

A Sovereign Wealth Fund to Tackle Climate Change in Canada

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Abstract

Recently, the issues surrounding climate change have gained traction globally. The 2019 federal election was a testament to its relevance in Canada, as most political parties pushed their agendas forward to tackle the issue. Plans have typically revolved around large spending promises, with little regards for the methods of financing these initiatives. Canada's federal deficit is on the rise, and with the ongoing pandemic, the nation is approaching another debt crisis. A possible solution to the capital crunch could come in the form of a Sovereign Wealth Fund. The purpose of the fund would be to pool Canada's

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Biographie :

Nathaniel Hailu poursuit actuellement une maîtrise en affaires publiques et internationales à l'Université d'Ottawa. Bien qu'il ait obtenu un diplôme en kinésiologie dans l'espoir de devenir physiothérapeute, il s'est découvert une passion pour les politiques publiques et les affaires. Il espère approfondir ses connaissances et collaborer avec des gouvernements ou des organisations privées afin d'apporter des solutions innovantes à des problèmes de grande envergure. En dehors de sa vie universitaire, Nathaniel aime faire du sport, en particulier du hockey. En grandissant à Toronto, les Maple Leafs ont toujours été son équipe de prédilection. Son expérience lui a appris la valeur d'une réflexion hors des sentiers battus lorsqu'il s'agit d'évaluer des problèmes, et il espère en faire profiter sa vie professionnelle une fois diplômé.

natural resource profits into a fund in order to pivot the economy away from the heavy emitting sectors. The transition would encourage development in other areas, including clean energy, in an effort to reduce dependency on non-renewable resources. Exploring the example of Norway, Canada could model a similar strategy to improve environmental conditions, while simultaneously reducing the debt burden.

Keywords: Sovereign Wealth Fund, debt, climate change, natural resources

Résumé

Récemment, les questions entourant le changement climatique ont gagné en traction à l'échelle mondiale. L'élection fédérale de 2019 est une preuve de son importance au Canada, car la plupart des partis politiques ont fait avancer leur programme pour s'attaquer au problème. Les plans ont généralement tourné autour de grandes promesses de dépenses, avec peu de considération pour les méthodes de financement de ces initiatives. Le déficit fédéral du Canada est en hausse et, avec la pandémie en cours, le pays s'approche d'une nouvelle crise de la dette. Une solution possible à la pénurie de capitaux pourrait prendre la forme d'un fonds souverain. L'objectif de ce fonds serait de mettre en commun les bénéfices tirés des ressources naturelles du Canada afin d'éloigner l'économie des secteurs fortement émetteurs. Cette transition encouragerait le développement dans d'autres domaines, notamment les énergies propres, dans le but de réduire la dépendance aux ressources non renouvelables. En s'inspirant de l'exemple de la Norvège, le Canada pourrait adopter une stratégie similaire pour améliorer les conditions environnementales, tout en réduisant le fardeau de la dette.

Mots-clés : Fonds souverain, dette, changement climatique, ressources naturelles

Introduction

Climate change is a natural and recurring phenomenon. The study of paleoclimatology, which looks at past climate events, confirms that extraordinary shifts in climate do occur (Bailey & Callery, 2021). According to The National Aeronautics and Space Administration (NASA) science editors Bailey & Callery (2021), throughout the last 650,000 years, there have been seven cycles of glacial advance and retreat, with the last Ice Age abruptly ending over 11,000 years ago. Small variations in the Earth's orbit are thought to be the source of these impactful events. The current episode of climate change, however, is unique since the drastic change in the Earth's climate is likely due to human activity (Bailey & Callery, 2021; Kramer et al., 2021). Since the Industrial Revolution began in the 18th century, carbon dioxide along with other greenhouse gas emissions have steadily increased (Bailey & Callery, 2021). The heat trapping nature of these gases has caused the average surface temperature of Earth to increase by over two degrees Celsius since the end of the 19th century (Bailey & Callery, 2021). The effects of such a rapid evolution are hotly debated, and in many circles denied outright. For instance, the infamous Koch Brothers have actively funded Republican candidates and think-tanks that seek to scrutinize the idea of climate change (Harris, 2017). In 1974, Charles Koch participated in the founding of the Cato Institute, a right-leaning libertarian think-tank that advocates for a limited role of government in domestic and foreign policy (CATO Institute, 2021). It is one of the most influential and extensive lobbying groups in Washington. According to an article published in *The Guardian* (Harris, 2017), it is believed that the Cato Institute organized one of the earliest known gatherings of climate change skeptics in 1991. It is largely due to the influence of the Koch Brothers that the Republican Party has categorically denied the science on climate change. Subsequently, in 2008 a scathing report from the *New York Times* cited that the office of former U.S. Vice President Dick Cheney was responsible for deleting reports from the Center for Disease Control and Prevention (CDC), along with the Environmental Protection Agency (EPA), that would indicate the health

effects of global warming (Revkin, 2008). Lobbying efforts of this nature mirror those of the tobacco industry in suppressing early science linking smoking to cancer. As a result, it was not until the 1990s that governments in Canada and the United States began to adopt stricter regulations on the industry (Keane, 2020).

