

SUMMER 2017

Carbon Pricing Will Cost Canadians and Hurt the Economy



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ALSO INSIDE

Infrastructure and economic growth

Assessing QC's daycare model

Wealth Inequality and demographics



Niels Veldhuis
President, Fraser Institute

Dear Fraser Institute Friends and Supporters,

Canadians are bombarded with negative news about our environmental record from activists and others opposed to the development of Canada's natural resources. It's why we recently released a new major study, *Canada's Air Quality Since 1970: An Environmental Success Story*, which shows that air pollution has been plummeting across Canada and we have achieved some of the strictest air quality targets in the world (see page 10). Rather than be shamed by factless rhetoric, Canadians should be proud of their environmental record.

Given that Canada's air quality has dramatically improved despite significant economic growth and increased energy use, you have to wonder why our federal government continues to push for major tax increases on Canadians through carbon taxes or emission-trading schemes.

As my colleague Kenneth Green notes in a recently published Fraser Institute bulletin, "revenue neutral" carbon taxes are touted as being economically benign and the most "efficient" way to control greenhouse gas emissions. And they are... when neatly presented in an academic textbook. In the real world, however, as Canada's experience with carbon taxes has shown, the actual implementation of those taxes is far from the ideal (read all about it on pages 2, 16 and 20).

Finally, while the federal government will require provinces to have a minimum price of \$50 per tonne of greenhouse gas emitted by 2022, Fraser Institute Senior Fellow Ross McKittrick notes that a recently revealed memo from Environment Canada told federal government officials that Canada would need a carbon tax of \$300 per tonne by 2050 to meet our commitments under the Paris treaty (see page 16). Professor McKittrick notes that we should not be surprised as we have seen this sort of deception before. He's most definitely right, we shouldn't be surprised, just angered!

I hope you enjoy this issue of *The Quarterly* and pass it on to your friends, family, and colleagues when you've finished reading it.

As always, thank you for your ongoing support.

Best,

A handwritten signature in blue ink, which appears to read "Niels Veldhuis". The signature is fluid and cursive.

Niels

New Research



- Carbon Tax—Flawed Implementation Across Canada **2**
- Age Explains Most Wealth Inequality in Canada **4**
- The Quebec Daycare Model—Costs That Should Be Carefully Considered **6**
- Canada’s Inadequate Intellectual Property Rights Protections Hurt Patients and the Economy **8**
- Canada’s Air Quality is Much Improved—No Need for More Costly Regulation **10**
- Featured Infographic: Air Quality and Economic Growth **12**
- Public Schools and Most Independent Schools in B.C. Have Similar Family Income Levels **13**

Recent Columns

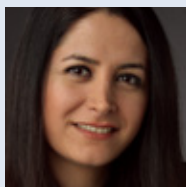


- Canada’s Carbon Sticker Shock Shouldn’t Shock Anyone **16**
- Federal Government’s Infrastructure Plan Unlikely to Spur Economic Growth **18**
- Realities of Carbon Pricing in Canada and Beyond **20**
- Ontario Could Take a Budgeting Lesson From... Quebec? **22**
- Canada’s Federal Income Tax has Grown Too Costly and Complex **24**
- Another Broken Promise—Federal Government Ditches Latest Fiscal Pledge **26**
- Alberta’s 2017 Budget—A Bad Case of Déjà Vu **28**

Education Programs



- A Review of Education Programs Across the Country **30**



Staff Profile

- Elmira Aliakbari **32**

Carbon Tax—Flawed Implementation Across Canada

Kenneth P. Green

Governments across Canada—including Quebec, Ontario, Alberta, and British Columbia—have all implemented forms of carbon pricing. The federal government has also announced it will implement a carbon price “floor,” a minimum value that each province must put on carbon emissions. That price is set to start at \$10 per tonne of greenhouse gas emissions in 2018, rising to \$50 per tonne by 2022.

Most often, these carbon-pricing systems are justified because some economists and groups such as Canada’s own Ecofiscal Commission portray them as the most efficient way to reduce greenhouse gas emissions, while being better than the regulatory ap-

proaches that have heretofore been the norm.

The problem is this—for carbon pricing to be efficient and economically benign, there are a set of conditions that must be met. But they are not. Carbon pricing must replace

regulations, not simply be layered on top. Revenue should be rebated as broadly as possible to lower other distortionary taxes such as the personal income tax or corporate income taxes. And lastly, the revenues should not be used to further distort the energy economy by having governments “invest” in pet projects or selective forms of energy production. As shown by a recent study from the Fraser Institute, *Poor Implementation Undermines Carbon Tax Efficiency in Canada*, none of the jurisdictions that have enacted car-



bon taxes in Canada come anywhere close to meeting these conditions.

Consider Ontario's cap-and-trade system instituted by Premier Kathleen Wynne, which her government estimated would bring in \$2 billion in revenue per year. According to Ontario's auditor general, out of the \$8 billion to be collected in four years, \$1.32 billion will be earmarked to help with residential and business electricity bills. The rest will be spent on the usual governmental preferences—transit, subsidies to renewable energy, dubious efficiency programs, etc.

For carbon pricing to be efficient and economically benign, there are a set of conditions that must be met. But they are not.

Or consider Alberta, with its new carbon tax of \$30 per tonne. Phased in by 2018, it's expected to generate almost \$3.9 billion from 2017 to 2020. Part of that will be used to subsidize Alberta's emitters (granting a windfall to the very people putting out most of the emissions). A small portion will be given to low-income Albertans, ostensibly to ease the pain of higher power bills. The rest will be spent on government pet projects.

And then there's Quebec, which has a cap-and-trade system that has brought in \$330 million but is expected to bring in \$2.5 billion by 2020 (and probably more, as it will have to match the escalating national price floor established by Ottawa). Where does the revenue go? Free permits are given out to emitters while the remaining revenue will be spent on "programs to fight climate change."

Finally, consider the much vaunted BC carbon tax. Another Fraser Institute study, *Examining the Revenue Neutrality of British Columbia's Carbon Tax*, verified that in this tax's early years, it was truly revenue neutral. Personal and corporate taxes were reduced and addi-

tional tax reductions were introduced to ensure revenue neutrality. But by 2014/2015, only five years into the tax system, the government had taken to shaky bookkeeping to preserve the appearance, but not the reality, of revenue neutrality.

Subsequent to the Fraser study, the BC government restored revenue neutrality in the overall economic sense. But a closer look at the details shows that rather than purely rebating revenues to the general population, the government turned to special-interest tax credits and/or narrowly targeted tax reductions (Industrial Property Tax Credits for Major Industry, School Property Tax Reduction for Farm, etc.) until \$148 million (12 percent) of actual offsetting tax measures went to those special interests. Again, the BC government has since restored the tax to overall revenue neutrality, but the set-asides are likely to continue.

Simply put, Canada's experience with carbon taxes reveals an unpleasant reality. While there's a textbook carbon tax that's efficient and economically benign, governments have no interest in establishing or maintaining it. Carbon tax revenues are too tempting for governments to simply rebate—often they would rather use them to advance their political agendas. **FI**



Kenneth Green is senior director of natural resource studies at the Fraser Institute. He is the author of *Poor Implementation Undermines Carbon Tax Efficiency in Canada*.

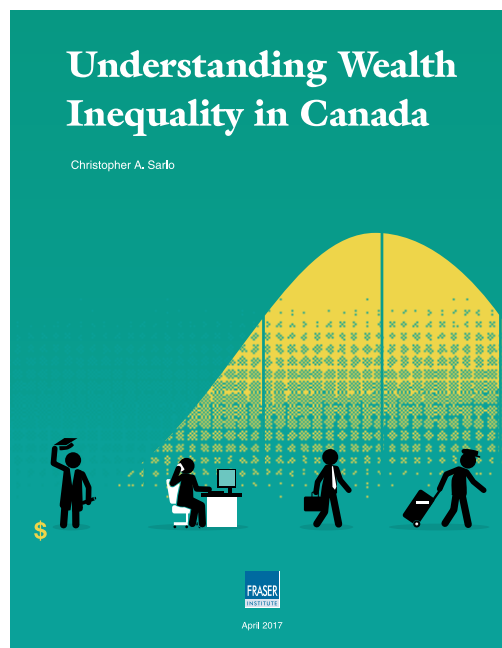
Age Explains Most Wealth Inequality in Canada

Christopher Sarlo

The fact that the top 20 percent of households in Canada hold 67 percent of the personal wealth, and the bottom 20 percent hold no wealth at all seems, on the surface, to be a very inequitable and unfair situation. Surely the “system” must be rigged in favour of the rich and against the poor. Or there must be substantial inheritances that explain these huge gaps in wealth.

Without denying that wealthy people can get wealthier through government connections and “cronyism,” or that some people can get wealthy via large inheritances, much of the observed wealth inequality has a very simple economic explanation. The vast majority of people get richer as they get older. If we take a snapshot of wealth at any point in time, we will have big differences in net worth due to age.

