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From the Editor

The need for policy reform in Quebec

A number of years ago, I had the opportunity to visit the wonderful province of Quebec. It was a school trip, and thus was intended to be "educational," but I think it could have been more accurately described as "cultural tourism." We went to a Montreal Canadiens game (a must for hockey fans and non-hockey fans alike), skated on the St. Lawrence River (which stays frozen for a good portion of the year), and visited a genuine "sugar shack" (where maple sap is collected, processed, and served). We also spent part of the trip lodging with a Quebec family so that we would get a more authentic picture of normal life in Quebec.

The idea of "authentic" travel has caught on recently. The feeling of "been there, done there, got the t-shirt" has been causing people to seek out less conventional travel opportunities that allow them to connect with locals and walk in their shoes for a while. In essence, the goal of this kind of experience is to find out what a place is really like, absent the happy face it puts on for visitors. As a typical tourist, it is often difficult to get a sense of the deeper issues facing a particular area.

When I visited Quebec, I was aware of some of the local issues (the separation question, for example, was very prominent at the time), and was quite interested in how they could affect the rest of Canada. Of course, those who live in Quebec have a much greater interest in the policy debates of their province, as these issues affect them directly.

This issue of *Fraser Forum* explores a number of serious issues facing Quebec. For example, Quebec's agricultural sector is in deep trouble. Despite millions of dollars in subsidies, 30% of farmers are not covering their expenses, and some food prices remain high because of the province's supply management system ("Quebec's agriculture in jeopardy," pg. 7).

Quebec's education system is not faring well either. Almost 40% of students in Francophone public schools and 30% of students in Anglophone public schools are failing standardized basic math tests ("Why are Quebec's students failing?" pg. 6). And the water rights of Quebecers, nearly half of whom rely on the groundwater beneath their property, are being threatened by Bill 92, which would subject homeowners to the regulatory whims of provincial bureaucrats ("Water rights under threat in Quebec," pg. 29).

There is much need for policy reform in Quebec. It's up to Quebec voters to push for changes that will strengthen the province and allow it to flourish.

— Kristin Fryer (kristin.fryer@fraserinstitute.org)

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Publisher
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Chief Editor
Mark Mullins

Managing Editor/Layout and Design
Kristin McCahon and Kristin Fryer

Coordinating Editor
Tasha Kheiriddin

Contributing Editors
Peter Cowley, Nadeem Esmail, Diane Katz

Cover Design
Bill Ray

Cover Image
Elena Elisseeva, iStockphoto.com

Copyediting
Mirja van Herk

Media Relations
Dean Pelkey

Advertising Sales
Advertising In Print
Tel: (604) 681-1811
E-mail: info@advertisinginprint.com

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Ezra Levant speaks freely

Former *Western Standard* publisher discusses his battle with the Alberta Human Rights Tribunal

On October 16, the Fraser Institute hosted outspoken publisher Ezra Levant in Calgary as part of its *Behind the Spin* speaker series. Levant gave a comprehensive presentation on the state of free speech in Canada as demonstrated by the actions and judgments of the provincial and federal human rights commissions. Levant maintains that these commissions are quasi-judicial bodies that undermine our fundamental freedoms of speech, of the press, and of religious belief.

Some 900 days after Levant was charged with the "offence" of republishing the Danish cartoons of Muhammad in the *Western Standard* magazine, the Alberta Human Rights Commission acquitted him of "discrimination." He does not consider this a victory for freedom of the press, however, because he believes his dismissal shows that Alberta's press is not free—it is still subject to government oversight.

In his *Behind the Spin* presentation, Levant discussed several cases brought before human rights commissions (HRCs) across Canada, including the well-known case against Mark Steyn and *Maclean's* magazine, as well as less publicized cases. Through his examples, Levant exposed the surprising scope of the commissions' influence and authority, and the adverse effects of many commission decisions. Most targets of the HRCs choose to accept offered settlements to avoid lengthy investigations and their costs, according to Levant.

Because of his own experiences and his knowledge of other cases, Levant considers HRCs to be unjust. He says the commissions routinely violate due process and ignore common-law rules and the rules of the Canadian court. During a lengthy interrogation held as part of the Alberta commission's investigation into his publication of the cartoons, Levant challenged both the moral and the legal basis of the complaint filed against him.

