated with changing market demands, prices, costs and market access, along with a variety of environmental constraints.

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[7] Roger Gibbons and Robert Roach, "The Transformative Potential of Alberta's Natural Resource Wealth," in *Seizing Today and Tomorrow: An Investment Strategy for Alberta's Future* , 1-24 (Canada West Foundation , 2006).

[8] Ronald Kneebone and Margartia Gres, *A Recovery Program for Alberta: A 10-Year Plan to End the Addiction to Resource Revenues* (Calgary, Alberta: The School of Public Policy University of Calgary, 2013), 2.

3.1 Economic Growth Dynamics

Alberta's NRRR advantage over other provinces has had a significant impact on its economy. Alberta's real GDP has on average over the last five decades grown significantly faster than that in any other region in Canada and in 2012 grew by an estimated 3.9%, which was twice the national average.[9] In that year, NRRRs contributed 27.8% of the budget, the single largest source of revenue.[10] With this additional large source of revenue, in comparison to other provinces, NRRRs have allowed Alberta the benefit of not requiring a provincial sales tax and permitted the province to have the lowest personal and corporate income tax rates among the Canadian provinces. Alberta is the only province that has a flat personal income tax rate set at 10%.[11] A flat personal income tax rate is appealing to higher income earners allowing the province to attract more talent, providing an important impetus to the economy. Further, a lower tax rate allows for higher levels of investment and consumption, which also expands economic activity within the province. A low personal income tax rate paired with competitive business taxes has been a factor in attracting both people and businesses. As illustrated in Figure 1, net in-migration to Alberta has typically been positive and significant. This has to a large degree been driven by the strong growth in the provincial economy as a result of expansion of the oil and gas sector, which in turn has meant rapid growth in employment, low unemployment rates and high incomes.[12] An important point however,

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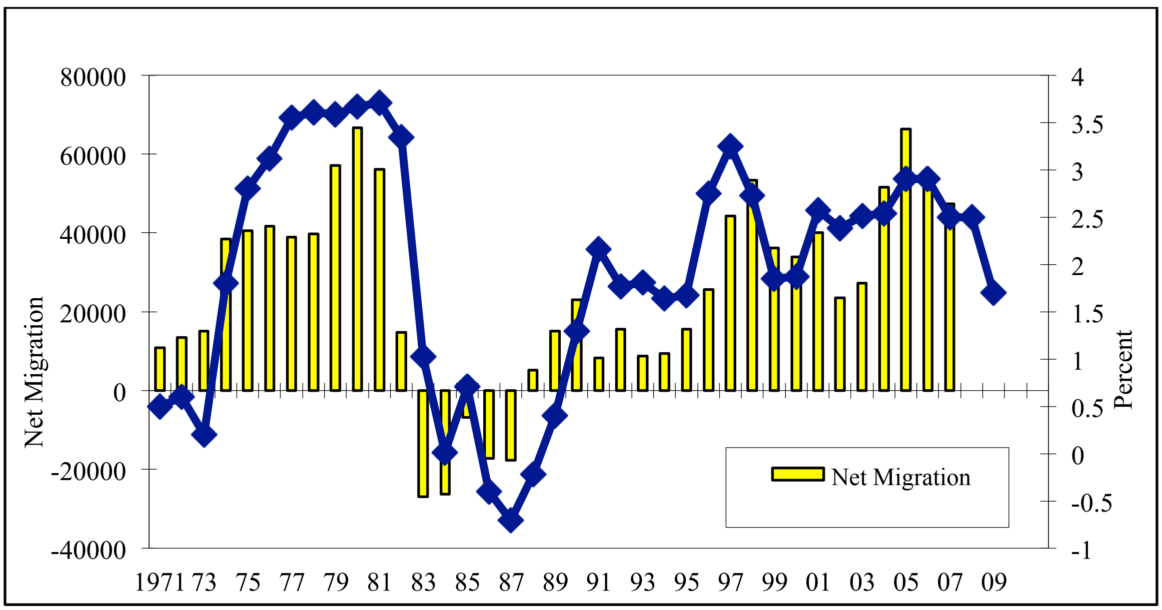
[9] Government of Alberta, *Government of Alberta Annual Report 2012-13*, 06 27, 2013, http://www.finance.alberta.ca/publications/annual_repts/govt/ganrep13/goa-2012-13-annual-report.html (accessed 09 02, 2013).
[10] Government of Alberta , *2012 Budget Revenue* , February 09, 2012, http://budget2012.alberta.ca/newsroom/charts-graphs.pdf#page=1 (accessed September 02, 2013).
[11] Tax Tips, *Alberta Personal Tax Rat*es, 2013, http://www.taxtips.ca/taxrates/ab.htm (accessed September 02,2013)
[12] Calgary Chamber, *Teetering on the Brink of Prosperity: 2013 Calgary and Alberta Economic Outlook*, Outlook (Calgary: Calgary Chamber, 2013), 23-26

is that this growth creates a dynamic in which employment and income growth supports relatively high living standards which in turn attracts net inflows of people which further supports investment and consumption activities and further growth. Because migrants to the province tend to be younger and more highly skilled/educated than the average in the population, this further adds a significant benefit for Alberta. With the advantage of lower taxes and high levels of public services there is also an added attraction in the location of businesses.

Figure 1: Net Migration to Alberta and Difference Between Alberta and Canadian Unemployment Rates: 1971-2009



Source: R. Mansell, Statistics Canada

For example, Calgary ranks first in head office concentration and employment.[13] This has significantly contributed to the economic base of the province. Head offices have corporate jobs that provide higher pay and attract attention and activity not only at a regional level but also at national and international level. Businesses also benefit from the

[13] Calgary Economic Development, *Home Base: What Drives Head Office Locations and Calgary's Place as a Global Business Hub*, Research (Calgary: Calgary Economic Development, 2010), 10.

fact that Alberta has no inventory, equipment, or payroll tax, another contribution from NRRRs.[14]

As noted, this growth dynamic has led to Alberta having the highest living standards in Canada. For example, the province has had the highest weekly wages in the country for the last five years and in 2012 it was the only province that had an average weekly pay over $1,000.[15] Albertans earn almost 20% above the national average.[16] Along with high incomes, the province has typically had one of the lowest unemployment rates in Canada. Currently that rate is 4.4%, with only Saskatchewan lower at 4.1%.[17]

Alberta, along with the other resource dominant provinces, has the highest per capita expenditures on government services. A large portion of the expenditure is on healthcare. In 2010-2011 Alberta spent $4,295 per capita on this item compared to the national average of $3,663.[18] This is also reflective of the high standard of living in Alberta and the fact that NRRRs allows the government to finance these levels of programs and expenditures without imposing high tax rates or program fees.

Table 1: 2009 Provincial Government Expenditure Per capita

	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	$ Per Capita									
1. Total expenditures	12,749	10,752	9,448	10,197	10,692	7,980	9,585	10,923	10,583	8,605
2. Program Spending	11,700	9,915	8,398	8,953	9,270	7,264	8,470	10,163	10,431	8,127

Source: Ken Beossenkool, "Does Alberta have a Spending Problem?," *The School of Public Policy: SPP Communique* (The School of Public Policy) 2, no. 1 (February 2010):

[14] Calgary Economic Development, *Home Base: What Drives Head Office Locations and Calgary's Place as a Global Business Hub*, Research (Calgary: Calgary Economic Development, 2010), 12.
[15] Statistics Canada, *Earnings, average weekly, by province and territory*, March 27, 2013, http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/labr79-eng.htm (accessed September 1, 2013).
[16] Government of Alberta, *Alberta Budget 2012 - Highlights*, March 28, 2012, http://budget2012.alberta.ca/highlights/ (accessed September 1, 2013).
[17] Canadian Business, *Map: Canadian unemployment rates by province and region*, April 28, 2013, http://www.canadianbusiness.com/economy/gallery-canada-unemployment-rates/ (accessed September 1, 2013).
[18] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 96.

For reasons discussed later, it is unreasonable to expect that over the longer term the energy sector will continue to fuel high rates of growth for NRRRs or Alberta's economy. Given this, at some point it will no longer be viable to support the standard of living Albertans have become accustomed to without increasing taxes or imposing new taxes. Program expenditure has increased by 36.4% per capita since 1999-2000 while revenue (excluding NRRR) has declined by $150 per capita.[19] During the fiscal years of 2005/06 to 2012/13, had the province only increased program spending in line with population growth and inflation, the province would have spent $22.1 billion less.[20] Because of NRRRs, Alberta has been able to over-spend to maintain its high standard of living. If the province continues down the same expenditure path, the issue of fiscal sustainability will become an increasing concern over time.

Health care finances alone are a struggle in Alberta. In the fiscal year of 1999/2000 health care expenditure was $ 2,490 per capita and by fiscal year of 2010/11 it had risen by 72%, to $4,295 per capita.[21] With an aging demographic and with the current trends of increased health issues, Alberta's health care system will face financial strain. Additional financial constraints are predicted to come from advanced medical technology and treatments that will be available to improve quality of life at a higher expense.[22]

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[19] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 96.
[20] Milke, Mark (2013). Alberta's $22-billion Lost Opportunity: How Spending beyond Inflation + Population Growth Created Alberta's Red Ink. Alberta Prosperity Initiative. Fraser Institute. <http://www.fraserinstitute.org>.
[21] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 96.
[22] Ibid, 96.

Table 2: Alberta's Program Spending, 2005/06-2012/13

Fiscal year	Actual program spending, (nominal $ millions)	Actual program spending, inflation-adjusted (2012 $ millions)	Program spending if kept to inflation and population growth since 2005/06 (2012 $ millions)	Annual difference between actual spending and inflation-adjusted and population-controlled spending (2012 $ millions)
2005/06	26,743	31,875	31,875	—
2006/07	29,292	33,607	32,825	782
2007/08	33,374	36,471	33,702	2,769
2008/09	36,455	38,626	34,461	4,165
2009/10	36,327	38,522	35,228	3,295
2010/11	37,797	39,689	35,700	3,989
2011/12	38,773	39,742	36,261	3,482
2012/13	40,618	40,618	37,025	3,593
Total for all years				22,075

Notes: [1] Adjusted for inflation, in 2012 dollars. [2] Estimate for 2012/13 from 2012/13 provincial budget. [3] Inflation calculated using Alberta-specific inflation statistics from Statistics Canada 2012a, 2012b.