Youth have been a vocal and concerned demographic with respect to climate change, underscoring their disproportionate stake in the changing climate (Keane, 2020). Hence, on the 27th of September 2019, when climate activist Greta Thunberg spoke passionately in Montréal, many began to take notice (Demers, 2019). Witnessed globally, Thunberg successfully rallied millions to participate in a Climate Change Strike. The first of its kind on such a large scale, it prompted varying reactions from pundits and supporters alike (Demers 2019). Regardless of perception on the matter, the message was clear: climate change is now an issue at the forefront of political strategy.

Federal Election

Climate change was a major talking point during the 2019 Canadian federal election, in which the top 5 political parties, as indicated in the polls (Britneff, 2019), revealed their Climate Action plans. In light of this, sizable spending plans were promised by most parties and all claimed that their strategies would be the most effective going forward. Though intended to appease climate conscious voters, the common link missing from the parties' platforms was a sound fiscal plan. Global Energy reporters Shawn McCarthy and Marieke Walsh (2019) from *The Globe and Mail* highlighted the climate action platform from each party. The Liberal Party of Canada proposed to forcefully introduce the carbon tax, initially priced at \$20/tonne and set to rise by \$10 per year to \$50/tonne by 2022 (McCarthy & Walsh, 2019). The New Democratic Party outlined that they would spend \$15 billion during their first term in office if elected (McCarthy & Walsh, 2019). The Green Party of Canada planned to hike the carbon tax and phase out fossil fuel subsidies entirely by 2035 (McCarthy & Walsh, 2019). On the other hand, the Conservative Party of Canada wanted to

charge large emitters and provide tax credits to those who retrofitted their homes (McCarthy & Walsh, 2019).

Canada's debt

In light of the ongoing pandemic, federal spending has increased substantially, with the federal debt-to-Gross Domestic Product (GDP) ratio rising from approximately 31% in 2019 to over 50% in 2020 (Leuprecht, 2020). Total financial liabilities, or gross debt, is over \$2 trillion for the consolidated Canadian general government (federal, provincial, territorial and local governments combined). The total gross debt is more than 100% of the consolidated GDP (Statistics Canada, 2020). According to Yves Giroux, the Parliamentary Budget Officer (2021), fiscal policy is not sustainable in seven of the ten provincial governments. Canada is also expected to remain in a net negative asset position for years to come. Fitch Ratings, one of the largest credit rating agencies in the U.S., has already downgraded Canada's credit rating from AAA (highest quality) to AA+, mentioning the federal government's decision to borrow approximately \$250 billion to prop up the economy during the COVID-19 pandemic (Zimonjic, 2020). These statistics are alarming, as an increase of this magnitude in such little time is novel for Canada. Central bank intervention has reached unprecedented territory and concern is growing in opposition circles on how to best navigate the current crisis (Leuprecht, 2020).

Securing fiscal viability in the future should be of high priority for the federal government. Avoiding economic hardships, as experienced in Canada during the early 1990s, is crucial. At the time, the major credit rating agencies slashed the nation's credit rating due to the growing deficit, which effectively increased the borrowing cost to the government (Zimonjic, 2020). Additional taxes were levied along with decreased government spending in order to curb the trend. Careful planning and sound administration will be required to maneuver out of the current crisis. Economic instability makes it more difficult to focus efforts on imminent issues. Given the current projections for the impacts of climate change on global livelihoods and welfare, it is imperative that immediate solutions are considered and

acted upon. Fortunately, there are examples of potential approaches, through which governments have been able to steer their flawed institutions into stable, climate-friendly economies.

How did Norway develop a Sovereign Wealth Fund?