Levant urges that the commissions be "denormalized." This means demonstrating how they disregard Canadian values and showing "how they have become a sword attacking human rights, rather than a shield protecting them." There are human rights commissions in every province and federally, Levant explained, so any legislature in Canada could start making the necessary changes. For example, British Columbia has disbanded its commission, but the province's tribunal still exists.

Levant is the focus of other lawsuits, human rights complaints, law society complaints, and other nuisances at the hands of the "human rights bullies." Regardless, Levant vows to continue to fight against what he calls the "human rights industry" because he will not grant the government the authority to tell him or any other Canadian what he can or cannot say. □

About the Authors

Featured Authors

Peter Cowley (peter.cowley@fraserinstitute.org) is the Director of School Performance Studies at the Fraser Institute. He is co-author of the Institute's series of report cards on Canada's elementary and secondary schools.

Diane S. Katz (diane.katz@fraserinstitute.org) is the Director of Risk, Environment, and Energy Policy Studies at the Fraser Institute. She has an M.A. from the University of Michigan.

Jean-Francois Minardi (jean-francois.minardi@fraserinstitute.org) holds a Master's degree in economics from the Université Paris XII. He is a Senior Policy Analyst, Québec et la Francophonie, at the Fraser Institute.

Contributors

Louis-Philippe Beland (louis-philippe.beland@fraserinstitute.org) is a Policy Analyst in the Centre for Globalization Studies at the Fraser Institute. He holds an M.A. in economics from the University of British Columbia.

Alan W. Dowd (alan.dowd@fraserinstitute.org) is a Senior Fellow of the Fraser Institute, conducting research into defense and security, and Senior Editor of Fraseram.eri.ca. He is also a contributing editor with both *The American Legion Magazine* and *World Politics Review.*

Nadeem Esmail (nadeem.esmail@fraserinstitute.org) is the Director of Health System Performance Studies and Manager of the Alberta Policy Research Centre at the Fraser Institute. He has an M.A. in economics from the University of British Columbia.

Keith Godin (keith.godin@fraserinstitute.org) holds an M.A. in public policy from Simon Fraser University. He is a Senior Policy Analyst with the Centre for Entrepreneurship and Markets at the Fraser Institute.

Maureen Hazel (maureen.hazel@fraserinstitute.org) is a Health Policy Analyst at the Fraser Institute. She completed her B.Com. (First Class Honours) and M.A. in economics at McGill University.

Amela Karabegović (amela.karabegovic@fraserinstitute.org) is the Associate Director of the Centre for Globalization Studies at the Fraser Institute. She holds a B.M. (Great Distinction) in general management from the University of Lethbridge, and an M.A. in economics from Simon Fraser University.

Fred McMahon (fred.mcmahon@fraserinstitute.org) is the Director of the Centre for Globalization Studies at the Fraser Institute. He has an M.A. in economics from McGill University.

Niels Veldhuis (niels.veldhuis@fraserinstitute.org) is the Director of Fiscal Studies and a Senior Economist at the Fraser Institute. He has an M.A. in economics from Simon Fraser University.

Self-interest benefits everyone

The market meltdown wasn't caused by greed

Niels Veldhuis

The common story now making the rounds is that Wall Street's "greed" is at the root of the financial crisis and that this "greed" needs to be reined in. Consider, for example, that US presidential candidate John McCain has promised to put an end to the "unbridled greed that [has] caused a crisis on Wall Street," while Barack Obama claims that the financial crisis is a "direct result of greed that has dominated Washington and Wall Street for years" *(Wall Street Journal*, 2008, Oct. 4; Langley, 2008, Oct. 14).

However, "greed" (or, less derisively and more accurately, "self-interest") is not the problem or the reason for the current crisis. Wall Street, Bay Street, Main Street, my street, and every other street in North America is built on individuals and businesses pursuing their own self-interest. Self-interested individuals and businesses are the backbone of our economy, vital to economic progress and society's well-being, and ought to be celebrated rather than demonized.

Let's start with the definition of greed, "a selfish and excessive desire for more of something than is needed," according to the Merriam-Webster dictionary. But who exactly should determine what is really "needed," and by what measure?