The typical 25-year-old has no little or wealth. They may still be in school or the early stages of getting established in the work world. They have had no time or capacity to accumulate any wealth and, indeed, many may have negative wealth (debts exceed assets). However,



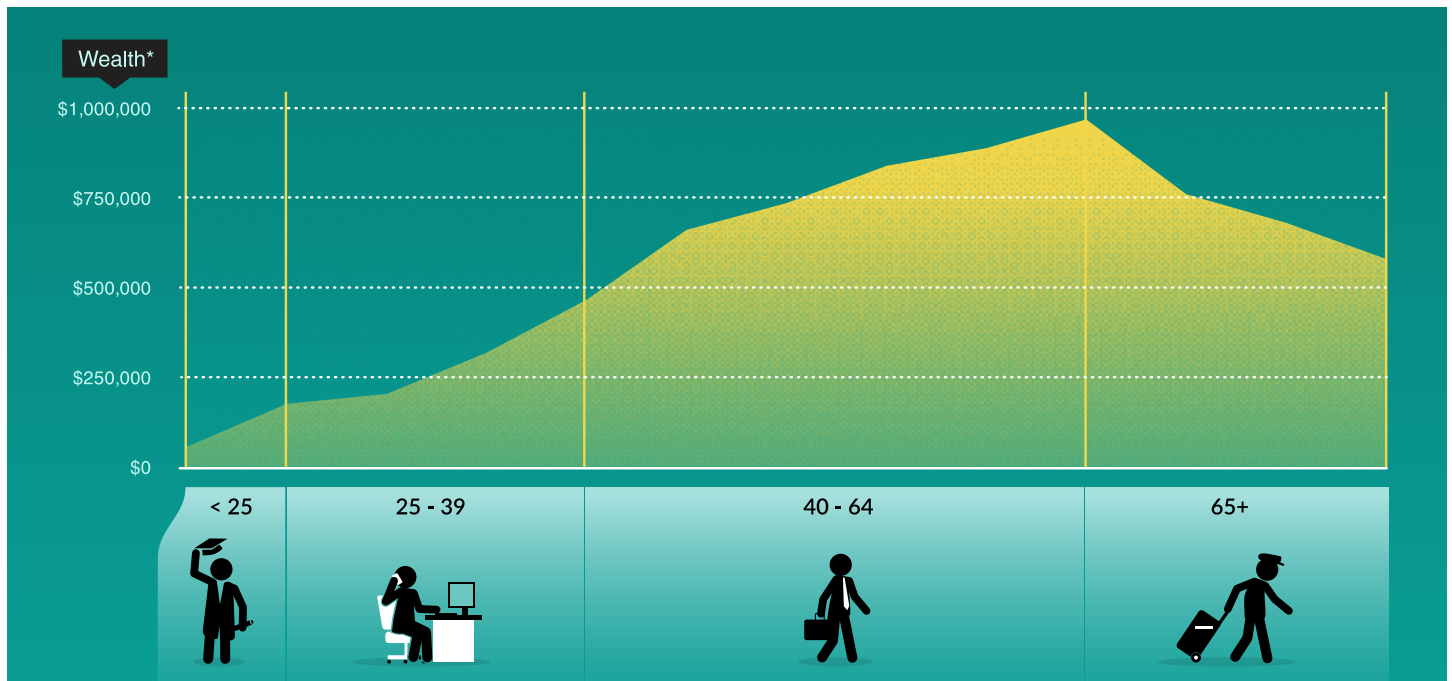
40 years later, that same 25 year old will, most likely, be among the top wealth-holders having had a lifetime to accumulate assets and pay down debt.

Imagine a perfectly egalitarian society where everyone is identical in every respect except for age and where a person’s income grows slowly as they take on more responsibility and leadership in their job. Everyone would have exactly the same lifetime income and wealth, but

would have different levels of wealth at different stages of life. In such a society, if people saved 10 percent of their income in a fund for retirement, then at any point in time, the top 20 percent would have 50 percent of the wealth, and the bottom 20 percent would have no wealth.

Understanding the natural rhythms of life and the relationship between age and wealth accumulation is an essential starting point in any intelligent discussion of economic inequality. Such an understanding is an effective counterpoint to the rhetoric, and often the hysteria, that accompanies stories in the media related to inequality.

WEALTH INEQUALITY TREND



*Wealth is defined as a household's net worth, which includes the value of all assets minus all debts.

Of course, we don't live in an egalitarian society. People are different in terms of their capacities, virtues, and choices. While the overwhelming majority of people accumulate wealth over a lifetime, a very small number reach middle age with no wealth. There are many explanations for this that do not involve the standard post-modern list of evils. And clearly, there are an even smaller number of ultra-wealthy (usually sports, entertainment, or business superstars) who stretch the distribution of wealth out even further.

However, most of our wealth inequality is explained simply by age. In a recent study published by the Fraser Institute, *Understanding Wealth Inequality in Canada*, I found that age accounts for about 80 percent of wealth inequality in Canada. A study by Statistics Canada shows that inheritances account for only about 5 percent of the wealth gap.

If we look at the Statistics Canada data on wealth in 2012, the most recent year for which we have data, the study notes that the average household net worth ranges from \$55,814 for those under 25 to \$465,773 for those between 40 and 44, and up to \$968,914 for those between 65-69. Wealth declines after that. This

hill-shaped pattern is fully consistent with our understanding of how most people accumulate wealth over their lifetime.

It's also a fact that wealth inequality in Canada has been declining since the early 1970s. The wealth gap is not growing; it's shrinking. Again, this flies in the face of a common belief. We certainly ought to be concerned about cronyism and unethical practices. And we definitely need to better understand poverty and deprivation. However, much of the emotion and indignation about wealth inequality is misplaced. [FI](#)



CHRISTOPHER SARLO

Christopher Sarlo is a senior fellow at the Fraser Institute and associate professor of economics at Nipissing University in North Bay, Ontario. He is the author of the Fraser Institute study, *Understanding Wealth Inequality in Canada*.

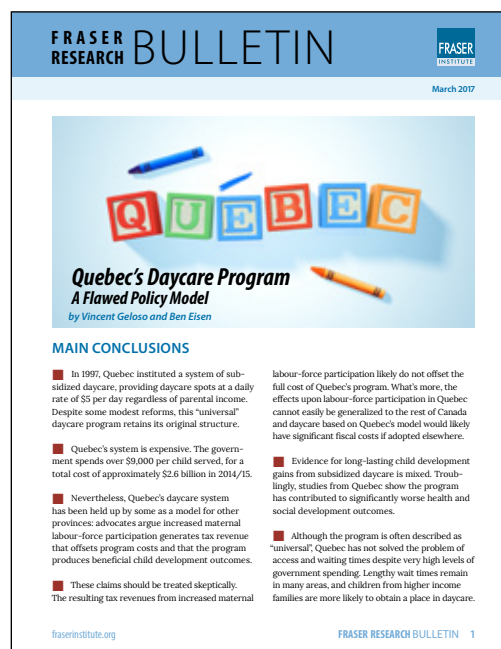
The Quebec Daycare Model—Costs That Should Be Carefully Considered

Vincent Geloso and Ben Eisen

In 1997, Quebec instituted a system of subsidized daycare, providing daycare spots at a daily rate of \$5 per day regardless of parental income. Since then, the system has undergone some modest reforms. The daily fee has been raised over time and recently some limited means testing based on income has been introduced to the program with higher-income parents paying more for daycare services than lower-income parents.

Quebec's original model of a heavily subsidized "universal" daycare system offering large subsidies to parents for daycare spaces in institutional centres has been lauded by activists in many other provinces advocating for similar programs in their own jurisdictions. However, there are a number of challenges with, and costs to, the Quebec model that other jurisdictions should consider carefully.

First, Quebec's daycare system is expensive. The government spends more than \$9,000 per child served annually, for a total cost of approximately \$2.6 billion



in 2014/15. In fact, per-child inflation-adjusted spending on Quebec's daycare program has approximately doubled since the program's creation.

Proponents of the Quebec model often argue that these fiscal costs can be offset by increased tax revenue resulting from increased maternal labour force participation. And it's true the research shows that the Quebec daycare plan has

increased workforce participation for mothers, resulting in some increase in tax revenue.

However, the precise size of this effect in Quebec is contested, and several studies suggest it's not sufficient to offset the cost of the program. For example, one study from economists at MIT, the University of Toronto, and the University of British Columbia found that increased tax revenue from higher maternal labour force participation generates about 40 percent of the revenue needed to fund the program.

Furthermore, it would be a mistake to simply assume that the introduction of daycare in other provinces today would have comparable effects on employment

decisions as the Quebec program did 20 years ago. Economic growth rates, baseline labour force participation rates, and a host of other economic and demographic factors could have an impact on how big an effect subsidized daycare programs have on parental labour force decisions. While Quebec-style daycare programs would almost certainly increase maternal labour force participation in other provinces, it's difficult to say by how much, and it would be a mistake to simply assume the effect size will be similar to what was experienced in Quebec when its program was implemented two decades ago.

Claims that Quebec-style daycare programs in other provinces will be essentially self-funding should be treated with skepticism.

In light of these considerations, claims that Quebec-style daycare programs in other provinces will be essentially self-funding should be treated with skepticism. The creation of such programs on the basis of this type of assumption would represent a substantial fiscal risk.

Another claim often made by proponents of Quebec-style daycare in other provinces is that such programs produce beneficial outcomes for participating children, enhancing school readiness and leading to better development outcomes later in childhood and into adulthood. These claims should also be treated skeptically. In fact, the evidence for long-lasting child development gains from subsidized daycare is mixed.

Several studies from the United States show that for universal programs targeting middle-class families, cognitive school readiness gains that are shown at the time of school entry tend to “fade out” relatively quickly over time, and are barely noticeable by the third or fourth grade. Also troublingly, studies from Quebec show that that province’s program has contributed to significantly

worse average health and social development outcomes for boys across a wide range of indicators.

Of course, these are simply averages across the entire population and some specific children thrive in centre-based daycare settings. Only individual families can know what works best for them given their available options and preferences. However, public policy development should be informed by research on the average impact on child development outcomes, and this research has implications for the wisdom of subsidizing this particular daycare option (centre-based care) to the exclusion of other forms of daycare.

Finally, while the Quebec system is often described as “universal,” Quebec has not solved the problem of access and waiting times despite high levels of spending. Lengthy wait times remain in many areas, and research shows that higher-income families are more likely to have a child in the province’s subsidized daycare system than lower-income families. This raises important questions about whether the Quebec model effectively channels resources where they can do the most good and to families in greatest need.

The Quebec daycare model is often pointed to as an example for the rest of Canada to follow. There are, however, significant drawbacks and costs to this approach that are often ignored or understated by advocates supporting Quebec-style programs elsewhere. These costs should be considered carefully by policymakers in other jurisdictions. [FI](#)



VINCENT GELOSO



BEN EISEN

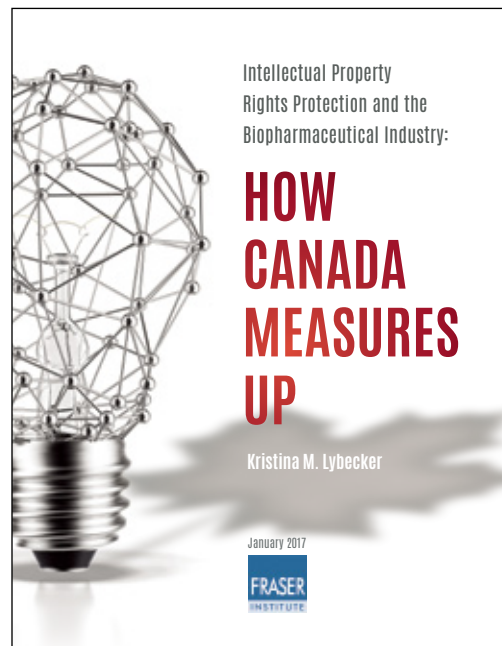
Vincent Geloso is currently a postdoctoral fellow at the Free Market Institute at Texas Tech University. Ben Eisen is the director of provincial prosperity studies and is the co-author of *Quebec's Daycare Program: A Flawed Policy Model*, published by the Fraser Institute.