Source: Milke, Mark (2013). Alberta's $22-billion Lost Opportunity: How Spending beyond Inflation + Population Growth Created Alberta's Red Ink. Alberta Prosperity Initiative. Fraser Institute. http://www.fraserinstitute.org,10

With a growing population the province will face increasing demands for government services and under an expectation of lower NRRRs in the future, there will be a need for new revenue sources. Absent the returns from a large savings fund, this will mean additional taxes and a threat to maintaining the conditions that have allowed Alberta to achieve economic prosperity. In summary, if future generations are to have the same benefits and opportunities from NRRRs that today's generation has, significant changes in saving behavior out of these revenues are urgently required.

3.2 Market Demand

Alberta has abundant hydrocarbon resources and ranks third in the world in proven oil reserves behind Saudi Arabia and Venezuela.[23] The province holds 95% of Canada's oil reserves and accounts for 75% of Canada's natural gas production.[24] Alberta's oil sands contain an estimated 1.84 trillion barrels of crude bitumen, of which approximately 9% or 169 billion barrels is recoverable using current technology.[25] In addition, the province has huge potential for additional gas production from conventional, coal-bed methane and shale production.

The theory of peak oil suggests that oil production eventually peaks and then declines. Applied to natural gas as well this leads to the prediction that with continued depletion Alberta's energy resource production will decline and, with it, NRRRs will fall. However, this does not appear to be applicable to Alberta (or many other regions) because of technology advancements that have allowed capture of unconventional oil and gas resources that were previously not attainable. Nevertheless, the concern is not so much related to physical depletion and the resulting drop in production but, rather, the risks that continued or increasing production levels cannot be sustained because of economic, policy or infrastructure constraints. That is, there may be lots of oil and gas remaining that could be produced but cannot be produced because it is no longer economic.

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[23] Government of Alberta, *Facts and Statistics*, http://www.energy.alberta.ca/OilSands/791.asp (accessed September 02, 2013)

[24] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 25.

[25] Government of Alberta, *Facts and Statistics* , 2011, http://www.energy.alberta.ca/OilSands/791.asp (accessed September 02, 2013).

While such declines in production and associated declines in economic rents collected by the government may not be imminent, they would seem highly likely over the longer term, in part due to a combination of environmental policy, static or falling oil and gas prices, increased costs and market shifts and constraints on market access. This provides an argument for some urgency for Alberta to start consistently saving a substantial portion of its NRRRs to replace these revenues in the future. To have a fund large enough to generate revenue sufficient to cover approximately one third of Alberta's annual budget (today NRRRs account for 29% of this budget)[26] will require many years of accumulation.

3.3 Environmental Constraints

Environmental concerns related to Alberta's oil sands have recently been on the rise. Although greenhouse gas emissions have decreased per barrel of oil produced, production levels have expanded to a level where absolute emissions have continued to rise inexorably.[27] With global environmental apprehensions, the industry will face tighter environmental and regulatory standards, which pose a challenge for Alberta's oil sands industry. The province's reputation for responsible and clean development has been under attack. Large interest groups have focused their attention on Alberta's environmental credentials, referring to Alberta's oil as " dirty oil."[28] This has led California, along with other states, to pass laws designed to stop oil from the oil sands to

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[26] Ronald Kneebone and Margartia Gres, *A Recovery Program for Alberta: A 10-Year Plan to End the Addiction to Resource Revenues* (Calgary, Alberta: The School of Public Policy University of Calgary, 2013), 2.
[27] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 28.
[28] Ibid, 27.

reaching its citizens.[29] The European Union's fuel directive, which favors lower carbon fuels, if it is adopted it would also limit the market for oil from Alberta's oil sands by making it less attractive.[30] If successful, these pose a significant risk to Alberta's share of the total oil market. Given the very large role that the oil sands now play in driving the provincial economy, and its major contributions to overall NRRRs, this has the potential to dramatically and negatively affect the Alberta economy. Tougher environmental policies are also reducing the demand for oil around the globe. Europe and America have imposed tough fuel-efficiency standards on transportation vehicles and this trend is now being observed in developing countries.[31] For example, China recently introduced its own set of fuel-economy measures in order to reduce its reliance on imported oil.[32] Emerging countries will never have to or could afford to use vehicles that are as fuel inefficient as those used by the developed countries.[33] It is noteworthy that China is investing heavily in electric vehicles, in the hope of cutting energy consumption by 50%.[34] Furthermore, it is planning to replace 20% of the transportation vehicles with new-energy cars by 2020.[35] In summary, the global economy has started to shift away from carbon-based energy sources and this trend is expected to continue. This is likely to have profound and negative consequences for the markets and prices for Alberta's oil production.

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[29] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 34.

[30] Canadian Manufacturing, "*Ottawa challenges EU fuel quality directive that targets oil sands,"* August 9,2013, http://www.canadianmanufacturing.com/fabrication/news/ottawa-challenges-eu-fuel-quality-directive-that-targets-oil-sands-113299 (accessed September 14,2013).

[31] The Economist , "The Future of Oil: Yesterday's Fuel ," *The Economist* , August 2013: 12.

[32] Ibid, 12

[33] The Economist, "Briefing: The Global Oil Industry," *The Economist* , August 2013: 20-22.

[34] Ibid, 20-22.

[35] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 26.

3.4 Technological Change

Technology has helped make increasing oil and gas production in Alberta profitable but, at the same time, this profitability is at risk as the same technology is applied in other parts of the world and increasing their oil and gas production capability. This can lead to reduced imports and prices. Given that Alberta's production costs are generally significantly higher than in many, if not most, producing regions, the result would decrease the profitability of Alberta's production and substantially reduce the NRRRs it generates. Eventually at some point this production will be displaced by lower cost or lower-emission alternatives.[36]

High-energy prices are leading countries to develop alternative energy technologies in the hopes of reducing their consumption of oil and reliance on imported fuels. These technologies could displace the demand for a large amount of oil. Mass production of inexpensive and reliable electric cars with competitive performance characteristics has this potential.[37] With competitive prices, the growing popularity of electric and hybrid cars as well as vehicles powered by natural gas or hydrogen fuel cells will also have a negative effect on global demand for oil.[38] While these technological threats to Alberta's oil and gas profitability are not immediate, they are very significant over the longer term.

3.5 Markets

Alberta had been dependent on the U.S. for many things and when it comes to energy trade it has been no different. The province has had a heavy reliance on the U.S.

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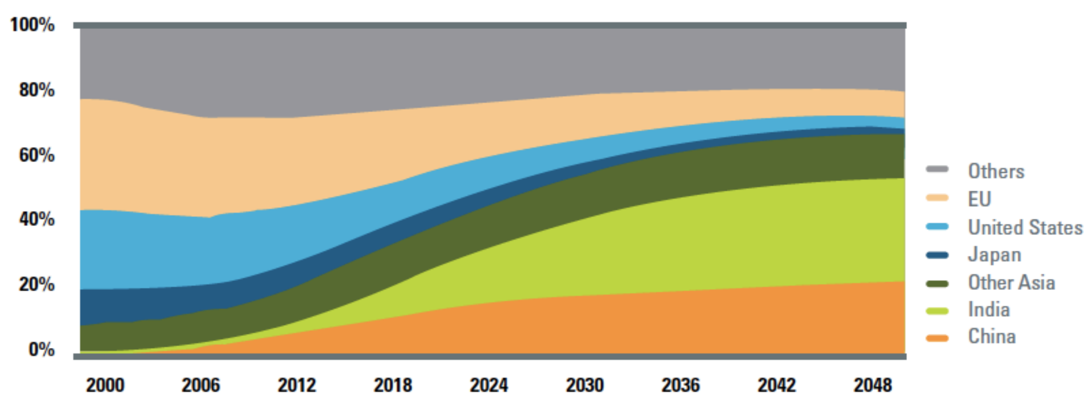
[36] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 6.
[37] Ibid, 26.
[38] The Economist , "The Future of Oil: Yesterday's Fuel ," *The Economist* , August 2013: 12.

market with two thirds of Alberta's energy exports going to them.[39] Thus, the province's prosperity has depended heavily on that market. However, relying on just one-market makes Alberta vulnerable to any demand, supply, regulatory or policy shifts in that market. Although Canada remains the largest exporter of energy into the U.S., American demand has started to shift. Within a year during the recent recession, energy exports to the U.S. fell from $97 billion to $59 billion.[40] Further, U.S. energy demand has started to plateau, and could decline. The supply of oil and gas from local production in the U.S. has increased, resulting in a decline in demand for imports of both energy types.

Figure 2: Share of Global Middle Class Energy Consumption



Source: Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 13.

Capturing markets is essential for all businesses. Being a landlocked province, Alberta is at a disadvantage and is not able to reach certain growing markets given transportation constraints and distance. In 2012 the province exported approximately 86% of its products to the U.S., with the majority of the remainder shipped to Asia.[41]

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[39] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 24.
[40] Ibid, 19.
[41] Government of Alberta, *About Alberta*, July 18, 2013, http://www.albertacanada.com/faq-about-alberta.aspx (accessed September 02, 2013).

Without adequate pipeline (and other transportation) infrastructure to reach the growing offshore markets, Alberta will be unable to take advantage of its large and remaining energy production capacity. As Figure 2 shows, India and China have rapidly growing markets while the U.S. demand has leveled off. As evidenced by the extensive delays and controversy with respect to major pipeline projects such as Northern Gateway, being able to reach these growing markets is far from certain. Moreover, even if Alberta does gain access to those markets, demands and prices therein could be less than currently anticipated. Over the past two years Chinese GDP growth has been declining, and this could result in a decrease in demand for energy as well as a decline in economic activity.[42]

A decrease in market demand will result in a decrease in aggregate economic rents and NRRRs. Along with increased saving of NRRRs to help offset these risks to future government revenues, it would be of benefit for Alberta to pursue an investment strategy focused on diversification and development of other sectors. This would help ensure that Alberta's economic prosperity and quality of life can be sustained for the future, regardless of rising environmental concerns, technological shifts, and what future market trends may be.