Do we all really "need" mobile phones and iPods? Is it "excessive" for a family to have two cars and a 2,000-square-foot house? Do we "need" to eat out as often as we do or buy the latest clothing fashions? What is "needed" is a subjective judgment and makes the definition of "greed" vacuous.

The reality is that "greed" is a contemptuous word that is purposely used to stir emotions and negatively smear the principle tenet of human behaviour, self-interest. Simply put, self-interest is the human desire to improve our situation or the "concern for one's own advantage and well-being," according to Merriam-Webster.

The writings of Adam Smith, an eighteenth-century philosopher and the father of modern economics, provide great insights into the positive impact that individuals acting in their own self-interest can have on society. As Smith famously noted, "It is not from the benevolence of the butcher, the brewer, or the baker, that we can expect our dinner, but from their regard to their own interest" (Smith, 1981: 26–27).

The quality of food and high level of service we receive at our favourite restaurant is not the result of a kind act by its owners; rather, the owners are self-interested and wish to operate a profitable restaurant. They do not provide us with great food and service because they like or care about us; they do so to secure our business, money, and our continuing patronage.

The same holds true for Sam Walton, founder of Wal-Mart, Howard Schultz of Starbucks, Bill Gates of Microsoft, Steve Jobs of Apple, and any other successful entrepreneur. All acted in their own self-interest and provided us with great innovations, cheaper products, better services, and technological improvements. All became extremely wealthy by providing benefits to others, benefits that have vastly exceeded the private benefit gained by these entrepreneurs.

Economically free societies, in which individuals and businesses are free to act in their own self-interest and to engage in voluntary exchanges, enjoy substantially higher living standards. Increased economic freedom has been shown to increase per-capita incomes, economic growth rates, investment, life expectancy, civil liberties, and environmental performance, while reducing poverty.

Of course, individuals and businesses can also do harm if their self-interest is channelled improperly through deceit, corruption, force, fraud, or theft. That is precisely why it is critical to maintain sound institutions (a sound legal system, protection of private property, an independent and unbiased judiciary, etc.) to provide people and businesses with the right incentives and to hold them accountable for wrong doing.

This brings us back to the current financial crisis. Of course, self-interested investors and banks played a part in the current crisis by lending money to unqualified applicants, issuing unsound mortgages, and trading in risky mortgage-backed assets. Home owners also acted in their own self-interest when taking on these loans. However, what is rarely mentioned is how government policy provided the incentives to do so.

The Federal Reserve kept interest rates historically low for too long, increasing the demand for mortgages and fuelling the housing boom. In addition, government-backed mortgage giants Fannie Mae and Freddie Mac increased their purchases of mortgages issued to low-income earners, thereby funding billions of dollars in loans, many of which

were sub-prime. The Community Reinvestment Act also played a part as it further encouraged banks to make high-risk loans to low- and moderate-income families. In general, lending standards fell to accommodate a social policy objective: increasing home ownership among those who are least able to afford a home.

It wasn't greed that fuelled the crisis; banks, borrowers, and investors simply acted rationally and in their own self-interest, following a set of rules created by poor government policy.

Canadians and Americans have benefited tremendously from individuals and businesses pursuing their own self-interest. While it may not be popular to endorse self-interest, vilifying it is to condemn the economic system that has significantly improved our lives.

Nobel Prize-winning economist Milton Friedman (1979) said it best: "The world runs on individuals pursuing their separate interests … the record of history is absolutely crystal clear: that there is no alternative way so far discovered of improving the lot of the ordinary people that can hold a candle to the productive activities that are unleashed by a free enterprise system."

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Why are Quebec's students failing?

Peter Cowley

Try to imagine how you would feel about a school where students routinely fail province-wide examinations in key secondary school subjects at the rate of 25% or greater. You probably would not want to send your child to that school. Yet, in Quebec, high failure rates on exams in subjects such as language arts, physical sciences, mathematics, and history are all too common.

Clearly, it is the teachers' responsibility to equip each student with the skills and knowledge that are embodied in the curriculum to the extent that the students can at least pass an objective assessment. But too many teachers in Quebec are failing to fully discharge this responsibility.

Table 1 shows that Quebec's public schools—accounting for roughly 82% of the province's secondary school enrollment—drive the high failure rates. In all six of the exams studied, in both the Francophone and the Anglophone sectors, failure rates in public schools are higher than they are in private schools. In all but basic mathematics, these failure rates are more than double those of the private schools.