Canada's Inadequate Intellectual Property Rights Protections Hurt Patients and the Economy

Kristina M. Lybecker

As the old adage states, “You’ll be known by the company you keep.” As such, the implications for Canada’s biopharmaceutical sector are rather dismal. While an extensive body of evidence demonstrates that patents and other intellectual property protections are critical to the future of innovation and the development of new treatments and cures, Canadian legislation fails to measure up. For example, Canada’s intellectual property rights protections more closely mirror those of China, Turkey, Poland, and the United Arab Emirates than industry leaders such as the United States, the United Kingdom, Switzerland, and Germany.

For Canada, the legal architecture surrounding intellectual property rights (IPR) protection and the national regulatory regime helps shape the biopharmaceutical industry, its profitability, productivity, and



innovative future. And for Canadian patients, it affects the availability of medicines in Canada and access to future breakthrough innovations.

A recent study by the Fraser Institute, *Intellectual Property Rights Protection and the Biopharmaceutical Industry: How Canada Measures Up*, describes existing IP policy in Canada, compares it to global norms and regimes, evaluates the strengths

and weaknesses of the Canadian system, and recommends improvements and reform.

Overall, there are numerous deficiencies that weaken intellectual property protections within Canada relative to other industrialized countries. While Canada may aspire to join the ranks of industrial leaders, shortfalls in Canadian legislation prevent that from happening. Those shortfalls include:

- Onerous patentability requirements, specifically the patent utility doctrine, which creates significant un-

certainty for innovative industries by requiring innovators to see into the future to “soundly predict” the usefulness of the innovation and demonstrate that the innovation will fulfill this promise.

- Insufficient enforcement mechanisms, which make it difficult for biopharmaceutical companies to effectively appeal court decisions where a patent is ruled invalid.
- Inadequate anti-counterfeiting measures, which increase risks of adulteration, counterfeiting, and cargo theft.

Consequently, Canada sits in the middle of the pack in the global IP Index rankings. These rankings matter to prospective investors and strongly signal Canada’s lack of support for knowledge-based industries. Fundamentally, Canada is a global outlier, providing inadequate intellectual property protection for the biopharmaceutical industry. The result has been a striking decrease in pharmaceutical research and development and a drastic drop in pharmaceutical innovation and patenting in Canada.

How much does this really matter?

The study also outlines the potential effects of improving Canada’s IP architecture. Benefits will include reduced legal ambiguity and litigation through increased predictability, more money for research and development, increased foreign direct investment, additional job-creation in the biopharmaceutical and related industries, productivity gains, greater biopharmaceutical self-sufficiency, faster launch times for new medicines, and additional innovation on cutting-edge treatments and therapies. In the era of personalized medicine, antibiotic resistance, and breakthrough biologic drugs, investments in a robust biopharmaceutical industry are critical to global public health.

Accordingly, the Fraser Institute study proposes several recommendations for Canadian IP legislation. Specifically, Canada should provide innovative biopharmaceutical firms with patent term extensions in order to recover time lost due to mandatory governmental regulatory and marketing approvals.

In addition, Canada should remedy issues of weak enforcement by providing patent owners with an effec-

tive patent linkage right of appeal, which would provide biopharmaceutical companies the ability to appeal court decisions where a patent is ruled invalid. Changes should be made to Canada’s IP laws to restore certainty to Canada’s distorted patent system and clarify the expectations of the patent utility doctrine, which currently makes Canada the sole developed country in the world with a patent utility standard that is inconsistent with both NAFTA and the WTO and requires biopharmaceutical firms to exactly predict—in the patent application—how an innovation will be used in the future. Canada should also extend data protection regulations and increase the scope of products that may be classified as “innovative drugs.”

Canada is a global outlier, providing inadequate intellectual property protection for the biopharmaceutical industry.

Finally, Canadian policymakers should enact legislation to define rare diseases and encourage Canadian firms to intensify their research and development of new therapies to treat these diseases.

These changes would help bring the Canadian regime in line with international standards, signal a commitment to knowledge-based industries, and foster a robust biopharmaceutical sector. [FI](#)



KRISTINA M. LYBECKER

Kristina Lybecker is an associate professor of economics at Colorado College and a senior fellow at the Fraser Institute. She is the author of the recent Fraser Institute study, *Intellectual Property Rights Protection and the Biopharmaceutical Industry: How Canada Measures Up*.

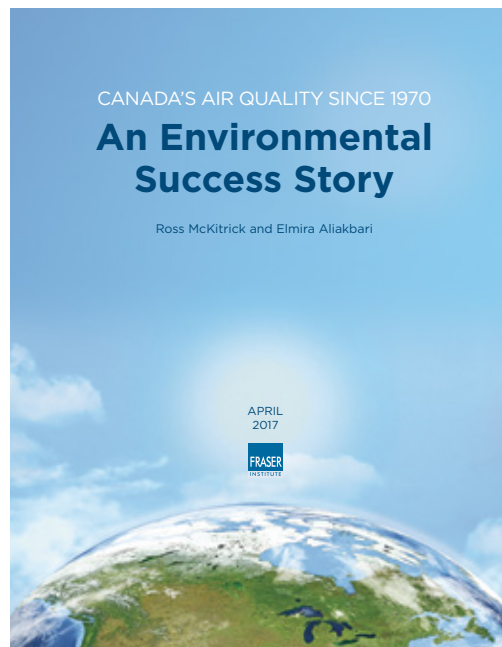
Canada's Air Quality is Much Improved—No Need for More Costly Regulation

Ross McKittrick and Elmira Aliakbari

On April 20th, Earth Day, there was a worldwide celebration of environmental protection. Canadians certainly celebrated along with the rest of the world; we care about the environment, especially the quality of the air we breathe.

According to a survey conducted in 2016 by researchers at the University of Montreal, 73 percent of Canadians want the government to increase efforts to improve air quality and public health. And many commentators continue to suggest that air quality is poor and getting worse. But is this true?

Simply put—no, it's not. It may surprise many people to learn that Canada's air quality has substan-



tially improved over the past few decades. Our recent Fraser Institute study, *Canada's Air Quality Since 1970: An Environmental Success Story* explains this success.

We used a massive archive of data from Environment Canada

to examine the evolution of air quality from the 1970s onward, spotlighting emissions and ambient concentrations (basically the amount of pollutants in the air) of five major air pollutants—ground level ozone, fine particulate matter, sulphur dioxide, nitrogen dioxide, and carbon monoxide. The study findings contradict common misperceptions of Canada's environment.

For example, ambient levels of ground-level ozone, an air pollutant caused by emissions, decreased 27 percent from 1979 to 2015. In fact, in the late 1970s, more

than 70 percent of air quality monitoring stations across Canada reported ozone concentrations above the air quality standard, but by 2015 this number had fallen to 16 percent. The data on ambient concentrations of fine particulate matter (smoke, fumes, etc.) only go back to 2000. But it contains more good news—from 2000 to 2015, fine particulate matter consistently remained below the most stringent air quality standard.

Canada's ambient levels of sulphur dioxide, a pollutant largely associated with the combustion of oil and coal, plummeted by 92 percent from 1974 to 2015. During the 1970s more than 60 percent of monitoring stations recorded concentrations exceeding the annual air quality standard, but this number fell to only 3 percent in 2015. Emissions of sulphur oxides also dropped 66 percent from 1990 to 2014.

In the last four decades, Canada experienced substantial reductions in nitrogen dioxide and carbon monoxide—two pollutants largely associated with automobiles.

Likewise, in the last four decades, Canada experienced substantial reductions in nitrogen dioxide and carbon monoxide—two pollutants largely associated with automobiles—with national levels decreasing by 74 percent and 90 percent, respectively, from 1974 to 2015. In the mid-1970s, 54 percent of stations in Canada recorded nitrogen dioxide levels exceeding air quality standards—there were zero such readings in 2015. For carbon monoxide, all stations since 1999—with the exception of one in New Brunswick in 2011—have recorded levels conforming to air quality standards.

Interestingly, all of these noteworthy developments have occurred despite considerable growth in population, energy use, motor fuel consumption, and the Canadian economy.

Our findings have important policy implications particularly as the United States, our biggest trading partner, has begun relaxing air pollution and climate policies. This lifts a cost burden from American industry and puts Canada at a competitive disadvantage. In reality, while Canadian policymakers want to make our pollution standards ever tighter, the numbers indicate that we are well within the target zone of air quality and should instead consider regulatory relief. Imposing tighter regulations and tougher emission policies will increase economic costs without generating appreciable environmental benefits.