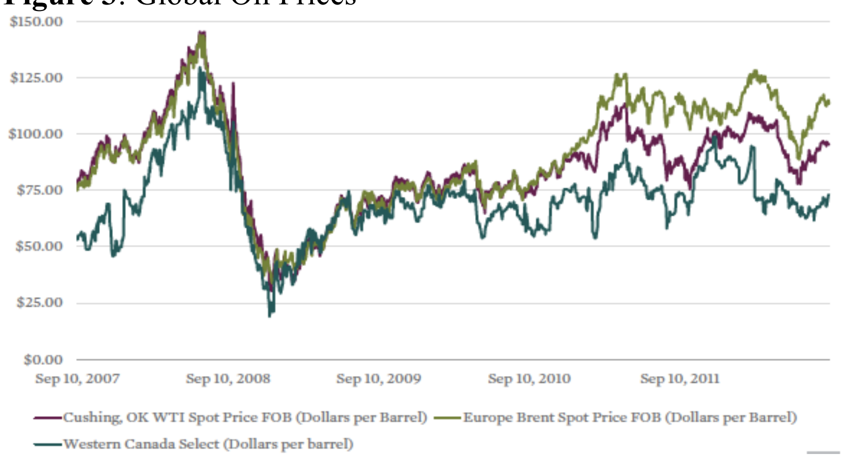
3.6 Volatility

Political situations in the past have and will continue to influence energy prices. NRRRs are volatile and this continues to add fiscal risk for Alberta. With Alberta's heavy

[42] Calgary Chamber, *Teetering on the Brink of Prosperity: 2013 Calgary and Alberta Economic Outlook*, Outlook (Calgary: Calgary Chamber, 2013), 36.

reliance for almost a third of government revenues on NRRRs,[43] government expenditure has fluctuated significantly from year to year. With a boom and bust basic industry, it has made Alberta's fiscal situation, as well as budgeting, difficult. During boom times the government has increased expenditures beyond sustainable levels, but has not cut back enough during the periods of recession or slow growth to achieve long run fiscal balance. Between the fiscal years of 2005/06 – 2012/13 the Government of Alberta's program expenditures were greater than economic growth plus inflation by $22.1 billion.[44] This is a substantial difference, equivalent to 50% of a full year of provincial expenditures at current levels.

Figure 3: Global Oil Prices



Source: Calgary Chamber, *Teetering on the Brink of Prosperity: 2013 Calgary and Alberta Economic Outlook*, Outlook (Calgary: Calgary Chamber, 2013), 21.

Figures 3 and 4 show the global price volatility for oil and gas. They mirror Alberta's finances, showing clear cyclical patterns of NRRRs. High-energy prices have resulted in the government adopting unsustainable fiscal polices. Increases in NRRRs have led Alberta to increase spending on services and investments, including

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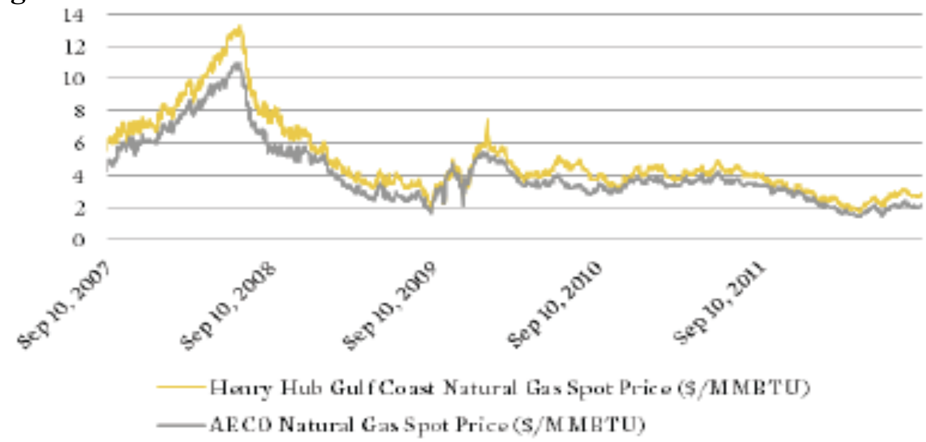
[43] Ronald Kneebone and Margartia Gres, *A Recovery Program for Alberta: A 10-Year Plan to End the Addiction to Resource Revenues* (Calgary, Alberta: The School of Public Policy University of Calgary, 2013).

[44] Mark Milke, *Alberta's $22-billion Lost Opportunity: How Spending Beyond Inflation + Population Growth Created Alberta's Red Ink*, Prosperity Initiative (Vancouver: Fraser Institute, 2013), 9.

Figure 4: Global Natural Gas Prices



Source: Calgary Chamber, *Teetering on the Brink of Prosperity: 2013 Calgary and Alberta Economic Outlook*, Outlook (Calgary: Calgary Chamber, 2013), 22.

those that have relatively low returns.[45] These budgetary choices have resulted in deficits due to the shortfall of NRRRs and the emergence of significant budget gaps – the difference between total spending and tax revenue, measuring the amount of resource revenue required to balance the budget.[46] With the well-known knowledge of NRRR volatility the government should have a tighter fiscal discipline in the use of NRRRs. Energy accounts for two-thirds of Alberta's export revenue;[47] with global market demands changing it could lead to a decline of NRRRs. As noted earlier, risks associated with shifting energy markets, access to markets, and environmental all suggest a more conservative approach to expenditures and, in particular, saving rather than spending most of the NRRRs.

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[45] Constance Smith and Stuart Landon, "Government Revenue Volatility in Alberta," in *Boom and Bust Again* , 228 (Edmonton, Alberta: The University of Alberta Press, 2013).
[46] J.C. Herbert Emery and Ronald Kneebone, "Three Strikes and You're Out? The Inevitablity of Resources Busts and its Challenges for Alberta's Policy Makers," in *Boom and Bust Again* , 52 (Edmonton, Alberta: The University of Alberta Press, 2013).
[47] Elyse Allan, John Bell, Robert Brawn, David Dodge, Juan Enriquez, James K. Gray, Clive Mather, Anne McLellan, Courtney Pratt, Lorne Taylor, Jennifer Welsh David Emerson, *Shaping Alberta's Future: Report of the Premeir's Council for Economic Strategy*, Strategy (Government of Alberta, 2011), 45.

3.7 Intergenerational Equity

It is important to save NRRRs so that when oil and gas revenues diminish future generations will not be subjected to significantly lower levels of government programs and services or large increases in tax rates. Creating a stable economy would help build a stronger foundation for a revenue stream for future generations. If Alberta continues on the current path of spending most of its NRRRs, future generations will most likely not have the same quality of life as the current generations of Albertans have enjoyed.

A central argument for greater intergenerational equity is that the province's non-renewable resources do not only belong to the current generation. Future generations have a claim as well. It is also important to note that ensuring intergenerational equity requires that account be taken of the increased demands on government services associated with an aging population. This would suggest a greater need to prefund age-related expenditure programs such as healthcare such that future generations will not be faced with these additional burdens.

4.0 Alberta's Saving Plan

Alberta has vast NRR (non-renewable resource) wealth. Although, this plays a large role in province's advantage it also provides Alberta with challenges. Revenue can only be generated once by extracting NRRs. It is up to the province to ensure that future generations reap the same benefits for current and past generations.

The government of Alberta has made steps towards saving its windfall resource wealth. The province set up a NRRR (non-renewable resource revenue) "savings" fund in 1976, the Alberta Heritage Savings Trust Fund (AHSTF). The purpose of the fund was to alleviate inter-generational inequity by depositing a set portion of royalties into long-term investments. These royalties would help provide necessary services for many generations of Albertans. Although early contributions to the fund were significant, without a formal requirement to make annual deposits, the AHSTF has suffered from underfunding and chronic withdraws.[48]

4.1 Alberta Heritage Savings Trust Fund

4.1.1 History

Premier Peter Lougheed established the AHSTF with three objectives in mind: to save for the future; strengthen or diversify Alberta's economy; and to help improve the quality of life of Albertans.[49]

In the 1980's the fund contributed to various capital projects that helped meet the needs of Alberta's growing population. These projects improved Albertans' quality of life by developing infrastructure such as parks and libraries.[50] Moreover these projects helped diversify the economy through other funds including, the Alberta Heritage Foundation for Medical Research, the Alberta Heritage Science and Engineering Research Endowment Fund, and the Alberta Heritage Scholarship Fund. These funds have benefited, and will continue to benefit, generations of Albertans.

In 1997 the AHSTF was re-structured and was no longer used by the government for direct economic development or social investment purposes. The new purpose of the fund was to increase long-term investments, which would be overseen by an arms-length committee known as the Standing Committee.[51] The Standing Committee consists of nine

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[48] Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 5.
[49] Government of Alberta, *Alberta Heritage Savings Trust Fund: Historical Timeline*, August 23, 2013, http://www.finance.alberta.ca/business/ahstf/history.html (accessed September 02, 2013).
[50] Ibid
[51] Government of Alberta, *Alberta Heritage Savings Trust Fund: Historical Timeline*, August 23, 2013, http://www.finance.alberta.ca/business/ahstf/history.html (accessed September 02, 2013).

appointed members of the Legislative assembly. The Purpose of the Committee is to review and release quarterly/annual reports and to evaluate the funds performance in accordance with its mission.

The current mission statement of the AHSTF has changed from the founding objectives. Today, the purpose of the AHSTF is "to provide prudent stewardship of the savings from Alberta's nonrenewable resources by providing the greatest financial returns on those savings for current and future generations of Albertans."[52]

Although Alberta has failed to comply with the original objectives, the fund has generated significant benefits. The current market value of the fund is $16.8 billion as of March 31, 2013 and it has contributed $34 billion to fund areas such as health care, education, and infrastructure.[53]

4.1.2 Structure

The structure outlined in the AHSTF Act had originally set 30% of annual NRRRs to be transferred into the AHSTF; the remaining would be transferred into Alberta's General Revenue Fund. Alberta's NRRRs consist of: Natural gas and by-product royalties; Crude oil royalties; bonuses and sales of Crown leases; synthetic crude oil and bitumen royalties; rentals and fees; and coal royalties. From 1976 to 1982 contributions to the Fund were substantial. However, by 1982, as a result of the National Energy Program and lower energy prices, NRRRs were declining and the government

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[52] Government of Alberta, "Alberta Heritage Savings Trust Fund Act ," *http://www.qp.alberta.ca/*, http://www.qp.alberta.ca/1266.cfm?page=A23.cfm&leg_type=Acts&isbncln=9780779726646&display=html (accessed September 02, 2013).
[53] Government of Alberta, *Improving Albertans' Quality of Life*, August 23, 2013, http://www.finance.alberta.ca/business/ahstf/index.html (accessed September 02, 2013).

reduced contributions to 15%. Since the AHSTF Act did not bind the government, by 1987 it stopped depositing NRRRs into the Fund.

Currently, all Fund income, excluding the amount used for inflation proofing, is transferred to the General Revenue Fund. It is now established in the AHSTF Act that the Fund be inflation proofed annually to keep the principal intact in real (or inflation adjusted) terms. Fund income is generated through returns on bonds/debentures, stocks, real estate and private equities. This income comes from investments that are made with the objective of maximizing long-term financial returns and minimizing undue risk.[54]

> *Inflation proofing*
> Inflation proofing involves additions to the Fund to compensate for reductions in real value arising from inflation. It was not until the 1997 fiscal year that the Alberta government started to inflation proof the fund. Prior to that the Fund was static in nominal value causing it to decline in purchasing power.