For a special report on the academic results of Quebec's public school boards (known as commissions scolaires) published by *Le Journal de Montréal* (Pineault, 2008, Oct. 22), the Fraser Institute analyzed the examination results for the 2006/2007 school year to determine the relative success of students enrolled in each of the commissions scolaires (CS). The analysis showed that high failure rates are common among Quebec's CSs.

Indeed, the overall results shown in table 1 mask even worse fail rates in some individual CSs. For example, 30.7% of students enrolled in the CS de l'Estuaire in the Côte-Nord region of Quebec failed their first language exam. At the CS de la Seigneurie-des-Mille-Îles, a large district of over 38,000 students in the Laurentides region, 35.2% of the physical sciences exam writers were given a failing grade. Finally, at the large, suburban CS de Laval, an astonishing 40.3% of students failed their advanced math exam.[1]

In the province's Anglophone school boards, the story is much the same. At the small CS Eastern Shores, 31.7% of the history exam writers failed. Among students in the largest Anglophone board in Quebec—CS Lester B. Pearson in Montreal—36.8% failed the basic math exam.

While the data are silent regarding why high failure rates are the norm in Quebec, there are at least two possible reasons related to the design of the exams.

Quebec's Ministry of Education may have purposely designed the exams to be difficult enough to deliver relatively high failure rates so that teachers will be motivated to encourage their students to work harder. Alternatively, if the exams do not clearly relate to the subject matter embodied in the curriculum, then students may not be acquiring the skills and knowledge that are being tested on the exam.

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Quebec's agriculture in jeopardy

Farm subsidies, protectionism hinder *la belle province's* competitiveness

Jean-Francois Minardi

In January 2008, the government of Quebec published a report on the future of the province's agricultural sector, which currently is facing serious challenges. Many farmers are unable to cover their expenses and many are becoming increasingly dependent on government subsidies (Quebec, 2008: 47–48).

The *Report of the Commission on the Future of Quebec's Agriculture and Agri-food Industry*, also known as the Pronovost Report,[1] was highly critical of the status quo, although it did not question Quebec's supply management system (Quebec, 2008: 69)[2] or agricultural subsidies (Quebec, 2008: 72). The Doha negotiations, organized by the World Trade Organization (WTO), which could have jeopardized the existing system collapsed in July.

In its current state (discussed below), Quebec's agricultural sector is unsustainable. In order to ensure its viability, the province should phase out its supply management regime and work towards a complete elimination of farm subsidies.

Subsidies

According to Statistics Canada, Quebec farmers received $725 million in direct payments[3] in 2004; $722 million in 2005; and $838 million in 2006 (Quebec, 2008: 53). That was in addition to $67 million in annual tax assistance from the federal government and $136 million from the province. Government support for agriculture has increased 248% over the past 25 years (Quebec, 2008: 53). Overall, the Pronovost Report shows that Quebec farmers receive more government subsidies than other Canadian farmers.

Using data on producer support payments (PSE) collected by the Organisation for Economic Co-operation and Development (OECD), a comparison can be made between agriculture subsidies in Canada and those provided in other industrialized countries. According to the OECD, the PSE is an indicator of the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that support agriculture, regardless of their nature, objectives, or impacts on farm production or income. It can be expressed as a total monetary amount, but is more usually quoted as a percentage of gross farm receipts (percent PSE) (OECD, 2008b).

The PSE index shows that farm subsidies in Canada have been higher than in the United States in recent years, but lower than in Europe (Agriculture and Agri-Food Canada, 2007). Government support for Canadian agriculture, as measured by the percent PSE, fell from 36% in 1986-88 to 22% between 2004-06—well below the OECD average (29%). Thus, Quebec farmers, in general, have become less reliant on government subsidies in recent years. However, according to the OECD report (2008a), "Canada is almost unique in having backtracked since the late 1990s: the percent PSE rose from a low of 14% in 1997 to 23% in 2006 before higher world prices led to a decline of percent PSE to 18% in 2007" (OECD, 2008a: 7). According to the Pronovost Report, it would be very difficult to establish a PSE for Quebec; however, as noted above, the report shows that agricultural producers in Quebec receive more financial aid than their counterparts in the rest of Canada.