Canada has effectively decoupled air pollution from energy use and economic growth over the past few decades. Contrary to common misperception, our air quality conforms to the strictest standards in the world. This is an achievement we should celebrate not just on Earth Day, but every day. **FI**



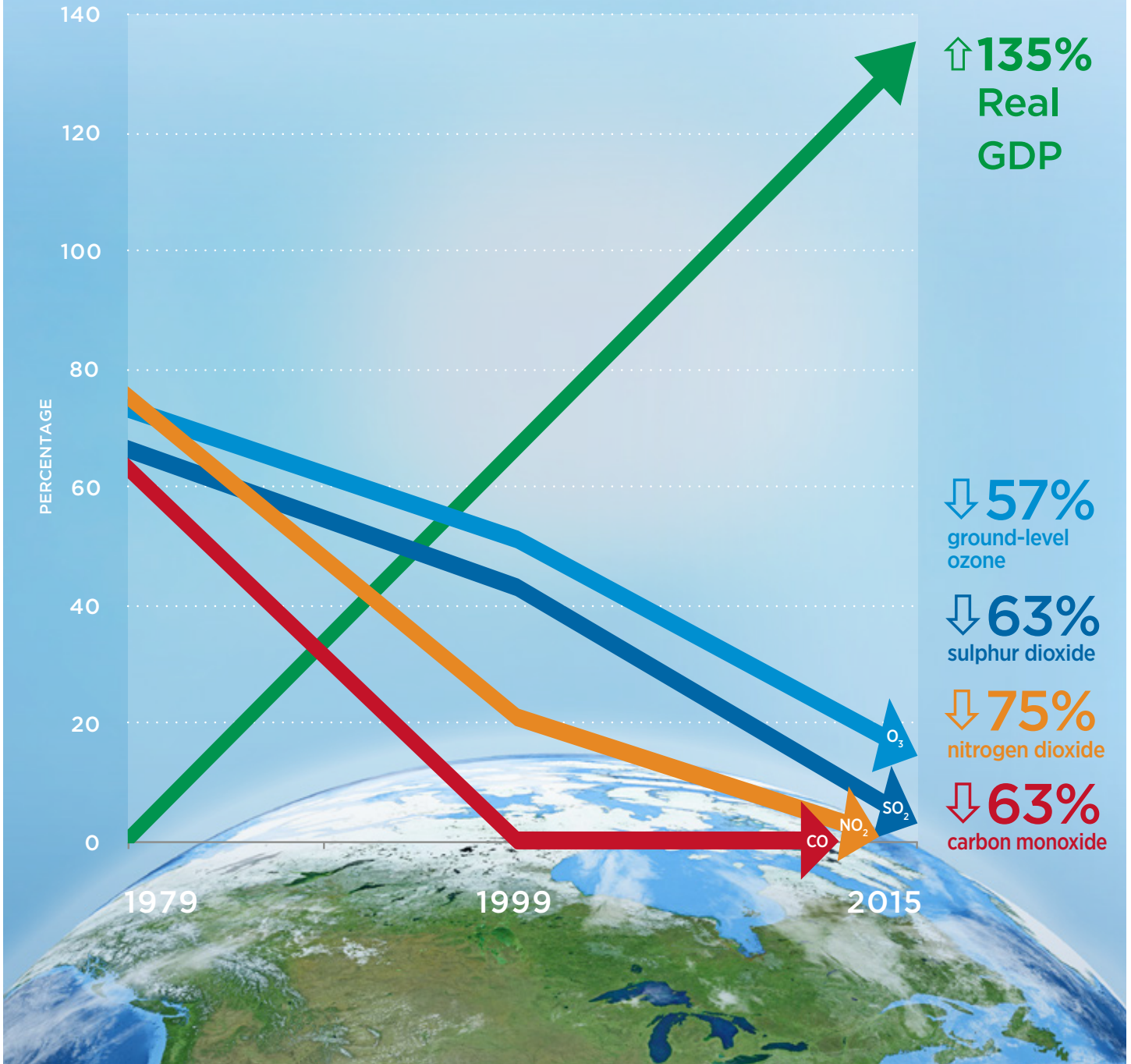
ROSS MCKITTRICK



ELMIRA ALIAKBARI

Ross McKittrick is a senior fellow, and Elmira Aliakbari is a senior economist, at the Fraser Institute. They are co-authors of *Canada's Air Quality Since 1970: An Environmental Success Story*.

Change in Real Canadian GDP Compared to the Percentage of Monitoring Stations out of Compliance, 1979-2015



Comparing Family Income for Independent Schools Versus Public Schools

Jason Clemens, Joel Emes, and Sasha Parvani

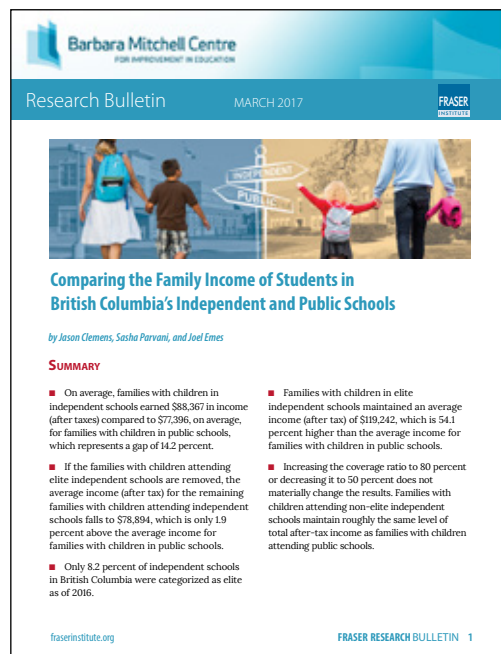


Barbara Mitchell Centre
FOR IMPROVEMENT IN EDUCATION

In recent years, there has been much debate about government funding for independent schools in British Columbia. Unfortunately, much of the debate on independent school funding is based on partial facts or, even worse, outright misunderstandings.

When many British Columbians hear the term “private schools” or even “independent schools,” they think of elite (and expensive) preparatory schools that cater to the wealthiest. This simply doesn’t reflect the reality of the province’s independent school sector.

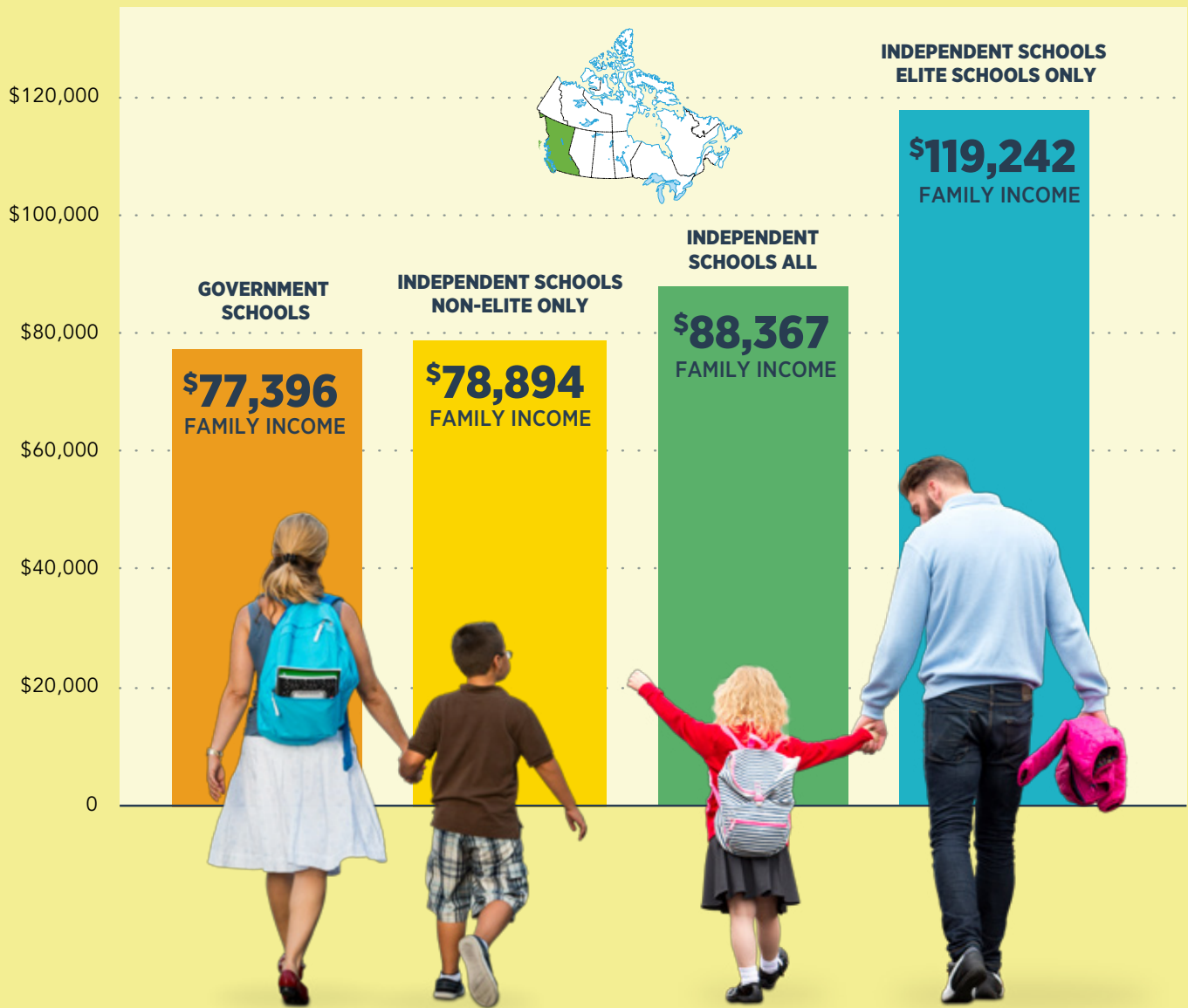
First, it’s important to note that only Quebec has a larger share of K-12 students enrolled in independent schools than BC. In 2013-14, the most recent year of available data, 75,402 students were enrolled in an independent school in BC, representing 12.3 percent of all K-12 students in the province.



Second, it is clear that elite independent schools represent only a small share of the total independent schools in the province. A 2016 Fraser Institute study concluded that only 28 (or 8.2 percent) of the province’s 340 independent schools are “elite” preparatory schools. In other words, more than 90 percent

of the independent schools in BC don’t cater to the “elite.” Rather, they accommodate average British Columbians who want their children educated outside the government system for a variety of reasons, including religious orientation and specialty education. Specialty schools address specific curriculum and pedagogical preferences. Waldorf schools, Montessori schools, special needs education, as well as schools focusing on specific subject matters, such as arts, athletics or STEM (science/technology/engineering/math), fall within this categorization.

Public Schools and Most Independent Schools in B.C. Have Similar Family Income Levels



The idea, however, that independent schools cater to wealthy British Columbians persists. Some suggest that while not all independent schools are elite preparatory schools, the parents that choose independent schools are nonetheless still affluent compared with parents choosing government schools.

Once elite preparatory schools are removed from the equation, families with children in non-elite independent schools have essentially the same income as those choosing public schools.

A recent Fraser Institute study, *Comparing the Family Income of Students in British Columbia's Independent and Public Schools*, examined this claim and found it incorrect. Using BC Ministry of Education and Statistics Canada data, it examined the average after-tax income for families choosing public schools versus those with children in independent schools. At first blush it does appear that families with children in independent schools have materially higher incomes—\$88,367 (after taxes) compared with \$77,396, on average, for families with children in public schools. This represents a gap of 14.2 percent.