Within the 2013 provincial budget the Alberta government has made changes to the structure of the AHSTF. Bill 12, the Fiscal Management Act, has set out to decrease Alberta's reliance on NRRRs. The Act established a new savings plan starting in the fiscal year of 2015-2016, outlining that 5% of the first $10 billion of NRRRs be set aside, 25% of the next $5 billion and 50% of that is in excess of $15 billion.[55] Moreover the Act is requiring 30% of the net income earned by the Fund to be retained in the Fund. By fiscal year 2016-2017, 50% must be retained, and by 2017-2018, 100% of the net income is to be retained within the fund.[56]

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[54] Government of Alberta, "Alberta Heritage Savings Trust Fund Act," *http://www.qp.alberta.ca/*, http://www.qp.alberta.ca/1266.cfm?page=A23.cfm&leg_type=Acts&isbncln=9780779726646&display=html (accessed September 02, 2013).

[55] Government of Alberta, "Fiscal Management Act," *http://www.qp.alberta.ca*, http://www.qp.alberta.ca/1266.cfm?page=f14p5.cfm&leg_type=Acts&isbncln=9780779770571&display=html (accessed September 02, 2013).

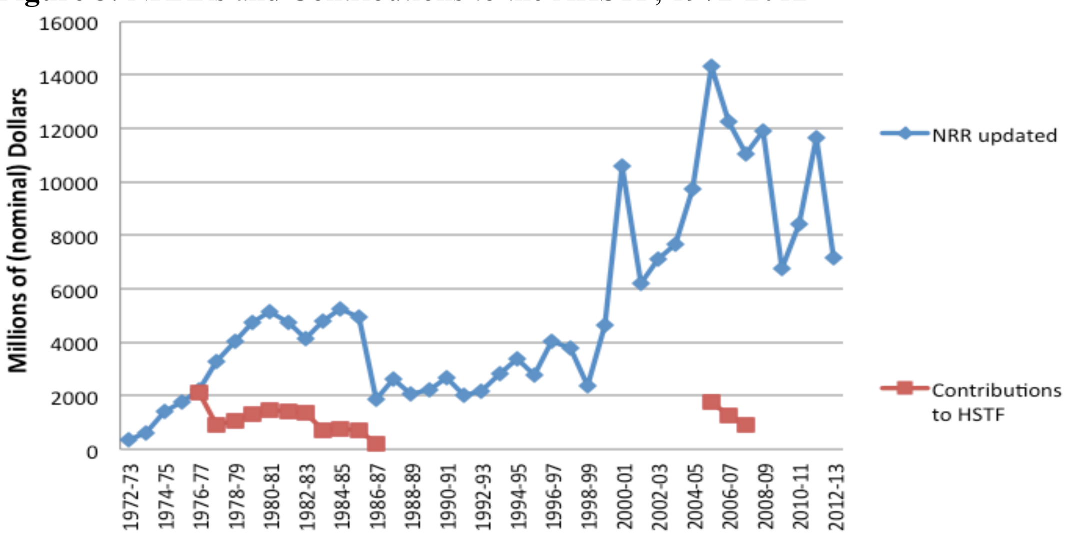
[56] Ibid

4.1.3 Governance

Under the Act the responsibility of the AHSTF falls upon Alberta's Minister of Finance. It is the Minster's responsibility to receive and review quarterly and year-end reports and have them audited by the Auditor General. The results of the audit are reported to the Standing Committee. While the Alberta Investment Management Corporation (AIMCo) currently manages the day-to-day operations of the Fund, investments are still overseen by the Minister of Finance.

The lack of contribution to the AHSTF and commitment to save over many periods are the result of political decisions. Political influence has also added to the funds lack of transparency and accountability. The absence of fiscal discipline with respect to contributions is illustrated in Figure 5.

Figure 5: NRRRs and Contributions to the AHSTF, 1972-2012



Source: McMillan, M. (2013). *Governments' Non-Renewable Natural Resource Revenue Quandary or Whatever Happened to Alberta's Heritage Savings Trust Fund?* . Edmonton, Alberta, Canada: University of Alberta, Department of Economics,3.

5.0 Other Wealth Funds

As indicated in Table 3, a few other provinces in Canada have set up funds to benefit future generations. Saskatchewan did have a potash and uranium fund but it no longer exists. In 2013 British Colombia announced the establishment of a prosperity fund, to be used as an instrument to ensure that its citizens benefit from the development of their LNG industry. Quebec is the only other province, other then Alberta that has a fund with a monetary value. It established the Generation fund in 2006 to help with its provincial debt reduction. These funds are not similar to the AHSTF in governance, genesis or value and, consequently, are of limited value for comparative analysis to inform alternative approaches for Alberta.

Table 3: Wealth Funds in Canada

Province	Established	Type of Fund	Origin	Current Value $ Billion
British Columbia	2013	Prosperity Fund	Liquefied Natural Gas (LNG)	N/A
Alberta	1976	Alberta Heritage Savings Trust Fund (AHSTF)	Oil and Gas	$16.6
Saskatchewan	1978-1992	Heritage Fund	Potash & Uranium	N/A
Quebec	2006	Quebec's Generations Fund	Debt	$4.3

There are many international Sovereign Wealth Fund's (SWFs) that have been created with a similar objective as the AHSTF. However, as shown in Table 4, most of these are in contexts very different than in Alberta. In particular, most of the funds are not transparent and, in many cases, they are in countries that are not democracies. The two funds that appear most relevant for the purposes at hand are Alaska's Permanent Fund (APF) and Norway's Government Pension Fund –Global (GPFG).

Table 4: International Sovereign Wealth Funds, 2013

Country	Sovereign Wealth Fund	Current Value $Billion	Established	Origin
Norway	Government Pension Fund Global	737.2	1990	Oil
Saudi Arabia	SAMA Foreign Holdings	675.9	n/a	Oil
UAE	Abu Dhabi Investment Authority	627	1976	Oil
Kuwait	Kuwait Investment Authority	386	1953	Oil
Russia	National Welfare Fund	175.5	2008	Oil
Qatar	Qatar Investment Authority	115	2005	Oil
Algeria	Revenue Regulation Fund	77.2	2000	Oil & Gas
UAE	Investment Corporation of Dubai	70	2006	Oil
Kazakhstan	Kazakhstan National Fund	68.9	2000	Oil
UAE	International Petroleum Investment Company	65.3	1984	Oil
Libya	Lubyan Investment Authority	65	2006	Oil
UAE	Mubadala Development company	53.1	2002	Oil
Iran	National Development Fund of Iran	52	2011	Oil & Gas
U.S-Alaska	Alaska Permanent Fund	46.8	1976	Oil
Brunei	Brunei Investment Agency	40	1983	Oil
Azerbaijan	State Oil Fund	34.1	1999	Oil
US-Texas	Texas Permanent School Fund	25.5	1984	Oil & Other
US-New Mexico	New Mexico Stat Investment Council	17.3	1958	Oil& Gas
Canada-Alberta	Alberta's Heritage Fund	16.4	1976	Oil &Gas
US-Texas	Permanent University Fund	14.4	1876	Oil & Gas
East Timor	Timore-Leste Petroleum Fund	13.6	2005	Oil & Gas
Oman	State General Reserve Fund	8.2	1980	Oil & Gas
Mexico	Oil Revenues Stabilization Fund of Mexico	6	2000	Oil
Saudi Arabia	Public Investment Fund	5.3	2008	Oil
Angola	Fundo Soberano de Angola	5	2012	Oil
Trinidad & Tabago	Heritage and Stabilization Fund	4.7	2000	Oil
US-Alabama	Alabama Trust Fund	2.5	1985	Oil & Gas
US-North Dakota	North Dakota Legacy Fund	1.3	2011	Oil & Gas
UAE-Ras Al Khaimah	RAK Investment Authority	1.2	2005	Oil
US-Louisiana	Louisiana Education Quality Trust Fund	1.1	1986	Oil & Gas
Nigeria	Nigerian Sovereign Investment Authority	1	2011	Oil
Venezuela	FEM	0.8	1998	Oil
Gabon	Gabon Sovereign Wealth Fund	0.4	1998	Oil
Mauritania	National Fund for Hydrocarbon Reserves	0.3	2006	Oil & Gas
Equatorial Guinea	Fund for Future Generations	0.8	2002	Oil
Ghana	Ghana Petroleum Funds	0.07	2011	Oil

Source: SWF Institute, *Sovereign Wealth Fund Rankings*, 2013. http://www.swfinstitute.org/fund-rankings/ (accessed September 2, 2013).

5.1 Alaska's Permanent Fund

Alaska's economy is dominated by natural resources, especially oil. Alaska had two of the largest oil fields in North America, Prudhoe Bay being the largest. In 1969 sale of the leases brought in $900 million (US dollars) in revenue, a sum that was greater than Alaska's annual revenue from all other sources. This significant lump sum was spent within a few years and this rapid expenditure led to the establishment of the Alaska Permanent Fund (APF) to help protect NRRRs for future generations.

The APF, like the AHSTF was established in 1976. It serves as a suitable comparison to the AHSTF because both were established at the same time and have similar origins.

5.1.1 History

Alaska's Governor Jay Hammond was dedicated to the conservation of the state's resource revenue for its future generations. While the APF was created in 1976, the first deposits to the Fund were not made until the following year. Prior to this there were no constraints limiting the spending of surplus wealth generated from NRR (non-renewable resource) production. In 1976 voters chose to ratify a constitutional amendment that required the state to deposit at least 25% of the NRRR into a fund. The constitutional amendment also included a Permanent Fund Dividend (PFD) program, which meant that a large portion of the income generated by the Fund would be transferred to eligible residents, incentivizing the public to demand proper management. Constitutional amendments established strict restrictions on the state government's ability to dip into the fund, freeing it from political influence. In Alaska's Constitution, Statute 37.13 governs the APF.[57] This provides guarantees that the state government deposits at least 25% of annual NRRR into the fund. NRRR's include mineral lease rentals; royalties; royalty sales proceeds; federal mineral revenue-sharing payments and bonuses received by the state. NRRRs excluded corporate and property tax associated with oil and gas companies, which go into the general revenue pool.