The supply management system

The other mainstay of Quebec's agricultural policies is the supply management system. It was introduced in Canada in the early 1970s to support the incomes of farmers who were facing a highly volatile market at the time (OECD, 2008a: 6). It is a mechanism of supply regulation that guarantees stable prices for producers of dairy, poultry, and eggs who, for the most part, are located in Quebec and Ontario. Over 80% of Canada's dairy farms are located in the two provinces, while 60% of all poultry production takes place in Ontario and Quebec (Vieira, 2008, Aug. 5). Thus, a significant portion of Quebec's agricultural sector specializes in livestock and dairy products.

Supply management is, in essence, a quota system intended to confer a competitive advantage on domestic products and maintain artificially high prices for the agriculture industry. High tariffs are imposed on imports,[4] and domestic production is constrained through supply quotas.

Consequently, food costs in Quebec are much higher than in other markets; consumers pay for the direct subsidies

(through taxes) and they pay artificially inflated prices under the supply management system.[5] These higher prices impose an especially heavy burden on low-income households, which spend a greater share of their budget on food (OECD, 2008a: 10).

Trade liberalization

The Doha round of global trade negotiations was launched in 2001 by the World Trade Organization (WTO). The talks were focused on cutting tariffs and farm subsidies, as well as liberalizing trade in services. Ultimately, the negotiations failed. Canada's position—defending supply management while, at the same time advocating trade liberalization—is untenable.

Free trade is in the interest of the Canadian economy, including part of the agricultural sector. Canada is the OECD's fifth largest exporter and importer of agricultural and agri-food products (OECD, 2008a: 5). Furthermore, as the OECD notes, "there are meat and grain farmers, such as those producing wheat and barley in western Canada, who are very outward-oriented and for whom governments are keen to introduce more market mechanisms" (OECD, 2008a: 5).

Protectionism has not contributed to the competitiveness of the Quebec's agricultural sector. Farmers are increasingly dependent upon government subsidies (Quebec, 2008: 47–48), and farms that operate outside the supply management system face grave challenges. For example, farm incomes are often lower than operating costs. In fact, 30% of Quebec farms do not manage to cover their expenses and probably would have to leave the farming industry without the continuous support of government subsidies (Quebec, 2008: 48).

Some Quebec newspapers have called for radical changes to the province's agricultural policies. However, the obstacles are considerable. On the one hand, farming is regarded as an integral part of Quebec's identity that must be preserved.[6] From this viewpoint, the closing of small non-competitive farms is perceived as an existential threat. On the other hand, a powerful lobby that exerts great influence on the political parties and the government persists in blocking any attempt to reform the system in order to preserve the status quo.

Conclusion

The Quebec agricultural sector needs to become a more competitive environment in which consumers pay less for better quality products and farmers have incentives to be more creative, productive, and innovative.

For these reasons the Quebec and federal governments should phase out the supply management regimes in favour of market forces, and should work towards a complete elimination of farm subsidies.

Notes

1 The Commission was formed on June 20, 2006 with a mandate to report on issues and challenges facing the agricultural sector; to examine the effectiveness of public policies affecting the industry; and to diagnose problems and recommend reforms.

2 "It is not the Commission's role to calculate the odds of maintaining the supply control system. The governments are committed to defending this system and do so actively. The Commission is nevertheless of the opinion that stakeholders in the agricultural and agro-processing sector, while defending this system, benefit from having several options when they plan for the future" (Québec, 2008: 69, translation).

3 Both the federal and provincial governments make direct payments to farmers. There are grants related to specific activities or to the particular nature of the agricultural activity (these often come in the form of property tax refunds). There are also payments for insurance or income stabilization programs where the cost is shared between farmers and governments (Quebec, 2008: 53).

4 "These customs tariffs are presently 299% for butter, 246% for cheese, 155% for whole turkeys, 238% for whole chickens, 164% for shell eggs and 238% for hatching eggs" (Quebec, 2008: 68, translation).

5 "The farm price of milk is twice as high in Québec as in the USA. In Canada, US$58 per 100 kg of milk; in the USA: US$28, according to the *Bulletin de la Fédération internationale de laiterie,* Bruxelles, 2007" (Quebec, 2008: 50, translation).