However, that analysis includes families with children at elite independent schools. If those families are removed, the average income (after-tax) for the remaining families with children attending independent schools falls to \$78,894, which is only 1.9 percent above the average income for families with children in public schools. Simply put, once elite preparatory schools are removed from the equation, families with children in non-elite independent schools have essentially the same income as those choosing public schools.

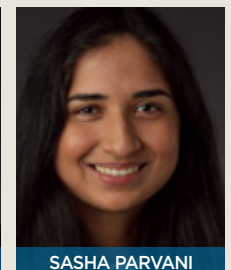
The reason for this much narrower gap is that families with children in elite independent schools maintained

an average after-tax income of \$119,242, which is 54.1 percent higher than the average income for families with children in public schools. In fact, it's 51.1 percent higher than the average income for families with children in non-elite independent schools.

The main analysis in this study used a 65 percent coverage ratio, which means that at least 65 percent of the students in these schools had reported parental income available. Any schools with less than 65 percent coverage were dropped from the analysis. Results are also reported for 50 percent and 80 percent coverage ratios. However, increasing the coverage ratio to 80 percent or decreasing it to 50 percent does not materially change the results.

The data indicates that families with children enrolled in non-elite independent schools have essentially the same level of after-tax income as families with children attending public schools. The vast majority of independent schools, therefore, serve families with comparable income levels to those who send their children to public schools.

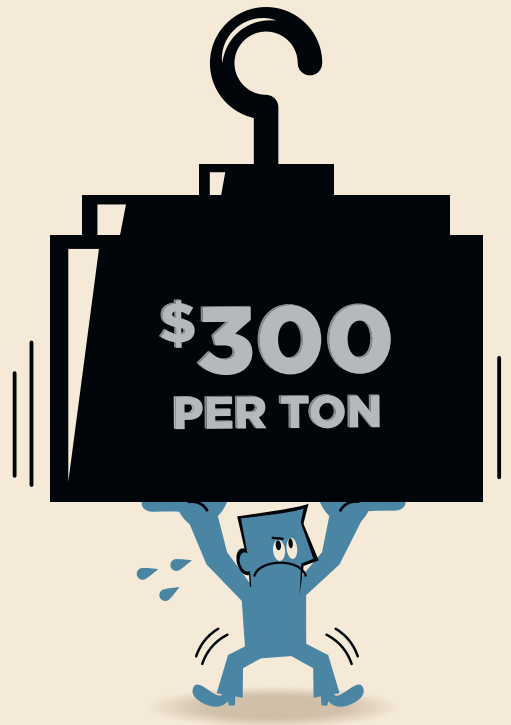
BC's reliance on independent schools to provide the diversity and choice demanded and preferred by an increasing share of parents in the province has been a strength for one of the country's best K-12 education systems. Discussing how best to improve that system is worthwhile, but the discussion must be based on facts not conjecture or caricatures. [FI](#)



Jason Clemens is executive vice-president, Joel Emes is a senior fellow, and Sasha Parvani is a researcher at the Fraser Institute. They are the co-authors of the paper, *Comparing the Family Income of Students in British Columbia's Independent and Public Schools*.

Canada's Carbon Sticker Shock Shouldn't Shock Anyone

Ross McKittrick



According to a recently revealed document, Environment Canada told Liberal government officials in 2015 that Canada would need a carbon tax of \$200 to \$300 per tonne of greenhouse gases emitted by 2050 to meet our commitments under the Paris treaty.

That's a far cry from the \$50 per tonne by 2022 announced last October.

But the high price shouldn't surprise anyone. Governments like to pick an ambitious quantity target, such as the Paris commitment or the failed Kyoto target before

it. But regardless of promises of cheap reductions, cutting greenhouse gas (GHG) emissions is very costly, and inevitably the government balks at the price.

Equally inevitable is the government's next utterance—a reassurance that it can keep the costs down by mixing a low carbon price with direct regulation. But regulation inflates the cost of the overall package. It's as if the government believes paying \$300 per tonne is too much, so we'll make it \$600.

Canadians have long had to contend with a lack of honesty regarding climate policy. Reducing emissions re-

quires reconfiguring the economy so that people pay more for some of the most essential services: mobility, lighting, heating, cooling, etc. Economists don't claim to know the cheapest way to do the reconfiguring; instead they argue that a revenue-neutral carbon tax can lead the private sector to find the cheapest way. All other policy options—including cap-and-trade—cost more to do the same thing. But they conceal the costs and hide who is paying them, which is why politicians like them.

Reducing emissions requires reconfiguring the economy so that people pay more for some of the most essential services: mobility, lighting, heating, cooling, etc.

Meanwhile, proponents of carbon taxes engage in their own bait-and-switch. The government lies by promising an emissions reduction quantity at an impossibly low price. Carbon taxers respond by calling for regulations to be repealed and replaced by a moderate pricing instrument, but go mum over the question of the resulting emission quantities, and stay mum as regulations aren't removed. They seek popularity with the green crowd by taking the quantity target for granted, but they don't talk about the required carbon price. Instead they call for a smaller tax, without pointing out that they are implicitly rejecting the promise of a steep emissions cut. Such a position is only slightly less dishonest than the government's.

An economically-valid carbon pricing policy would look like this: estimate, as reasonably as possible, the marginal social costs of GHG emissions, then deflate this number by the marginal cost of public funds to yield the optimal carbon tax rate. Implement this in a revenue-neutral way through income tax cuts while removing existing regulations on GHGs, then let the market decide on the resulting emissions quantity.

Based on mainstream numbers, the resulting carbon price will be lower—and likely far lower—than the per-tonne costs of most GHG policies we have pursued in Canada, such as the coal phase-out, the biofuels mandate, the oil sands cap, renewables targets, car mileage standards, etc. Therefore a switch from our current mix of regulations to a proper carbon pricing regime would imply increasing GHG emissions, probably to a level very close to what we would observe in the absence of any emissions policy, and an abandonment of the Paris target. This would be the “right” outcome, based on mainstream science and economics. But it would be a radical departure from current policies.

But the failure to confront the high cost of ambitious promises is not the only problem with climate policy. At \$300 per tonne, it's a safe bet that revenue-neutrality for a carbon tax is impossible. The rest of the tax base will shrink so much that other taxes would have to be raised to keep the government budget intact. This effect can be missed in some macroeconomic models that assume capital is internationally immobile. But when that assumption is relaxed, the gap between the Canadian and US policy stance has a big effect on the domestic tax base. With the United States now in full reverse on GHG and climate policy, Canada's aggressive Paris promises are even more untenable. [FI](#)

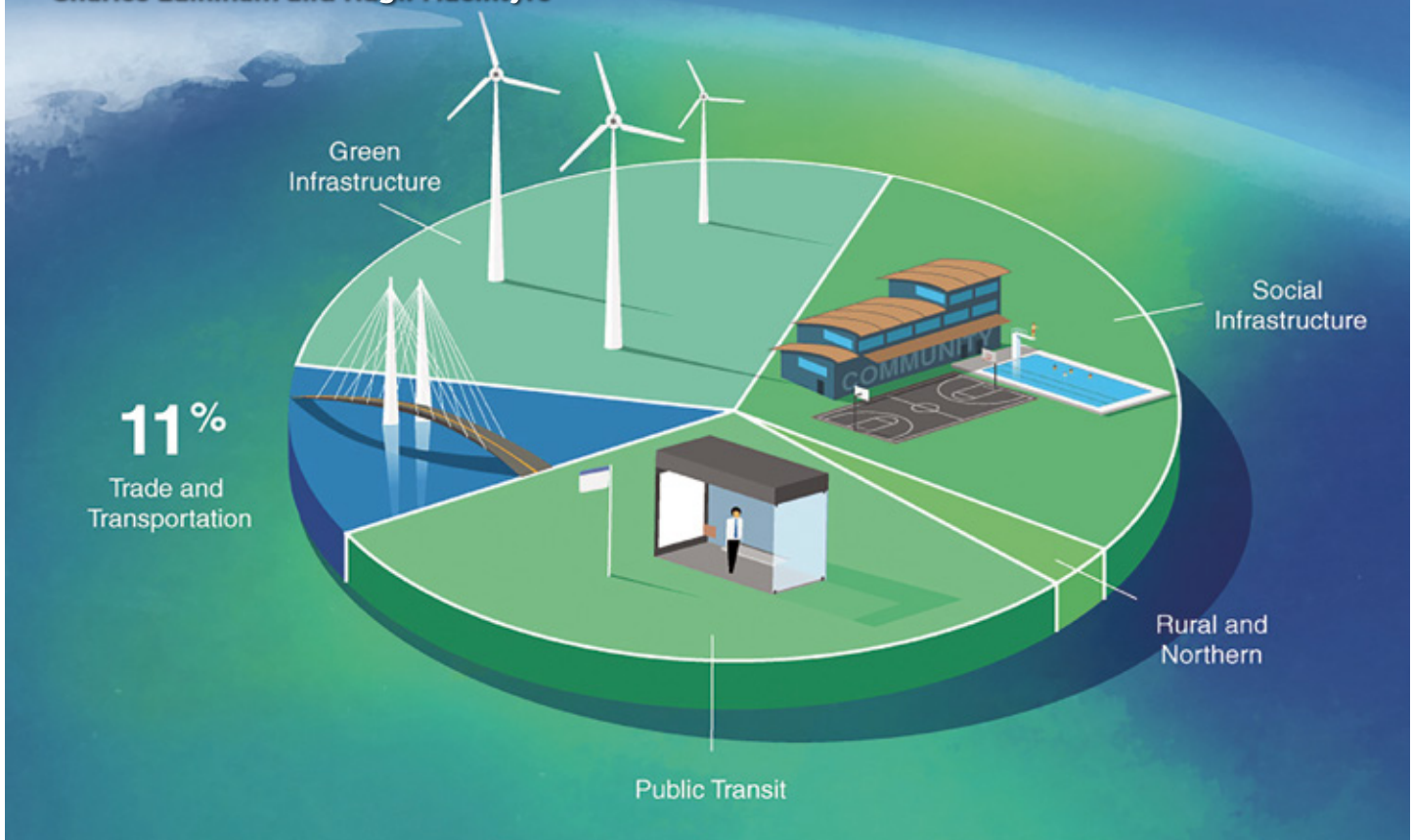


ROSS MCKITRICK

Ross McKittrick is a professor of economics at the University of Guelph and a senior fellow of the Fraser Institute. He is a co-author of the Fraser Institute publication *Did the Coal Phase-Out Reduce Ontario Air Pollution?*

Federal Government's Infrastructure Plan Unlikely to Spur Economic Growth

Charles Lammam and Hugh MacIntyre



In their campaigning, and since coming into power, the Trudeau Liberals have talked a lot about wanting to grow the economy to better serve Canada's middle class. And they have pinned their economic hopes largely on a multi-billion dollar infrastructure spending plan to be rolled out over the next decade.