Norway has experienced a dramatic shift to economic stability, of the sort needed by Canada and other governments in financial precarity. Following World War II, Norway's economy mostly relied on fishing exports, and had a GDP similar to that of Bangladesh and post-colonial Nigeria today (Hodne, 2008). The abundance of natural resources relative to its small population provided an opportunity for rapid growth, beginning in 1969, when an Ocean Viking ship cruising along the North Sea struck oil after several failed attempts (Hodne, 2008). By the 1980s, Norway started to post large profits from its oil production, and by 1990, the Norwegian government enacted a sovereign wealth fund, officially named the Government Pension Fund Global, in order to capitalize on the profits (Ministry of Finance, 2001). It currently holds over \$1 trillion in assets, which is approximately \$195,000 per citizen (Ministry of Finance, 2019). Throughout the pandemic, the government has also managed to remain in a net positive asset position, which was evaluated at 12.254 billion Norwegian Kroner (NOK) in the third quarter of 2020 alone (Statistics Norway, 2021).

How does Norway spend the fund?

The fund actually comprises two separate entities owned by the government. The Government Pension Fund Global, also known as the "oil fund", was created in 1990 to invest the surplus in oil revenues (Ministry of Finance, 2019). The Government Pension Fund of Norway focuses solely on domestic companies, and is one of the largest shareholders in many large Norwegian companies. As much as the size of the fund is impressive, the most remarkable aspect is its management, which is what is most celebrated in the country. Strict management laws govern the spending and transparency of the fund, and it was only in 2016, more than 25 years after the inception of the

fund, that the first withdrawal occurred (Ministry of Finance, 2016). In the 2017 annual report on the fund by the Ministry of Finance (2019), the government stated that its withdrawal from the fund should be at 3% of the fund's value, down from the previous 4%. These fiscal rules help to gradually phase oil revenue into the economy. Only spending the return on the fund allows its capital to remain intact and ensure that the fund will be able to supplement future generations, especially once the oil reserves have been depleted.

Norway's incentives to spur environmentally-friendly changes

The additional revenue has allowed the Norwegian government to subsidize many initiatives to address climate change and transition to a green economy. The government has set a 51% tax on petroleum-related income and 27% corporate tax rate (Norsk Elbilforening, 2020). Since 2017, the Parliament enacted a law stating that local governments can offer up to a 50% discount on the price on toll roads, public parking and ferry rates for those that drive electric vehicles (Norsk Elbilforening, 2020). New electric vehicles sold are either exempt or have a reduced tax rate, which includes the one-off registration and 25% Value Added Tax (VAT) according to the Norwegian Tax Administration (n.d.). These measures fall in line with the goal that all new vehicles sold will have zero emissions by 2025, which appears attainable as electric vehicles currently make up approximately 60% of the new car market and is a proportion that is poised to grow (Norsk Elbilforening, 2020). As a result, Norway has the highest rate of electric vehicle ownership in the world. According to *The Globe and Mail*, the electric vehicle incentive put forward by the Norwegian government is estimated to cost about 5.8 billion NOK annually (Reguly, 2020). In 2017, the government launched an effort to build two fast charging stations for every 50 kilometer stretch on all main roads (Norsk Elbilforening, 2020), ensuring that infrastructure can support the increase of electric vehicles in circulation. Even as road traffic emissions have fallen by about 10% since 2014 (Reguly, 2020), additional measures are still necessary to tackle climate change. The Scandinavian nation is still not on track to meet the Paris Climate Agreement targets of limiting global warming by less than 2°C,

as reported by Ulven & Sutterud (2021). Overall, emissions were actually on the rise until the COVID-19 pandemic began in early 2020, which reduced emissions due to diminished economic activity. Nonetheless, the utility of the sovereign wealth fund to Norway's economic health and environmental action capacity is indisputable, indicating the potential positive impacts of exporting this model of resource governance to Canada.

Canada's climate change plan

As for Canada, greenhouse gas emissions have declined since 2005, from about 22.6 tonnes CO₂ eq/capita to 19.5-19.7 tonnes CO₂ eq/capita (Natural Resources Canada, 2021). Despite representing only about 0.48% of the world's population, Canada produces about 1.6% of the world's greenhouse gas emissions, with its per capita rate amongst the highest in the world (Environment and Climate Change Canada, 2020). Currently, Canada has implemented a list of actions and incentives to curb the trend. In 2016, the Pan Canadian Framework was launched with funding categorized across four pillars: emissions reduction, adaptation and climate resilience, clean technology, and actions to boost innovation in order to create new jobs (Environment and Climate Change Canada, 2019, June). In total, approximately \$60 billion has been committed, with more than 40% of the funding going to public transit projects across the country. During the fiscal year of 2017-2018, actual spending by Environment and Climate Change Canada (2019, April 11) was valued at \$1.1648 billion, with forecasts for 2019-20 estimated at just over \$1.8 billion. Included in the projected spending is the aforementioned carbon tax, which is structured to hand out larger payments to families (in the form of rebates) than the revenue it generates. Other incentives include reimbursements of up to \$5,000 for those who buy or lease an electric vehicle, grants of up to \$5,000 for homeowners to make energy efficient improvements, as well as \$1.28 billion in funding to 450 promising companies developing clean technology solutions (Environment and Climate Change Canada, 2019, June).