6 "Our roots in the rural world are still evident in many ways, as most have become city dwellers only recently. Aside from producing food, agriculture represents a way of life and is a dynamic method to occupy our vast territory" (Quebec, 2008: 12, translation).

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Measuring entrepreneurship

Canada's provinces trail US states on key indicators

Keith Godin &
Niels Veldhuis

Entrepreneurship is one of the most important parts of an economy and is increasingly being recognized as a key driver of economic progress. Governments at all levels and in many countries have made promoting entrepreneurship a priority. However, despite the growing interest and focus on entrepreneurship there is still no adequate comprehensive measure of entrepreneurship. Consequently, there is no way to assess the effectiveness of public policies aimed at entrepreneurship.

Earlier this year, the Centre for Entrepreneurship and Markets at the Fraser Institute released the first study in a long-term project aimed at measuring and comparing entrepreneurship across jurisdictions. *Measuring Entrepreneurship: Conceptual Frameworks and Empirical Indicators* examined the most important definitions of entrepreneurship, as well as widely cited and used measures of entrepreneurship.[1] The study also examined six potential indicators of entrepreneurship and presented results and rankings for the 10 Canadian provinces and 50 US states. Ultimately, the goal of the project is to develop a multi-indicator index of entrepreneurship for Canada and the United States.

Figure 1 presents a summary of the rankings for the Canadian provinces on the six indicators of entrepreneurship. Overall, the Canadian provinces trailed their US counterparts on numerous aspects of entrepreneurship.

Business creation

Business creation is the process of starting a new enterprise, the primary way in which entrepreneurs commercialize ideas and one of the most important measures of entrepreneurship.

Business creation is measured in two ways in the study. First, it is measured in terms of business start-ups, i.e., the number of new businesses created throughout the year as a percentage of the total number of businesses that existed at the beginning of the year. The second measure is "net" business creation—the number of enterprises created throughout the year less the number that went out of business as a percentage of total businesses. Net business creation is a particularly insightful indicator of entrepreneurship as it captures, at least in part, the dynamic aspect of entrepreneurship that consists of new ideas, products, and processes replacing existing ideas, products, or processes that are no longer competitive. Joseph Schumpeter (1942) famously referred to this process as "creative destruction."

Overall, Canadian provinces performed moderately well with respect to business start-ups (figure 1). For start-ups, the top-ranked Canadian province, Newfoundland and Labrador, ranked 9th out of all of the provinces and US states with an average start-up rate of 16.6% from 2002/2003 (latest available data at time of publication). It was followed closely in Canada by Alberta (16th) and British Columbia (19th). Quebec generated the fewest number of new businesses in Canada and ranked 54th overall.

Unfortunately, the Canadian provinces fell behind their US counterparts in terms of net business creation. While Alberta (11th), Ontario (21st), and British Columbia (24th) performed moderately well, six Canadian provinces ranked in the bottom 10 jurisdictions. In fact, five Canadian provinces—Newfoundland and Labrador, Saskatchewan, Nova Scotia, New Brunswick, and Prince Edward Island—had negative rates of net business creation. In other words, in those provinces more enterprises went out of business than were created on average during 2002/2003.