The fundamental problem, however, is that only a small fraction of this spending is earmarked for

infrastructure projects that will actually improve Canada's economy.

In principle, sound infrastructure projects can improve the economy's productive capacity. A needed road, bridge, railway, or port that helps move people, goods, and resources more efficiently—and at lower costs—can help build a more prosperous economy.

In practice, however, not all of the federal government's infrastructure projects fit this bill. Of Ottawa's nearly

\$100 billion in planned infrastructure spending, a mere 10.6 percent is earmarked for transportation and trade projects. Put differently, only 11 cents of every dollar of new federal infrastructure spending will be spent on improving the country's core public infrastructure.

Of Ottawa's nearly \$100 billion in planned infrastructure spending, a mere 10.6 percent is earmarked for transportation and trade projects.

So where's the rest of the money going?

It is destined for so-called "green" and "social" infrastructure ventures, including pet projects such as parks, cultural institutions, and recreational centres. Although the communities in which they are built may appreciate these initiatives, there's no evidence such spending will improve economic growth.

In fact, the federal government may end up hurting the economy by focusing on such projects, especially if the productivity gains of the infrastructure projects are less than the economic costs caused by the taxes required to fund them.

Simply labelling a project "infrastructure" does not automatically make it an economically worthwhile endeavour.

Nonetheless, the federal government has stated that its infrastructure plan will not only generate long-term economic gains, but will stimulate the economy in the short-term. Even this argument fails in practice, primarily due to the considerable delays from when the infrastructure spending is announced to when the spending actually takes place and shovels hit the ground.

Infrastructure projects typically require time for planning and debate, and in cases where multiple levels of government are involved, can take additional time to coordinate. Often, by the time infrastructure dollars are actually spent, it is long after the announcements were made.

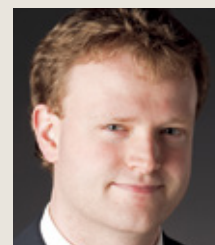
Several recent reports from the Parliamentary Budget Office (PBO) have called into question Ottawa's ability to deliver infrastructure spending on the timeline laid out by the government. And just recently, a Senate report found that of the \$13.6 billion in infrastructure spending planned for 2016/17 and 2017/18, only \$806 million worth of projects have actually commenced. In other words, just six percent of the planned projects have started. So for a government that believes that infrastructure is a way to stimulate growth in the short-term, the evidence thus far does not seem encouraging.

The federal government may end up hurting the economy by focusing on infrastructure projects, especially if the productivity gains of the projects are less than the economic costs caused by the taxes required to fund them."

In the 2017 federal budget, the government touted the economic benefits of infrastructure spending. But Canadians would do well to be skeptical of such claims. [FI](#)



CHARLES LAMMAM



HUGH MACINTYRE

Charles Lammam is director of fiscal policy and Hugh MacIntyre is a policy analyst at the Fraser Institute. They are co-authors of the study *Myths of Infrastructure Spending in Canada*.

Realities of Carbon Pricing in Canada and Beyond

Jason Clemens and Kenneth P. Green



There's a strong general consensus within the economic community that a properly designed carbon tax can both reduce emissions and improve the economy. We broadly agree with this academic analysis. The problem is that carbon taxes in the real world have to be implemented through a political system that deviates substantially from the academic ideal.

Economists tend to agree that the most efficient way to manage emissions is by placing a price on them that reflects the social costs of the emissions. By placing a price on carbon, emitting firms are given an incentive to introduce emission-reducing technologies or change their production. In other words, the

introduction of a price on carbon creates incentives for firms (and individuals) to respond to the social costs of those emissions.

Critically, however, several key assumptions are necessary for this approach to be efficient. First, the introduction of a carbon price must replace, not be in addition to, existing regulations.

Second, revenues from carbon pricing (i.e., tax) must be used in their totality to reduce other more costly taxes, such as marginal personal or business income taxes. The idea is that because revenues from carbon pricing are used to reduce other more damaging taxes, there's a net improvement in incentives for investment and entrepreneurship, which yield stronger economic growth.

Third, and related to the second, revenues from the carbon tax should not be used to subsidize substitutes (wind, solar, or other alternative energies) for carbon-emitting activities since the whole point of introducing the price on carbon is to allow the market to determine the optimal substitutes.

The idea is that because revenues from carbon pricing are used to reduce other more damaging taxes, there's a net improvement in incentives for investment and entrepreneurship, which yield stronger economic growth.

No jurisdiction in or outside of Canada, including much-heralded British Columbia, meets these assumptions. No province or country has introduced an “ideal” carbon-pricing system and thus the benefits from it will necessarily be less than theory suggests.

No jurisdiction that has introduced carbon pricing has eliminated the corresponding command-and-control regulations. Europe, California, and all of the Canadian provinces have retained most, if not all of their existing regulations after introducing carbon pricing.

Moreover, no province or country has maintained revenue neutrality for carbon pricing. Perhaps the closest and certainly most talked about jurisdiction is British Columbia, which maintained revenue neutrality for the first five years of its carbon tax. However, beginning in 2013-14, BC's carbon tax began generating revenues in excess of the legitimate tax offsets. Indeed, the government's own projections indicate that the carbon tax will generate almost \$900 million in net revenues over a six-year period.

Finally, many jurisdictions, including Ontario, specifically use carbon-pricing revenues to subsidize alternative energy sources, such as wind and solar. Subsidizing energy substitutes short-circuits the market process en-

visioned by carbon pricing advocates by having governments choose the “right” carbon alternative.

Further complicating the economics of carbon pricing are considerations regarding competitiveness and potential leakage. Specifically, adding a carbon tax means that the costs for firms in carbon-intensive industries such as agriculture, manufacturing, and resources, are higher than for their competitors with no such taxes. This creates incentives for firms to switch production from jurisdictions with carbon taxes to those without, which would damage the Canadian economy without providing any environmental benefit. This is made all the more poignant now that it's clear the United States will not introduce a national carbon tax.

Our own federal government has mandated carbon pricing for all provinces by 2018. It's imperative, therefore, that we understand the realities of carbon pricing, not just their theoretical possibilities. The politically altered carbon pricing observed in and outside of Canada, including BC's carbon tax, will inevitably deliver lower benefits than the theoretical models predict or advocates suggest—and in the process do real harm to the Canadian economy. **FI**



Jason Clemens is executive vice-president and Kenneth P. Green is the senior director of the centre for natural resources at the Fraser Institute.

Ontario Could Take a Budgeting Lesson From... Quebec?

Ben Eisen and Charles Lamnam



The times, they are a-changing. Historically, Quebec has been the poster child for bad fiscal management in Canada. At times the province has embraced high taxes, persistent deficits, and growing government debt.

But recently Quebec presented its third straight balanced budget, along with a plan to meaningfully shrink its provincial debt burden between now and 2021/22. This has allowed the province to take steps toward reducing its burdensome taxes. Let's be clear—on

both debt and taxes, the province has a long way to go. But at least it's on the right track.

In Ontario, when the Wynne government was putting the finishing touches on its 2017 budget, it would have done well to look to other jurisdictions for ways to rectify its own fiscal challenges. Surprisingly to some, that means looking next door to Quebec.

Quebec, like Ontario, was hit hard by the 2008/09 recession. The governments of both provinces ran significant deficits and racked up debt quickly. Quebec,

however, managed to eliminate its deficit faster than Ontario, balancing its books in 2015/16. If Ontario finally delivers a balanced budget for 2017/18, it will be two years behind Quebec.

Of perhaps greatest importance for Ontario, however, is that Quebec has essentially stopped the growth of its debt burden, with net debt (debt minus financial assets) expected to be \$1.5 billion *lower* in 2021/22 than last year (2016/17).

Recently Quebec presented its third straight balanced budget, along with a plan to meaningfully shrink its provincial debt burden between now and 2021/22.

Compare that to Ontario, where the debt burden has grown by more than \$10 billion *every single year* since 2007/08, and is forecasted to continue growing by about \$9 billion annually for the foreseeable future.

The stabilization of Quebec's debt load means that as the economy grows, the province's debt-to-GDP ratio—an important measure of the burden of government debt relative to the resources available in the economy to sustain that debt—will shrink relatively quickly, dropping by more than one percentage point per year.

To be sure, Quebec has a long way to go to bring this ratio (currently Canada's second highest) further down. Still, it is encouraging to see a province with such a troubled fiscal history making meaningful progress in this area.

But in Ontario, Queen's Park has continued to pile up debt in recent years, and plans to add more in the years ahead. As a result, the province will see very little progress in reducing its debt-to-GDP ratio. Instead, the most recent forecasts show the ratio hovering near its current historically high level of nearly 40 percent.

Because Quebec has balanced its books and halted the growth in debt, it's in a position to pursue tax relief for Quebecers including an increase in the basic personal exemption from income tax, the elimination of the health tax, a corporate income tax reduction, and payroll tax relief for small and medium-sized businesses.

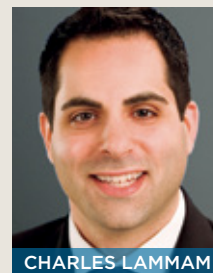
Tax relief is a benefit of fiscal prudence that would be most welcome in Ontario, especially considering the province's high and uncompetitive personal income tax rates.

Indeed, tax relief is a benefit of fiscal prudence that would be most welcome in Ontario, especially considering the province's high and uncompetitive personal income tax rates. When governments spend within their means and rein in debt, they can undertake pro-growth tax relief.