In the 1980's Alaska created an independent state owned corporation, Alaska Permanent Fund Corporation (APFC), responsible for overseeing and managing the fund on a day-to-day basis. While the minimum contribution is 25%, in its boom years during the 1980's, Alaska deposited 50% of NRRRs into the Fund.[58] By 1998 the Fund reached $25 billion US dollars.[59] In the same year the Fund's income began to exceed the NRRRs deposited into the fund. The current value of the fund as of May 2013 is $47 billion US dollars.[60]

5.2.2 Structure

The APF is invested in a diversified portfolio of public and private assets. It is important to note that the Fund's principal is not used for distributions; only earnings of the fund are used for this purpose.[61] Fund income is generated from stock dividends; bond interest; real estate and the income made or lost on the sale of investment assets.

All investments are expected to produce income while minimizing risk. There are strict rules governing investments and the rate of risk and rate of return associated with specific categories outlined in AS.37. The Fund does not prioritize investments that are

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[57] Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 16.
[58] Robert Mansell, "Economics 465: Lecture 11-Fiscal Policy and Resource Rents" (Powerpoint presentation slides, University of Calgary, Calgary, AB, Winter 2011).
[59] Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 18
[60] Ibid,18
[61]Ibid,18.

focused on economic or social development. The exclusive objective is to maximize fiscal return.

The majority of the income earned from the fund is used to pay out dividends to qualified residents. Some income is used for inflation proofing, and the remaining portion is transferred into the General Revenue Fund. A defining characteristic of the Fund is that unrealized earnings - those resulting from the change in market value of assets that are held - cannot be spent.[62] Dividend amounts are calculated using a set formula. To reduce year-to-year fluctuation, the calculation is based on the funds five-year average income. The annual net income produced by the fund is calculated and of that, 50% is allocated to dividends and distributed as dividend checks. [63]

Inflation Proofing

In 1982, the APFC started the practice of inflation proofing to protect the Fund's purchasing power.[64] The annual rate of inflation is calculated to determine the amount needed to be transferred for inflation proofing from the annual fund income into the Fund's principal.

5.1.3 Governance

The Department of Revenue's Treasury Division managed the state's Fund from 1976 to 1980. The state government established The Alaska Permanent Fund Corporation (APFC) in 1980 to oversee daily management. The Board of Trustee's consists of six members appointed by Alaska's governor, of which four hold no state or federal employment, by law. If board members have an interest in any of the investments it must be disclosed on public record.

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[62] Alaska Permanent Fund Corporation, *Fund Law*, http://www.apfc.org/home/Content/aboutAPFC/lawIndex.cfm (accessed September 02, 2013).

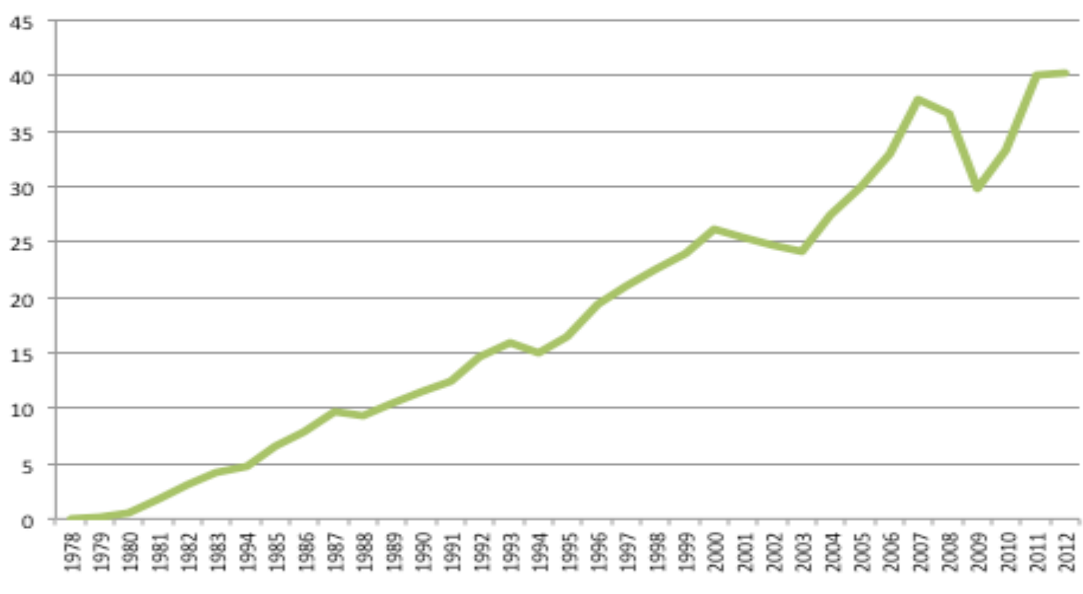
[63] Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013),22.

[64] Alaska Permanent Fund Corporation , *Landmarks in Permanent Fund History*, http://www.apfc.org/home/Content/aboutFund/fundHistory.cfm (accessed September 02, 2013).

The APFC's mission is "calibrating the Fund's risk tolerance to balance the competing objectives of capital preservation and capital appreciation for current and future generations. In doing so, the Board will strive to outperform peers in down markets and meet peer returns in up markets."[65] The same year the APFC was appointed to oversee the fund, the state government appointed the Permanent Fund Dividend Division to operate the Permanent Fund Dividend (PFD) program. The division's duty is to oversee and administer dividends to qualified residents. Because the PFD program and APFC are separate entities, the funds are independent, accountable, and protected from political influence.

The growth of the APF over the period 1978 to 2012 is illustrated in Figure 6.

Figure 6: Growth of APF, 1978-2012 (Fund value in US $billon)



Source: data from Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 23.

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[65]Alaska Permanent Fund Corporation, *Alaska Permanent Fund Corporation: Investment Policy*, May 23, 2013, http://www.apfc.org/home/Media/investments/20130523_Investment%20Policyc.pdf (accessed September 02, 2013).

5.2 Norway's Government Pension Fund-Global

Scandinavian countries are often ranked among the world's most prosperous countries and Norway is no exception. It is rich in natural resources that have contributed greatly in shaping its country's success. Norway's Government Pension Fund-Global (GPFG) is the world's largest resource fund.

The GPFG is both much younger and larger when compared to Alberta's AHSTF and Alaska's APF. Although Norway does not rank among the world's top ten in terms of oil reserves, it is the largest producer outside the Middle East.[66]

5.2.1 History

Norway's Petroleum Fund was established in 1990 to avoid the effects of fluctuating commodity prices. Originally when it was established it was called Norway's Pension Fund. In 2006 the fund was renamed to the Government Pension Fund-Global (GPFG). Although the fund was created in 1990 the first deposit did not occur until 1995.

The objective set out by the Act governing the Fund is to counter the effects of the future decline in income from NRRR (non-renewable resource revenue). The Fund is restricted to investing in financial markets outside of Norway, allowing Norway to avoid appreciation in its currency that would otherwise occur.

The GPFG is a long-term fund preserved for future generations for when NRRRs decline. Currently, no decisions have been made regarding the ultimate use of the Fund. Today the value of the GPFG is over $700 billion US dollars, the largest such fund in the world.[67] The growth of the Fund over the period 1996 to 2012 is shown in Figure 7.

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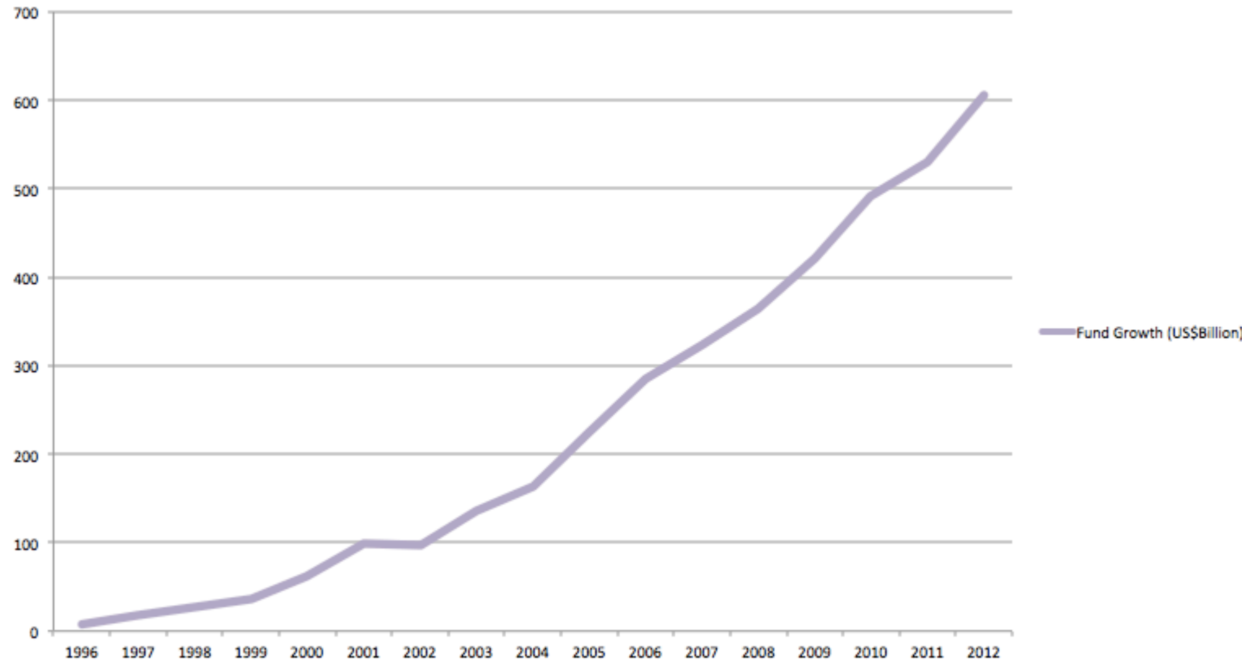
[66] Central Intelligence Agency, *The World Factbook*, https://www.cia.gov/library/publications/the-world-factbook/geos/no.html (accessed September 02, 2013).
[67] Source: SWF Institute, *Sovereign Wealth Fund Rankings*, 2013. http://www.swfinstitute.org/fund-rankings/ (accessed September 2, 2013).

Figure 7: Growth of GPFG 1996-2012 (Fund value in US$ billions)



Source: data from Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 32.
Note: conversion rate used for NOK to $US was 0.16

5.2.2 Structure

The structure of Norway's fund is vastly different from the two funds previously discussed. Norway uses the Hartwick rule for sustainability, depositing100% of its resource rents into the Fund. The nation's government budget excludes NRRRs, which helps buffer the economy from ups and downs of fluctuating oil prices and resource rents.