Table 1 : The Pan Canadian Framework

Pillars	Total amount (in billions of dollars)
Reducing Carbon Pollution and Investing in Public Transit	\$46.9B
Climate Change Adaptation and Resilience	\$2.4B
Clean Technology	\$2.8B
Innovation	\$5.4B
Miscellaneous	\$2.8B
Total	\$60.3B

Source information: Environment and Climate Change Canada, 2019, June

With the accelerating debt in mind, a fiscal plan of such magnitude poses the unsettling question of how the government can procure the necessary funds for this kind of initiative. Sensitivities to taxation are prominent in all circles of the political sphere, especially considering that these plans promise to deliver intangible outcomes for the average citizen that are difficult to measure (Environment and Climate Change Canada, 2019, June). There is an absence of rigorous, creative and data-driven campaign promises on remedying the country's fiscal health. As such, policy makers treat the carbon tax as a silver bullet solution. As explained in the example above with regards to Norway, a sovereign wealth fund that draws from profits in the natural resource sector can be an effective tool to pivot economies away from non-renewable resources. A carefully crafted plan would need to be implemented to effectively manage this transition.

How to set up a sovereign wealth fund?

Setting up a sovereign wealth fund requires more than broad policy objectives, which in this case would primarily be focused on reducing government debts along with improving environmental conditions. Operational objectives are required in order to ascertain the management of the fund to control the spending, withdrawal and source of funding (Das et al., 2009). The institutions governing the decision making will need to be outlined, as to who will be responsible for determining and executing the direction of investments along with the risk tolerance. Alberta's Heritage Trust Fund's failure is an example of the risks of mismanagement.

Founded in 1976 under the purview of the Finance Minister (Collins, 2020), the initial goal was to strengthen and diversify the economy. The targets of the investment strategy were expected to drive growth in other economic sectors, particularly those not reliant on oil and gas. However, the Alberta Investment Management Corporation (AIMCo), the governing body responsible for managing the fund, canceled transfers from the natural resources sector in 1987, stunting substantial growth in the fund (Government of Alberta, n.d.). Hence, since 1980, revenues in the non-renewable natural resource

sector have actually surpassed that of the fund. In fact, between 1980 and 2014, the non-renewable sector accrued almost \$190 billion, whereas the Albertan Fund grew to only \$17.3 billion, or about \$4,300 per capita (Fawcett, 2014). The economic shortcomings of the fund have been attributed to its excessive dependence on fluctuating oil prices. According to Heaps & Helliwell (1985), the difficulties began in the 1970s following the two oil shocks, cascading into a period of stagflation (high inflation and high unemployment) into the early 1980s. The National Energy Program was implemented to reduce domestic oil prices to a fixed discount below the international markets to boost the national economy. In spite of this perceived encroachment on provincial matters, the Government of Alberta responded by swiftly cutting its production of crude oil and going as far as to postpone the development of new synthetic oil plants until a new agreement could be reached with Ottawa. The lingering effects of this time period remain omnipresent, as the province still has one of the highest unemployment rates in Canada at over 11% (Giovannetti et al., 2015). Nevertheless, it is clear that without a constant revenue source, it is difficult to assure growth in a commodity-based sovereign wealth fund.

Even Alaska, a similarly conservative and anti-tax minded state, has successfully grown its fund, formally recognized as the Alaska Permanent Fund. Established in 1976, the fund began with \$734,000 and has risen to the current value of \$64 billion (DeMarban, 2019). The management authority has now decided to withdraw a portion of the fund, and pay out approximately \$1,600 per resident as a form of dividend. The success was achieved by diverting 25% of non-renewable resources revenue to the fund during its entire lifespan (DeMarban, 2019), indicating that high taxation is not always the answer. In spite of the decision to refund citizens individually, which can be viewed as a way to gain political capital, it is clear that the careful management of the fund with a long-term agenda is what allowed it to prosper to a much higher level than in Alberta.