The times are certainly changing. Quebec is currently far ahead of Ontario when it comes to balancing the provincial budget, stopping the expansion of debt, and providing tax relief for residents. Premier Wynne's government would be well-advised to learn from its neighbour's good example. [FI](#)



BEN EISEN



CHARLES LAMMAM

Ben Eisen is director of provincial prosperity studies and Charles Lammam is director of fiscal studies at the Fraser Institute. They are two of the co-authors of the study, *Hold the Celebration: A Balanced Budget Won't End Ontario's Fiscal Challenges*.

Canada's Federal Income Tax has Grown Too Costly and Complex

William Watson



Still smarting as they are from the April 30th tax deadline, Canadians will be interested (though probably not happy) to know that this year marks the 100th anniversary of the federal income tax. Conservative Finance Minister Sir Thomas White introduced the tax for debate on July 25, 1917, three years into the First World War, just days after Parliament adopted compulsory military service. What conscription did for young men the income tax was to do for wealth.

Conventional wisdom says the tax was to be temporary. In fact, Sir Thomas said only that he hoped Parliament would consider it again after the war ended. Parliament did consider it. And we're still paying.

To observe this 100th anniversary, the Fraser Institute has brought out a book of 10 short essays on the in-

come tax that the Institute's vice-president Jason Clemens and I have edited: *The History and Development of Canada's Personal Income Tax*. The subtitle of the series is *Zero to 50 in 100*, reflecting the income tax having gone from nothing in 1917 to fully half of federal revenues today.

The tax started out as a levy on the very richest Canadians. In the early years, as few as one in 50 people paid. As late as 1938, only 2.3 percent did. Now three-quarters of Canadians file returns, if only to take advantage of such benefits as the refundable GST credit.

The message of the 10 essays is that the income tax is now too high, too important, too complex, and too costly. After 100 years, it's time for serious reform.

Too high? Our top rate used to be middle-of-the-road in the G7. After last year's federal budget, Ontario's top



rate of 53.5 percent is below only Japan's and France's. Of the top 10 marginal tax rates in North America, seven are in Canadian provinces. British Columbia's lowest-in-Canada top rate of 47.7 percent is higher than in 42 US states. And top rates for US states start at over \$500,000—in some cases almost \$1.5 million. In most provinces, by contrast, the top combined federal-provincial rate starts at \$200,000.

Too important? Ottawa and the provinces together get more than a third of their revenues from the income tax. The average OECD country gets less than a quarter. Only four of 35 OECD countries (the US, Australia, New Zealand, and Denmark) rely on income taxes more than we do.

Too complex? The 1917 Income Tax Act comprised just 3,999 words and was only 10 pages long if you put it on a standard Microsoft Word page with 11-point font. The latest version contains more than a million words and takes up 1,406 such MSWord pages. The 1917 act didn't even allow a deduction for children (a mistake soon corrected). But by 2014 the number of "tax expenditures" had risen to 128, including a 27 percent increase in their number just since the mid-1990s.

Too costly? Just filling it out your taxes, or paying someone else to fill them out for you, now averages more than \$500 per family in time and outlay. And that cost is regressive—a higher share of income for poorer than richer people.

Then there's the economic cost from distortions in effort, investment, saving, and education because of high

marginal rates. Bev Dahlby of the University of Calgary estimates that in all provinces except Alberta a dollar of new income tax revenue creates more than a dollar of economic cost, so that the total cost exceeds \$2 per every new dollar raised. In Ontario, the cost is almost \$7 for every new dollar of revenue raised.

A tax that costly, complex, and over-used should be reformed. For the income tax's 100th birthday we should either "broaden the base and lower the rate" by eliminating the special carve-outs and tax subsidies that have built up over the last century. Or, as the University of Calgary's Jack Mintz recommends, we should give up on taxing income and tax consumption instead—not with a one-rate-for-everyone GST, but with a personal consumption tax, where we each subtract any saving we do from our income and pay a low but progressively rising rate on our consumption.

After 100 years it's probably time for a change. **FI**



WILLIAM WATSON

William Watson teaches economics at McGill University and is a senior fellow with the Fraser Institute. He is co-editor of *The History and Development of Canada's Personal Income Tax: From Zero to 50 in 100 Years*.



Another Broken Promise— Federal Government Ditches Latest Fiscal Pledge

Charles Lammam, Ben Eisen and Milagros Palacios

It's hard to keep track of all of the federal government's broken promises on deficits and debt. And that's a problem. Fiscal credibility is important, not only for the country's finances, but for potential investors and entrepreneurs who are considering whether or not Canada is a good place to do business.

While the most recent federal Budget confirmed that the government's latest fiscal promise will be broken, let's first start with the 2015 Liberal election platform, which promised "modest short-term deficits of less than \$10 billion in each of the next two fiscal years" and to "return Canada to a balanced budget in 2019/20."

These promises barely outlived the campaign. Within months of being elected, the Trudeau government backed away from both commitments.

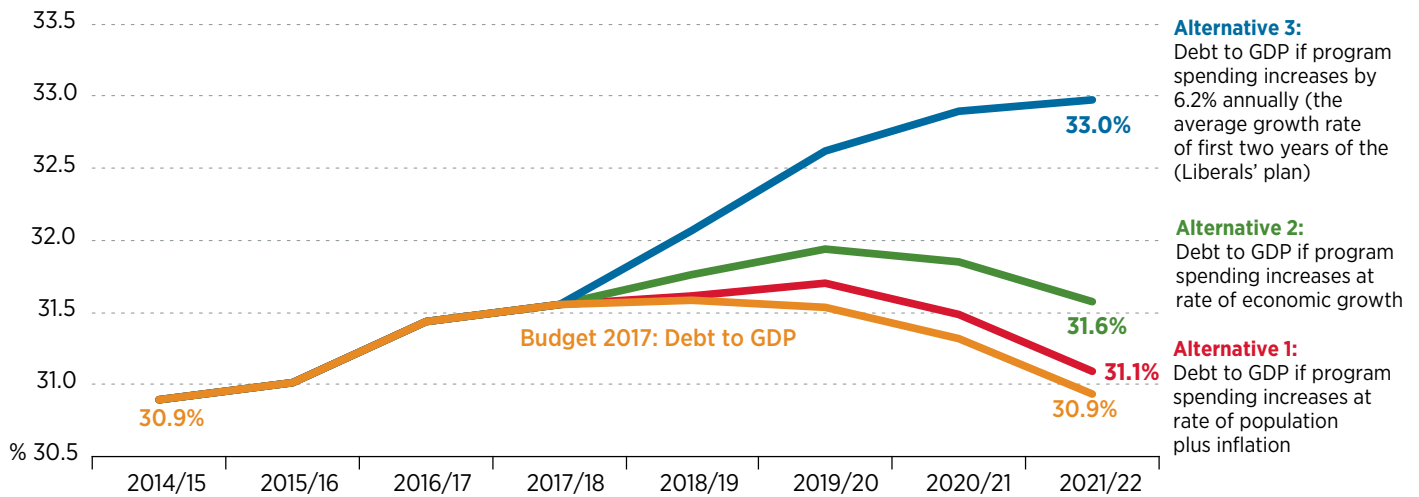
By the time of its first Budget in early 2016, the government abandoned entirely its commitment to balance

the budget, presenting substantial deficits through to 2020/21—a year after its first mandate ends. In some years, the projected deficits tripled the amount promised in the Liberal platform.

Once it became clear that the government had no intention of balancing the budget during its mandate, it quickly created new fiscal targets centered on the country's debt-to-GDP ratio. This is an important metric that measures the burden of a government's debt relative to the resources available in the economy to sustain that debt. But even after pivoting to this metric, the government has repeatedly moved the goalposts and broken several promises.

Initially, the government promised to "reduce Canada's federal debt-to-GDP ratio each year." After the election in late 2015, Finance Minister Bill Morneau repeatedly pointed to annual reductions as a "fiscal anchor" that would prevent rapid deterioration in Ottawa's fiscal po-

FEDERAL DEBT-TO-GDP RATIO UNDER MORE REALISTIC SPENDING ASSUMPTIONS



sition. At the same time, the prime minister promised to reduce the ratio “every single year” because “that’s what’s important for the fiscal health of our country.”

Yet the government failed to deliver on this pledge. Just months after the above pronouncements, the 2016 Budget showed the debt-to-GDP ratio would tick up in 2016/17 from the previous year’s level.

After breaking that promise, the government made another: that “by the end of our first mandate, Canada’s debt-to-GDP ratio will be lower than it is today.”

Fast forward to the recent 2017 Budget. According to the government’s own projections, this latest promise won’t be kept either. Why? Because in 2014/15, the year before the government was elected, the ratio stood at 30.9 percent. By 2019/20, the last year of its current mandate, the 2017 budget forecasts the debt-to-GDP ratio will be 31.5 percent. So contrary to the government’s latest promise, the ratio is not going down over its mandate—it’s going up.

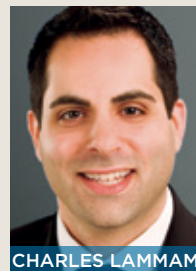
And crucially, there are a number of reasons why the debt-to-GDP ratio may be higher than the government now projects. For one thing, the projections are based on questionable assumptions about Ottawa dramatically slowing the rate of future spending growth.

Starting in 2018/19, the Budget plans to reduce inflation-adjusted per-person spending, which would be a marked departure from the government’s track record. There’s no plan for how exactly such spending restraint will be delivered. And equally important, it contradicts the government’s own rhetoric about how more spending will help grow the economy.

In fact, using assumptions about future spending that more closely align with the government’s track record to date, Ottawa may add up to another \$122 billion in debt over what it’s currently projecting from 2018/19 to 2021/22. That would cause the debt-to-GDP ratio to rise further still, potentially reaching 33.0 percent by 2021/22 (see accompanying figure).

Importantly, these revised debt projections do not account for other risks that could cause the debt to climb even higher, including lower-than-expected economic growth and higher-than-expected interest rates.