Norway's NRRR consists of: taxes; fees; leases; interest earned; and, dividends. The income earned on the fund is retained in the Fund and invested in financial assets made up of a diversified portfolio of bonds, stocks and real estate. There are strict guidelines surrounding investments. All investments are made abroad and cannot take controlling stakes in any companies. This helps ensure that fluctuating energy prices do not destabilize the economy. The objective of the investments is to maximize returns, reduce risk, and safeguard assets by promoting good corporate governance and high social and environmental standards.[68]

In 2004 Norway created an ethics counsel to ensure that investments in companies align with Norwegian ethical guidelines. The fund does not invest in companies that produce tobacco, are involved in human rights abuses, damage the environment, or produce weapons.[69] The guidelines are put in place in hopes of steering clear of investments that violate fundamental humanitarian principals. If companies are found to go against ethical standards, investments are withdrawn.

Although a 100% of NRRRs are deposited in the GPFG, 4% of the funds value is annually transferred into the General Revenue Fund to pay for current government expenditures.[70]

Inflation Proofing

Norway has been inflation proofing its fund since 1997.[71] Being a large fund to being with, good financial management and inflation proofing has assisted in its growth.

5.2.3 Governance

Norway's Minister of Finance is responsible for the GPFG. The Minister of finance determines guidelines that Norges Bank uses to manage the fund. The Norges Bank manages the fund on behalf of the government and has assigned a board that

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[68] Fletcher School, *The Sovereign Wealth Fund Initiative*, July 2012, http://fletcher.tufts.edu/SWFI/~/media/Fletcher/Microsites/swfi/pdfs/2012/profiles/Norway%20Fund%20Profile.pdf (accessed September 02, 2013).

[69] Ibid

[70] Fletcher School, *The Sovereign Wealth Fund Initiative*, July 2012, http://fletcher.tufts.edu/SWFI/~/media/Fletcher/Microsites/swfi/pdfs/2012/profiles/Norway%20Fund%20Profile.pdf (accessed September 02, 2013).

[71] Ministry of Finance, *The Management of the Government Pension Fund in 2012*, 2012, http://www.regjeringen.no/en/dep/fin/Documents-and-publications/propositions-and-reports/Reports-to-the-Storting/2012-2013/meld-st-27-20122013-2/9.html?id=729900 (accessed September 02, 2013).

manages the day-to-day activities of the Fund. Transparent management is a key contribution to its success.

6.0 Comparative Analysis

Based solely on monetary value, Norway's GPFG (Government Pension Fund Global) and Alaska's APF (Alaska Permanent Fund) have outperformed AHSTF (Alberta Heritage Savings Trust Fund) by a large margin. There are key lessons that Alberta can learn from both funds regarding how to establish and manage a successful wealth fund for an economy heavily based on non-renewable resource production. It is interesting to note that if Alberta had continued to save at its original 30% contribution rate the AHSTF today would have grown to be just shy of $50 billion CAN dollars,[72] approximately the same size as the APF.

Assessing safeguards, public support, structure and operation, economy and standard of living provides a comparative analysis of the Alaska and Norway approaches applied to an Alberta context. This can provide useful policy direction in changing the AHSTF to better serve the objectives of sustainable prosperity and intergenerational equity for Alberta.

Table 5: Comparative Analysis

Fund	Year Established	Current Value $ billion CAD	Resource size (Proven oil reserves)	Population (Million)	Per Capita Value,2012
Alberta AHSTF	1976	16.8	173.6 Billion barrels	3.85	$4,363.36
Norway GPFG	1990	737.2	5.32 Billion barrels	5.06	$145,691.69
Alaska APF	1976	46.8	3.82 Billion barrels	0.73	$63,982.59

Source: U.S Energy Information Administration, *International Energy Statistics*. 2013. http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=3. (accessed September 2, 2013).

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[72] Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 7.

6.1 Safeguards

Unlike the AHSTF, Alaska's fund is constitutionally protected, a key factor contributing to its success. Through a constitutional amendment Alaska has protected the Fund against short run political opportunism and provided a foundation for transparency, accountability and good management. This contrasts with the AHSTF, which does not have safeguards against political influence and tendencies to use it to serve the interests of current rather than future generations. Given this it is perhaps not surprising that the contributions to the Fund have been sporadic and income generated by the Fund has typically been transferred to the General Revenue Fund. Of the three funds, Norway's has most closely achieved the goals set out for it. The key to its success, in addition to the disciplined and large contributions, is that the fund has been established as a pension fund with the goal to generate stable long-term growth. Pension funds are governed by strict regulations and by establishing it as a pension fund it has made it very difficult for politicians to change the contributions to or transfers from the Fund to serve short-term political goals. But another important dimension in the case of both the Norwegian and Alaska funds is the strong level of support by the citizens.

6.2 Public Support

In democratic countries public support is an important factor in the success of a long-term resource fund. Alaska's dividend program has been a key component in the success of the Fund. Greater public interest commands better management. Interested citizens demand accountability and transparency; government must prove they are competent stewards of the fund. Moreover, transparency makes it easier for the general public to engage and understand the purpose of the fund. The more engaged the citizens are, the less likely it is that a government will be willing to tamper with the Fund. Political leaders in Alberta have acknowledged that the general public does not know the difference between NRRRs and general revenue[73] and does not fully understand what it would mean to Alberta if economic rent from NRR fell. Based on the Alaska experience it would appear that an engaged and well-informed public is indispensible in the development and long-term success of a resource savings fund.

6.3 Structure and Operations

Volatility is an issue with NRR-based economies. Norway has avoided much of the associated instability by drawing up their annual budget without using NRRRs. This has helped to stabilize their economy. Further, Norway has also chosen to keep tax levels high as a way of funding government services rather than relying on NRRRs. This is in sharp contrast to the situation in Alberta and one can argue that had the province excluded NRRRs in drawing up its budgets, there would be considerably less variation in provincial government expenditures and likely much smaller fiscal deficits in recent years.

Compared to other resource funds, Norway's Fund has very rapidly accumulated wealth by employing the Hartwick rule. However, in evaluating the contribution rate and use of the funds it is important to take into account key differences between Norway and Alberta. First, Norway has a considerably smaller resource base; for example, it has oil reserves of about 5.3 billion barrels compared to almost 174 billion barrels for Alberta (as shown in Table 5), and this does not take into account the province's very large reserves of conventional and unconventional gas. In general, this means that resource depletion is

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[73] Robert L. Ascah, "Savings of Non-renewable Resource Revenue: Why is it so Difficult? A Survey of Leaders' Opinions," in *Boom and Bust Again*, 180 (Edmonton, Alberta: The University of Alberta Press, 2013).

much more likely to be a future problem for Norway than it is for Alberta and this is an argument as to why a proportionately smaller resource fund may be appropriate for Alberta.

Second, with a population that is only about 30 percent larger than Alberta's, Norway has its own currency. A large appreciation of Norway's currency would reduce the international competitiveness of the country's other trading sectors. Consequently, Norway has had a focus on sterilizing the large resource rents by putting all of them in the GPFG and investing them in assets outside the country. This helps prevent an appreciation of the currency and excessive growth in aggregate demand that would create other inflationary pressures. Further, the Fund is seen as way of reducing instability related to volatility in the exchange rate as international energy prices fluctuate and related to the swings in government spending that would occur if it were funded by NRRRs. While fluctuations in energy revenues and government expenditures do have a significant impact on the Alberta economy and represent a real policy challenge, they are not generally substantial destabilizing elements at the national level.

Alaska has adopted a very different approach. By increasing the reliance of the population on dividends from the APF it has to some extent created a rentier society. With the requirement of at least 25% of its NRRRs going to the APF, the state has decreased its budget volatility. In contrast, Alberta set up the AHSTF with a similar contribution rate but failed to follow initial plans.

While inflation proofing has been adopted by all three funds, Alaska began this earlier and this has contributed to the faster growth of the APF compared to the AHSTF.

In general, the different governing structures of the funds have lead to vastly different management techniques and economic benefits.

6.4 Economy

While the much lower value of the AHSTF compared to that of the Alaska and Norway funds suggests that Alberta's approach has been a failure it is important to take into account the differences in overall economic objectives. The province has expended a much larger share of NRRRs on building public infrastructure and expanding its economic base. It has fairly consistently had high growth rates for output, income and employment, low unemployment rates and the highest standard of living.[74] The dynamics of the province's economy are reflected in quality of life. It is the only province that does not have a sales tax, it has the lowest personal income tax across the nation, and it has the highest per capita spending on publicly funded programs. Furthermore the province has the most competitive business tax regime making it a favorable business environment. This attracts investments and spurs economic growth.

The differences between Alberta and Alaska's economy are stark. The latter has a much smaller economic base and a population that is less than 20 percent of Alberta's. However, Alaska does have a dividend program that provides a significant contribution to incomes of the residents, an impetus for consumer spending and an incentive for people to stay in the state. In addition, the contributions of NRRRs have allowed Alaska to avoid having a sales tax or a personal income tax and it is only one of two states to not have both. This is important in order to make Alaska attractive as a location as it is one of the least populated states.

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[74] Calgary Chamber, *Teetering on the Brink of Prosperity: 2013 Calgary and Alberta Economic Outlook*, Outlook (Calgary: Calgary Chamber, 2013), 23-26

Norway's approach is reflective of its economy and culture. It has a fairly static and homogeneous culture along with a small population. Although Norway is ranked as one of the top nations in terms of the United Nations Human Development Index,[75] population growth is low, largely as a result of policies limiting the rate of immigration. In contrast, Alberta has chosen a path that includes encouraging in-migration and a rapidly growing and diverse population and culture. This, along with the larger and more diverse resource base, suggests a less extreme rate of saving of NRRRs is appropriate.

Further, while fund objectives of Norway and Alberta may be similar it is important to emphasize that overall objectives will be different for a nation than a region or province.

6.5 Standard of Living

It can be argued that an important test of the success of policies is the level of the standard of living afforded by residents of a region or nation. While the real value of Alberta's Fund has performed poorly relative to the funds in Alaska and Norway, there is a case that overall policies aimed at raising the standard of living can help compensate. For example, to the extent that expenditures of NRRRs are effectively invested in education, healthcare and infrastructure (rather than just a savings fund), these also produce returns to both current and future generations. Viewed in this context, Alberta has done well. Furthermore, Alberta has the highest consumption, wealth, and economic security in Canada, all of which have contributed to the province having the highest

[75] The United Nations Development, *Country Profiles and International Human Development Indicators*, http://hdr.undp.org/en/data/profiles/,(accessed September 02,2013).

overall level of well being in Canada.[76] Thus Alberta has been able to achieve a prosperous and competitive economy compared to Alaska and Norway despite a very different approach to the use of NRRRs.