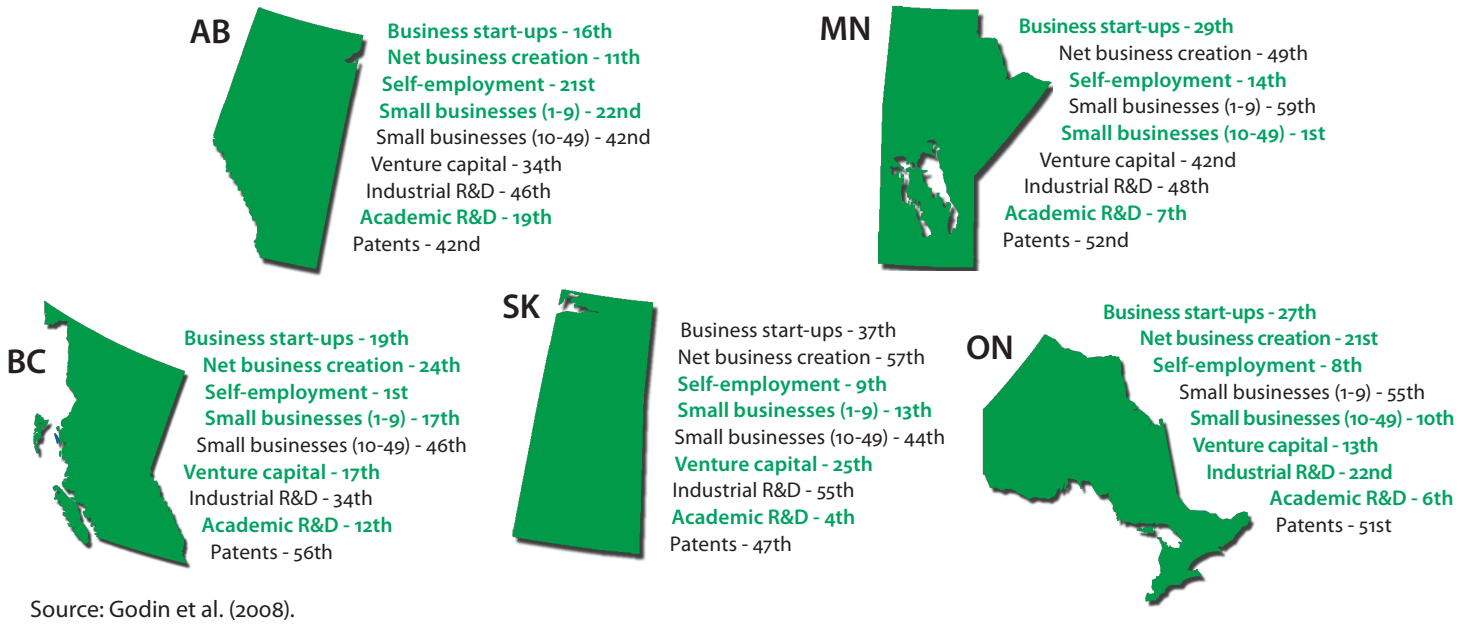
Self-employment

Self-employed individuals are those who make an occupational choice and take the risk of working on their own rather than for an employer. Along with business creation, it is one of the most commonly used indicators of entrepreneurship.

Canadian provinces generally had high rates of self-employment (as a percentage of total employment), and as a result, all were in the top half of the 60 jurisdictions. British Columbia was the top-ranked jurisdiction with a self-employment rate of 11.9%, while Quebec (24th) was the lowest-ranked Canadian province with a self-employment rate of 7.3%.

Though these numbers are useful, there are problems with self-employment as a measure of entrepreneurship. Research shows that about half of the variation in self-employment rates can be explained by industrial composition and demographics (Glaeser, 2007). For example, a jurisdiction with a larger

Figure 1: Empirical indicators of entrepreneurship, Canadian provinces, rankings out of 60



Source: Godin et al. (2008).

portion of the economy made up of an industry with higher self-employment rates will rank higher than another jurisdiction that has a smaller portion of its economy made up by that same industry. In addition, some government policies, such as favourable tax treatment or other regulations, may induce individuals to become self-employed for reasons other than entrepreneurial impulse.

Small businesses

Small businesses are defined as enterprises that have 1-49 employees. Small businesses are an important measure of entrepreneurship because they represent another way in which entrepreneurs bring new ideas to the market. There is very little variation among the Canadian provinces and US states in the number of small businesses relative to the number of all businesses. In order to develop some distinction among jurisdictions, the measure of small businesses can be divided into two categories: firms with 1-9 employees and firms with 10-49 employees.

The Canadian provinces were scattered throughout the rankings for both categories. In the number of firms with 1-9 employees as a percentage of total firms for 2003-2004, the numbers ranged from 78.9% in Quebec (second out of 60) to 70.1% in Manitoba (59th out of 60) (figure 1). Canadian provinces managed to occupy both the top and bottom spots when the number of firms with 10-49 employees as a percentage of total firms was measured.