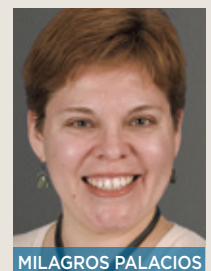
Less than two years into its mandate, it is increasingly worrying the number of times the government has discarded its fiscal anchor when the discipline it is meant to impose has become inconvenient. With the unceremonious discarding of the debt-to-GDP promise, it’s clear that federal fiscal policy is being set without any fiscal anchor at all. **FI**



CHARLES LAMMAM



BEN EISEN



MILAGROS PALACIOS

Charles Lammam is director of fiscal studies, Ben Eisen is director of provincial prosperity studies, and Milagros Palacios is a senior economist with the Fraser Institute.

Alberta's 2017 Budget— A Bad Case of Déjà Vu

Ben Eisen and Charles Lamnam



Many of us are guilty of failing to learn lessons from the past and then going on to repeat avoidable mistakes. Alberta's 2017 Budget is a prime example of this at the government level. Call it a bad case of déjà vu.

Put simply, the Notley government has put Alberta on a fiscal path that has been tried in the province before—and failed miserably. Increasing spending and

hoping that energy-related revenues will fill the budget gap has not worked before and likely won't again. To clean up Alberta's fiscal mess, history teaches us it will likely require tough decisions that actually reduce and reform spending.

This year's budget sets out another deficit for this coming fiscal year—the ninth in 10 years—with no plan to balance the budget. The result: Albertans will be saddled

with another \$35 billion in new debt (after accounting for financial assets) over three years, and the annual interest payments on government debt will more than double.

The government forecasts that the deficit will finally begin to shrink a little near the end of the decade, but not because of any spending reform. The budget pins hopes on resource revenues nearly tripling by 2019/20, along with significant new revenue from the expanded carbon tax. Indeed, the fiscal outlook would be much worse if it weren't for optimistic revenue projections.

The Notley government has put Alberta on a fiscal path that has been tried in the province before—and failed miserably. Increasing spending and hoping that energy-related revenues will fill the budget gap has not worked before and likely won't again.

Again, if this “wait and hope” approach to overcoming Alberta's fiscal challenges sounds familiar, it's because it is. Throughout most of the 1980s and early 1990s, Alberta repeatedly ran deficits. The governments of the day continued with annual spending increases while hoping for natural resource revenue to grow and fill the budget hole.

This passive approach failed as deficits persisted and the province fell into a net debt position in the late 1980s with government debt exceeding financial assets. In the early 1990s, the province racked up considerable debt.

It wasn't until 1993, following the election of Premier Ralph Klein, that the government finally set in motion a bold plan to balance the budget, which led to a 22 percent reduction in program spending over three years and the province's deficit disappearing in just two years. This began a string of surpluses, which allowed the

province to quickly eliminate its net debt and eventually build up a nest egg.

At the time, critics warned that these spending reductions would drive the economy into recession. These predictions proved incorrect. In fact, between 1993 and 1997, the economy in Alberta grew significantly faster than it did in the rest of Canada.

What's more, the Klein government's spending reforms laid the foundation for tax reforms that ultimately contributed to an extended period of prosperity. These reforms ensured that when resource prices went up, Alberta was well positioned to boom.

Due to political preferences, some may be reluctant to look to a Progressive Conservative government for an example of successful fiscal policy. But no political party has a monopoly on smart spending reform. For example, in the 1990s, Roy Romanow's NDP government in Saskatchewan reduced program spending by 11 percent over three years, quickly eliminating a large deficit.

Unfortunately, Alberta's recent Budget rejects the model for fiscal consolidation that worked in Alberta and Saskatchewan during the 1990s and largely embraces the unsuccessful passive approach of the 1980s. The decision to push ahead with further spending increases and hope for revenues to fill the budget gap represents a failure to learn the lessons of Alberta's past. The results aren't likely to be much better this time around. **FI**



BEN EISEN



CHARLES LAMMAM

Ben Eisen is the director of provincial prosperity studies and Charles Lammam is director of fiscal studies at the Fraser Institute. They are two of the co-authors of the publication, *Alberta's Budget Deficit: Why Spending Is to Blame*, 2017.

This past quarter, the centre for education programs concluded its post-secondary student seminar program for the 2016-2017 academic year while continuing to offer high school student seminars and teacher workshops.

POST-SECONDARY STUDENT SEMINARS

Students at the Calgary and Montreal post-secondary seminars enjoyed a Saturday filled with engaging presentations and discussions about policy issues relevant to students in Canada.

The Calgary seminar gave over 130 students the opportunity to hear about the hidden barriers (and subsequent costs) that Canada's provinces face when trading with one another, economist F.A. Hayek's contributions to our understanding of the rule of law, and how both are relevant to disputes over Aboriginal rights. Students also learned about the sustainability of health care spending in Canada, and how a number of different tax increases have ended Alberta's tax advantage.

In Montreal, in conjunction with the Peter Munk Centre for Free Enterprise Education, students discovered how a traditional model for giving used by charities in the West has increasingly had a devastating effect on developing nations, how institutions affect entrepreneurial decision-

making, and the insights Quebeckers can and should glean from provincial migration data, and the implications for young Canadians of the continuing rise in the cost of residential property in major cities.



Instructor Ninos Malek engages in the “Chocolate Eating Contest” activity where students are able to identify the concept of diminishing marginal returns.

HIGH SCHOOL STUDENT SEMINARS

In April, over 260 students participated in two seminars held in Vancouver and Victoria.

Our program for junior high school pupils (grades 7-9) is called *Economics is Everywhere! Applying Basic Con-*



A student questions Professor Palagashvili on how institutions affect innovation and the rise of start-ups.



Students observe while 3 volunteers take part in a game that showcases the benefits of specialization.

cepts to Everyday Life. The seminar uses concrete activities to demonstrate economic concepts. After a day filled with events that include eating candy, singing, and fishing for Goldfish crackers, students return to their schools having learned to think critically about decisions they make today, the future consequences of those decisions, and how their behavior influences the world around them.

Why Do People Behave the Way They Do? An Introduction to Economic Reasoning is our seminar for high school students (grades 10-12). Students apply economic thinking to common situations and scenarios. From hitting the “snooze” button on an alarm clock, to balancing a budget or saving for university, students learn how every decision they make stems from an economic choice.

TEACHER WORKSHOPS

In March, our *Economic Way of Thinking* workshop was provided in Calgary. It builds on basic economic principles to provide a deeper insight into economics in everyday life. Teachers discussed topics such as incentives, marginal analysis, recessions, and currency. *Issues of International Trade*, one of our most popular workshops, was offered in Toronto through the Peter Munk Centre for Free Enterprise Education. It provides teach-



Teachers at our *Economic Way of Thinking* workshop take part in “The Fishing Game,” which demonstrates the tragedy of the commons.

ers with topical information on trade deficits, free trade zones, sanctions, tariffs, and how exchange rates are determined.

Every teacher who attends our workshops receives a binder of lesson plans and activities, online materials, and a PowerPoint presentation, all of which enable them to walk into their classrooms the day after the workshop and put what they’ve learned into action. **FI**



Elmira Aliakbari

What's your role at the Institute?

I am a senior economist working in both the Centre for Natural Resource Studies and the Centre for Environmental Studies, where I study and measure the effects of government policies on the quality of Canadian lives. While my primary field of study is energy and the environment, I also work on other projects—for example, a study that assesses the impact of housing regulations on home prices in Canada.

How did you arrive at the Institute?

While earning a PhD in economics at the University of Guelph, I learned about the Institute and projects being done in the Natural Resource Centre through my mentor and supervisor, Professor Ross McKittrick, who is also a senior fellow at the Institute. I became interested and started to collaborate with the Institute on several projects. This resulted in the offer of a full-time position once I completed my PhD degree.

Tell us something exciting that you're working on now for the immediate future.

I am excited to be working on a study that tackles the issue of soaring electricity prices in Ontario and their impact on Ontario's economy. Over the past few years, Ontario's energy costs have risen due to factors such as the phasing out of coal-power generation and the purchase of renewable energy. These rising energy costs have seriously harmed the province's economy by undermining its competitiveness. Understanding and quantifying the effects that high energy costs have on Ontario's industry and business are important to helping us determine the best energy policies for the province.

What do you enjoy doing in your spare time that your colleagues might not be aware of?

In my spare time, you can often find me playing volleyball in a recreational league. Watching a good movie is also something that always takes up some of my spare time. In addition, now that I live in beautiful Vancouver, I love to get outdoors and explore nature.

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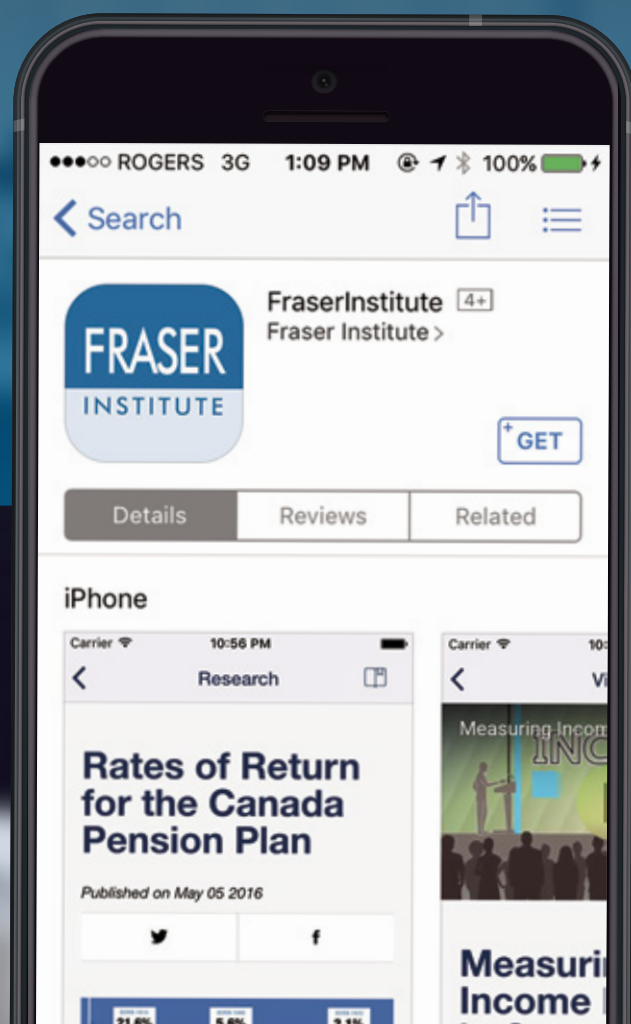
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