However, a key issue is whether this lead can be sustained over the long run. As discussed in Section 3, there are many challenges over this time frame that do call for greater attention to the need for a larger AHSTF to compensate for slower growth and declining NRRRs. With a diminishing Fund in real per capita terms, there is the likelihood that Alberta's future standard of living will decrease. The differences in the per capita values of the three funds are large. This value of the AHSTF is currently $4,400, compared to $145,700 for the GPFG and $64,000 for the APF as seen in Table 5. From the perspective of assuring sustainability of the high standard of living over the long term, the value of the AHSTF is very low. Fortunately, however, with Alberta's large and diverse resource base and good economic fundamentals present there is the potential to substantially increase the AHSTF before there is a secular downward trend in NRRRs.

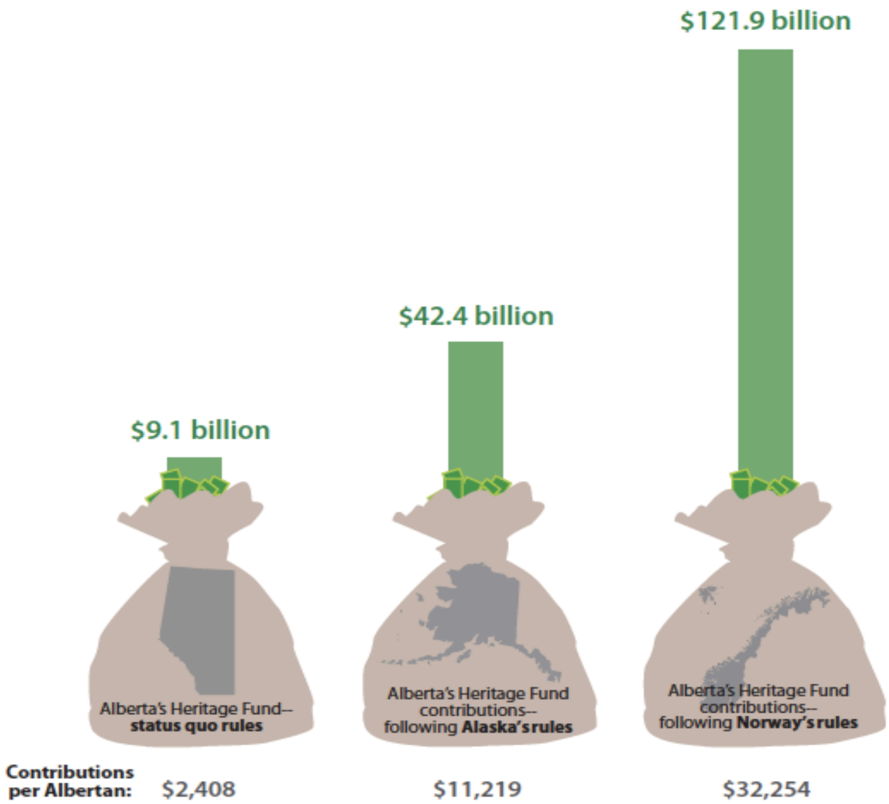
6.6 Potential Fund Growth

To provide an indication of the potential for growth in Alberta's saving fund is instructive to evaluate what the value of the AHSTF would be if other savings and investment models had been adopted. As it turns out, if the province had adopted Alaska's model and deposited 25% of its NRRRs from 1982-2011 the AHSTF would be

[76] Andrew Sharpe Lars Osberg, *Beyond GDP: Measuring Economic Well-Being in Canada and the Provinces, 1981-2010*, Research (Ottawa: Centre for the Study of Living Standards, 2011).

valued at $42.4 billion.[77] Had the province taken Norway's approach and deposited 100% of its NRRRs from 1982-2011 the AHSTF would be valued at $169.5 billion.[78]

Figure 8: Contributions to the Alberta Heritage Fund if Alaska's or Norway's Model Had Been Adopted, 1982-2011(in Cdn $)



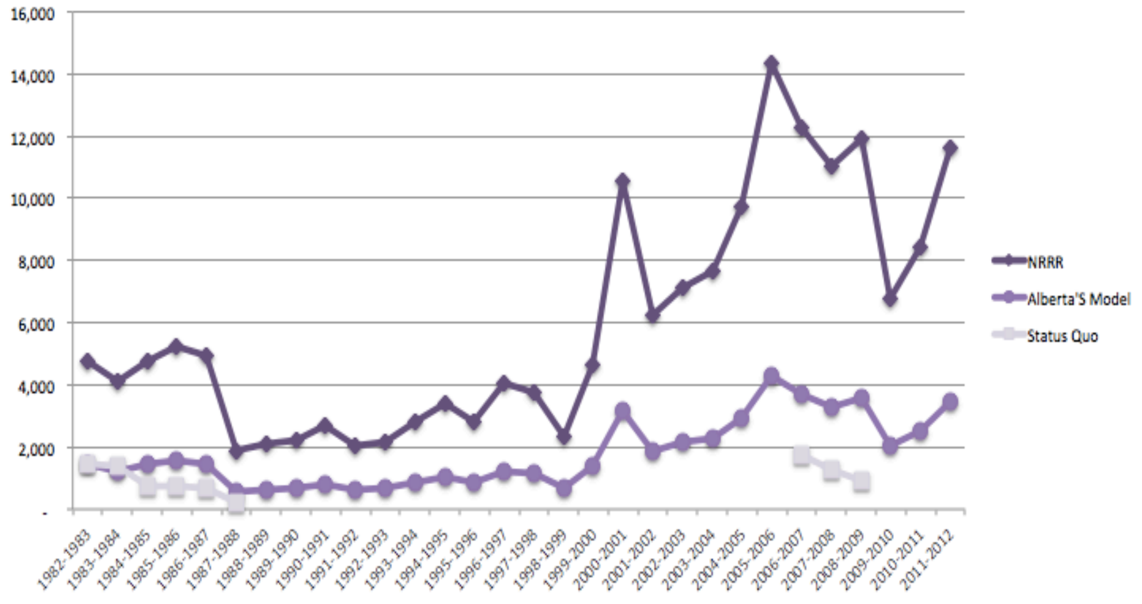
Source: Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 7.

If Alberta had committed to its original contribution and continued to deposit 30% of its NRRR, the fund would have accumulated $53.3 billion of the $178 billion NRRR the province has collected.[79] A fund triple the size of today's value would make a great difference to the confidence of Albertans that prosperity can be maintained into the

77 Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 35
78 ibid, 35
79 Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 35

future. Figure 9 shows what the potential growth of the fund could have been from 1982-2012, compared to the NRRRs collected and the status quo savings.

Figure 9: Potential Growth of the AHSTF, (CAN $billion)



Source: Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 35.
Note: NRRR, is the total economic rent collected 1982-2012. Alberta's Model refers to the original 30% saving obligation. Status Quo, what Alberta has done.

A larger fund would result in the option of a substantial transfer of investment income to general revenues in the future to help keep taxes low and pay for priority programs. For example, during the 2012-2013 fiscal year the AHSTF earned net income of $1,316 million, $161 million of which was retained in the Fund for inflation proofing.[80] $1,155 million was transferred to the General Revenue Fund.[81] This supported approximately 3% of the province's $41.1 billion in expenditures.[82] With a $53.3 billion principal, assuming that the transfer to the general revenue would also triple, $3.5 billion

[80] Government of Alberta, "Alberta Heritage Savings Trust Fund: Annual Report 2012-2013," *http://www.finance.alberta.ca*, 2013, http://www.finance.alberta.ca/business/ahstf/annual-reports/2013/Heritage-Fund-2012-13-Annual-Report.pdf (accessed September 02, 2013).
[81] Ibid
[82] Ibid

would provide for 8.5% of the budget expenditure. This would place Alberta on a path for greater fiscal sustainability and intergenerational equity.

With an expected increase in program spending, a larger savings vehicle for NRRRs would have provided for a better fiscal situation. Spending has increased by 3.5% on average per year for health care, 2.9% for social services, and 1.6% for other program.[83] Based on the status quo, the province will continue to experience strained finances. If the original deposit rate of 30% was upheld, the transfers to the General Revenue Fund from the AHSTF would cushion provincial expenditures. With the principal amount accumulating, the investment income would reflect this growth, providing for larger transfers to the General Revenue Fund to keep up with increases in provincial expenditures.

Maintaining low taxes is already a challenge for Alberta. With economic rents decreasing in the future, and risk associated with changing market demand, environmental constraints, prices, costs and market access this challenge will only increase. NRRs have been the source of Alberta's economic advantage and prosperity and a primary contributor in to the provinces economic well-being. If Alberta had a fund standing at $53.3 billion[84] Alberta would be situated better to help keep the province's low tax advantage and provide for a substitute source of income for provincial program expenditures for current and future generations. Further, had Alberta contributed to the AHSTF, social program expenditure would not likely have increased by $22.1 billion, more than the inflation rate and population growth between the fiscal years of 2005/06-

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[83] Ronald Kneebone and Margartia Gres, *A Recovery Program for Alberta: A 10-Year Plan to End the Addiction to Resource Revenues* (Calgary, Alberta: The School of Public Policy University of Calgary, 2013), 5.

[84] Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 35.

2012/13.[85] Greater contributions to the fund would help assure that Alberta's standard of living could be maintained much longer than anticipated at present.

7.0 Recommendations

Alberta has been fortunate to be in a unique position with its abundant NRRs. Despite this, the province still faces challenges. As explained earlier, the energy industry is volatile and the province has been highly dependent on it. Saving a portion of NRRRs is important in order to maintain provincial economic prosperity. Norway and Alaska have created successful funds with lasting benefits and Alberta should follow suit. Diminishing NRRs is not the only issue; market demand is also a rising concern. Today's fiscal policies could affect current residents of Alberta in the future if NRRRs are significantly lower in 10-15 years.[86] Furthermore, NRRs also belong to future generations and they too should reap its benefits. For the reasons discussed it is important for Alberta to have an investment vision designed to capture NRR wealth for intergenerational equity.

Alberta, like Norway and Alaska needs to embody a strict commitment to saving. Intergenerational equity is to some extent already embedded in taxation and expenditure decisions. Current tax revenues are used to support public education with an expectation that this investment will pay off in the future and this in turn will be able to generate tax revenue needed to support programs for older generations.[87] Alberta cannot maintain its

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[85] Mark Milke, *Alberta's $22-billion Lost Opportunity: How Spending Beyond Inflation + Population Growth Created Alberta's Red Ink*, Prosperity Initiative (Vancouver: Fraser Institute, 2013), 9

[86] Roger Gibbons and Robert Roach, "The Transformative Potential of Alberta's Natural Resource Wealth," in *Seizing Today and Tomorrow: An Investment Strategy for Alberta's Future,* (Canada West Foundation , 2006),88.