Sovereign wealth funds are typically categorized as commodity or non-commodity backed funds (Das et al., 2009). Non-commodity backed funds are focused primarily on stabilizing foreign

currency reserves. Despite the Canadian dollar being heavily influenced by the price of oil, Canada's foreign exchange reserves remain stable (Lane, 2019). The former deputy governor of the Bank of Canada Timothy Lane (2019) has stated that no significant intervention has been performed by the Bank of Canada in over two decades, allowing the reserves to maintain their freely floating nature. The central bank has maintained this level of stability through shorter term bond holdings (maximum at 10.5 years) as well as deposits with other secure institutions, such as commercial banks. These assets are more liquid and less sensitive to interest rates, allowing them to be readily sold when necessary. During the 2008 Global Recession, which was one of the worst financial crises since the Great Depression, Canada's banks remained in good standing without any intervention from the central bank (Lane, 2019). Thereafter, the Bank of Canada decided to increase foreign exchange reserve requirements, in order to be even better suited to counter any such crises in the future. Stability to this extent is quite remarkable, and tinkering with it can incur some risk. A future's fund could be established with some of the excess reserves, provided that it does not violate the capital reserve requirements (Lane, 2019). A pool of funds from the bond securities that are purchased could be placed in an account that accrues interest on the principal and regularly re-invest the returns on additional securities. The goal would be to ensure an even greater threshold of stability in Canada's monetary objectives, effectively avoiding a credit crunch in the future.

A plan for Canada

On the other hand, with regards to Canada's vast natural resources, a commodity backed fund would make sense. Statistics Canada (n.d.) has reported that natural resources accounted for over 16% of Canada's GDP in 2019, and nearly half of the country's exports in that same year. Canada is one of the leading producers of uranium, oil, and metals such as gold, nickel and aluminum (Allen, 2019). Natural resources fall under provincial jurisdiction, including in the Prairie provinces (Alberta, Saskatchewan, and Manitoba), which is where many of Canada's oil fields can be found (Thompson, 2013).

This is in stark contrast to Norway, where the central government retains those rights. Nevertheless, natural resources in Northern Canada as well as the offshore East and West coasts are Crown protected lands, which remain under the control of the federal government (Thompson, 2013). Hence, it would be feasible for the federal government to extract some of the revenues generated from Crown holdings and place it in a fund. In the North, there are large mineral deposits of metals such as zinc and uranium, along with large oil reserves. The offshore regions are also rich in oil reserves. Since private companies are granted rights to exact the resources available for profit, the federal government could introduce a non-deductible tax based on the fair market value of the commodities it produces. The tax would cover many non-renewable resources, especially the oil, uranium, forestry, and minerals sectors. Such a tax would ensure that a percentage of the profits generated from the extraction of non-renewable resources are contributing to the fund. Land appraisals are already evaluated by the Ministry of the Environment for income tax deductions, thus, they could be repurposed to determine the fair value that is gained from activity on federal soil. The return from these additional royalties could enable the government to undertake investments in technology along with financing projects that have the potential to reduce Canada's dependency on these resources.

Given that Canadian companies benefit greatly from tax deductions on capital expenditures in the natural resources sector (Thompson, 2013), the tax could hinder rapid exploration efforts. Lower grade crude oil would be less profitable, potentially leading to oil fields being under-developed. In turn, this could effectively lessen the immediate environmental impact. Oil prices are currently on the rise due to the surge in demand following the global easing on COVID-19 pandemic restrictions for businesses (Keane, 2020). The influx of demand could generate significant capital to commence building the fund, thereby enabling Canada to capitalize on the gains before prices eventually fall. The initiative could then encourage the development of other economic sectors while simultaneously decreasing the dependency on natural resources. The federal balance sheet would have an additional positive asset position, reducing the debt burden

on its books. The management of the fund would add additional jobs in clean technology, and could smooth the transition to a carbon-neutral economy. Of course, a strong lobbying effort may attempt to derail these efforts, as is to be expected when new taxes are introduced, such as when former Canadian Prime Minister Brian Mulroney had to fight to adopt the Goods and Services Tax (Heaps & Halliwell, 1985). In this case, a campaign effort clearly outlining the purpose of the fund, as well as how it will be managed, would be necessary to accrue support. The push to adopt the carbon tax would be the most recent example. In a world of limited resources, yet unlimited time, it is imperative to adopt these measures as soon as possible to avoid harsh consequences. A lack of publicly available examples of other countries that have implemented a federative sovereign wealth fund (where the federal and provincial government collaborate together), would make Canada a pioneer in this domain. A blueprint has already been explored in Norway, so why not Canada?

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