[87] Roger Gibbons and Robert Roach, "The Transformative Potential of Alberta's Natural Resource Wealth," in *Seizing Today and Tomorrow: An Investment Strategy for Alberta's Future,* (Canada West Foundation , 2006), 7.

economic advantage by simply increasing taxes. Doing so would discourage investment, adversely affecting Alberta's economy. The province needs to implement a sustainable fiscal policy that helps keep Alberta's tax structure competitive, attracting migration and investment for years to come. The province is responsible in managing today's financial bounty for long term economic benefits.[88]

The province should save with the goal to have a fund large enough to generate income to finance a portion of future budgets similar to the NRRRs portion of today's provincial budget. Saving 30% of NRRRs leaves 70% in the General Revenue Fund for current program expenditures. According to history, if Alberta had put away 30% of its NRRRs it would have a fund larger than $50 billion. With a hypothetical window of twenty years of high oil and gas revenues Alberta still has the potential to get on track. Taking the last five year average of NRRRs equal to, $10.1billion,[89] and the proposed 30% contribution rate, would amount to an annual contribution to the AHSTF of about $3 billion. Over a ten-year period of annually contributing $3 billion to the AHSTF and assuming a 4% real return on assets and all investment income remained in the Fund, the Fund would be worth over $62billiion.[90] Using the same assumptions, by the end of twenty years it would be valued at $130 billion. [91] A $3 billion annual decrease in General Revenues could result in greater discipline so that future increases to the provinces annual budgets would only reflect inflation and population growth. Thus, theoretically excess government expenditure could be contained and eventually

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[88]Roger Gibbons and Robert Roach, "The Transformative Potential of Alberta's Natural Resource Wealth," in *Seizing Today and Tomorrow: An Investment Strategy for Alberta's Future,* (Canada West Foundation , 2006), 7..

[89] Robert P. Murphy and Jason Clemens, *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*, Prosperity Initiative (Fraser Institute , 2013), 35.

[90] Appendix A

[91] Appendix A

eliminated. In the mean time, the government could implement some modest increases in taxes or user fees or decrease its expenditures to close the budget gap.

The province should set its contribution rate to at least 30%, and in boom periods contribute up to 50%. Alberta's substantial resource size and demand over the next twenty years would be sufficient to build a very large fund of at least $130 billion to serve the goal of intergenerational equity. This will allow the province to continue to promote economic growth with competitive tax rates.

The longer run goal should be to build the AHSTF up to about $250 billion. With a 4% real (after inflation) return on the investments, this would generate annual income of $10 billion, an amount that would be equivalent to 25% of today's provincial budget expenditures. Such an amount would likely be sufficient to offset the declining contributions of NRRRs to the General Revenue Fund. If future provincial government expenditure could be held constant in real terms this would amount to a major contribution to future budgets.

7.1 Policy Elements

Alberta does not need an extreme approach to saving such as Norway's 100% NRRR contribution but it does need to implement policies that restructure savings to be larger and more consistent. The province needs to adopt strict legislation that requires at least 30% of NRRRs to be saved for the future. Five policy recommendations for the AHSTF are outlined below.

1. The key objective of the fund should be to achieve intergenerational equity. This will sustain low tax levels and government programs to keep Alberta's advantage for future generations when NRRs are expected to be much lower. There should be long

and medium-term goals. The latter should aim to have a fund large enough to generate income to fill the budget gap (the difference between expenditures and non-resource revenues). The long-term goal should focus on accumulating a fund of $250 billion, that once achieved would provide a permanent flow of income to fund a significant portion of future government budgets.

The mission of the AHSTF should be to provide prudent stewardship of the savings from Alberta's NRRRs by providing the greatest financial returns on those savings to sustain Alberta's competitive tax regime.

2. The government must demonstrate that it is a responsible steward of public money.[92] Currently the AHSTF is under the responsibility of the Finance Minister. Alberta needs strict guidelines and a disciplined approach to make annual contributions to the Fund.

Leaving the Fund in the hands of the politicians will continue to produce low economic returns. Removing the AHSTF completely from the hands of politicians and putting in the hands of an arms-length governing body would result in transparent management. This means AIMco would see a set contribution each year and be held accountable for the management of the Fund and not the Department of Finance. Ultimately the province would see a better Fund performance with stable long-term growth.

The Fund should be governed under a framework established by legislation. Set guidelines and duties should be assigned to the governing body including clear standards of where investments should take place. Creating a pension fund or having a referendum

[92] Canadian International Counsil . *The 9 habits of Highly Efeective Resource Economies, Lessons for Canada* . (Canadian International Counsil , 2012)

could safeguard the Fund. While setting the AHSTF up as a pension fund should certainly be explored, it seems that a referendum might be simpler and still create the desired outcome. Such a referendum would involve a question such as: “Do you support a requirement that at least 30% of all non-renewable resource revenues be deposited to the AHSTF and that all net earnings by the Fund be invested back in the Fund until it reaches an ultimate value of $250 billion.” Preparation for such a referendum would require a thorough information campaign to make the implications of the choice clear and to encourage a high rate of broad public participation. Assuming a clear and well-understood question and implications, a high response rate and a strong endorsement of the referendum question by the public would make it difficult for future politicians to make legislative changes that would undermine the growth of the Fund.

This strengthening through an amendment to the AHSTF Act would address, not only the restrictions in terms of contribution and withdrawals, but also provide for an arms-length governance structure. This would involve, among other things, establishing a not-for-profit corporate structure with an elected, independent and arms-length Board of Directors to oversee all elements of the administration, management and use of the Fund. It would publish a complete list of its holdings and provide an independent analysis of the Fund’s performance in relation to short and long term goals.

Such a structure, backed by strong public opinion and accountability, would be fundamental in the Funds success.

3. Along with these changes, there should be clear requirements for inflation proofing of the Fund, ensuring that the principal cannot be re-directed to General Revenues and setting out the conditions under which the net income (the income earned

by the Fund in excess of that for inflation proofing) can be transferred to General Revenues. As noted, the latter would be tied to the ultimate target value of the Fund.

There should also be an on-going information campaign to educate and improve the general public's understanding of the differences between of NRRRs and ordinary income and what role each plays in Alberta's finances. Public awareness can contribute greatly to the Fund's success, as it has for Norway and Alaska. Albertans demand lower taxes and generous government spending, yet they are often not aware of how their current standard of living is maintained by NRRRs. Engaging the public and getting them to understand the need for a stricter fiscal management would help build a strong foundation and support for the AHSTF.

4. The legislative amendments should also set out the investment policy. The investments of the AHSTF should be highly diversified with an avoidance of investments in sectors where performance is strongly correlated with returns in the oil and gas sector. In general, this will require that the investments are primarily outside of Alberta to protect the Fund against fluctuating oil and gas production or prices in the province that could be destabilizing. The goal should be to invest with the lowest cost possible and to increase returns via active management, as is the case for Norway's fund. Active management is an approach that aims to outperform a market index or benchmark.[93] Further, investments should not be large enough to take controlling share of any company.

5. In general, a key goal would be to protect the principal of the Fund and only transfer income out of the Fund once a target value is achieved. With a projected 4% real

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[93] Mercer Limited, *Norwegian Ministry of Finance, Survey on Active Management*, Survey(London: Mercer Limited, December 2009). 5.

return rate, the income generated from the fund, adjusted for inflation can be transferred into the General Revenue Fund in the more distant future. At that time, such transfers will further feed back to serve the goal of intergenerational equity to the extent it is used to fund programs such as healthcare, education, and infrastructure all of which pay future dividends.

8.0 Conclusion

The AHSTF has not been as successful as it could have been. Analysis has shown that if the AHSTF followed one of the three models (AHSTF's original 30% contribution, Alaska's model with saving 25%, or Norway's model with saving 100%), the Fund would have been much larger than what it is today and positioning Alberta for sustainable prosperity.

Although Alberta has been very prosperous, ranked with Canada's highest standard of living,[94] the Province will likely only be able to sustain its fiscal situation temporarily. NRRRs have had a dramatic impact on Alberta's economy and public financing. NRRs have been a large contributor to Alberta's economic growth; it has contributed to a competitive tax regime as well as high public program expenditures. However, NRRs will be depleted and exhausted at some point. But the most pressing factor to consider is the changing markets for Alberta's oil and gas production. With environmental issues escalating and costs increasing, the demand for carbon-based resources is slowly shifting and will continue to shift globally. The implications for Alberta are multiplied by the province's dependency on one market for its energy exports, a market that is expected to steadily decline. Alberta needs a plan for a

[94] Andrew Sharpe Lars Osberg, *Beyond GDP: Measuring Economic Well-Being in Canada and the Provinces, 1981-2010*, Research (Ottawa: Centre for the Study of Living Standards, 2011).

sustainable future under these shifting conditions. A significant component of this plan should entail policies that will ensure the growth of the AHSTF. Having an arms length structure and body governing the Fund will reduce, if not eliminate, short-term political opportunism that threatens the longer-term contributions of the Fund and also help improve accountability and transparency with respect to the Fund. Public consensus and understanding is essential it will contribute to the success of the Fund.

Alberta can preserve its advantage by not treating NRRRs as general revenue. The Province needs to ensure that it takes a fiscally responsible approach to the AHSTF and initiates, through a referendum, changes to legislation that will ensure growth of the Fund for the benefit of both current and future generations. Strong public engagement will result in better fiscal management with respect to NRRRs that are highly variable and will decline over time. Moreover, it will reduce the likelihood that contributions to the Fund and the use of income generated by the Fund will be driven by short-term political opportunism. This discipline is urgently needed now. Failure to act will jeopardize sustainable prosperity for the province and the goal of intergenerational equity.

Appendix

Appendix A: Hypothetical Growth Calculations

Current value=$16.8 billion
Annual Contribution to the Fund = $3 billion
FV=[PV*(1+i)^n] +[PMT(((1+i)^n)-1)/i)]

FV= Future Value, value of the fund after n periods
PV= Present Value, $16.8
i= Real return on investment (after inflation), 4%
n= Time, number of years , 10 & 20
PMT= Annual contribution, $3 billion

Expected value of the Fund over a 10-year period with a growth rate of 4% real per year

PV=$16.8 billion
i=4%
n=10 year
PMT=$3billion
FV= $62.33 billion

Expected value of the Fund over a 20-year period with a growth rate of 4% real per year

PV=$16.8 billion
i=4%
n=20 years
PMT= $3 billion
FV= $129.72 billion

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