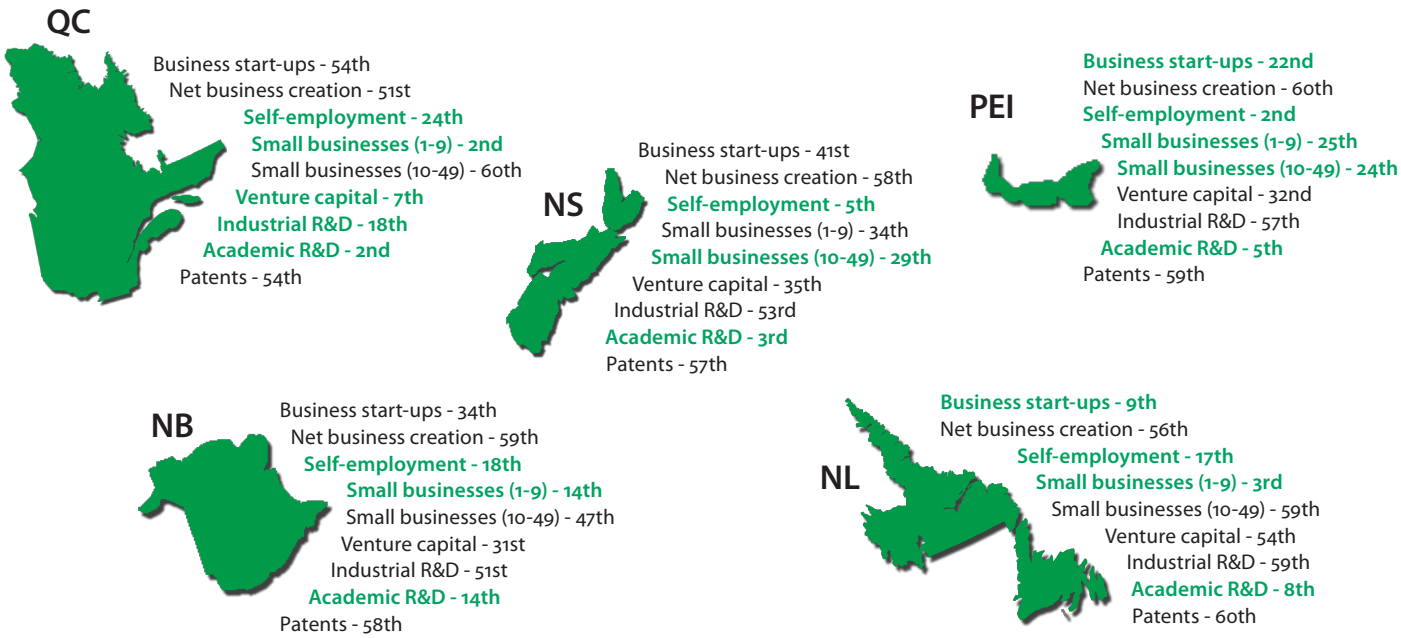
Venture capital

Venture capital refers to the resources raised for the purpose of investing in potential high-growth businesses. Venture capital is an important measure of entrepreneurship as it entails developing new innovations and using targeted financial support and expertise to bring those innovations to the market. There was only one Canadian province in the top 10 jurisdictions: Quebec (7th) recorded $93 in venture capital per person in 2005. Only three other provinces—Ontario, British Columbia, and Saskatchewan—ranked in the top half of all 60 jurisdictions (figure 1).[2] All of the Canadian provinces, however, significantly trailed the leaders: Massachusetts and California had the highest levels of venture capital with $379 and $296 per person, respectively.

Research and development

Research and development (R&D) is broadly defined as the pursuit of a new product or process with an unknown outcome. R&D measures the entrepreneurship that occurs within existing and typically larger firms.

Canadian provinces trailed US states on industrial R&D spending as a percentage of GDP. Only two provinces were in the top half of the rankings: Quebec (18th) and Ontario (22nd) with R&D spending of 1.7% and 1.5% of GDP, respectively, for 2003 (the latest data available at the time of publication). The remaining provinces generally occupied the bottom quarter of the rankings (figure 1). Canadian provinces performed better on academic R&D spending; however, this result should be read with caution given that academic R&D represented about one third of total R&D spending in all jurisdictions in 2003 (Statistics Canada, 2006).



Patents

The number of patents in a jurisdiction, similar to R&D, is a proxy for the innovative aspect of entrepreneurship. Unfortunately, all Canadian provinces were in the bottom third of the rankings. In 2005, the number of patents per 1,000 population in the provinces ranged from 0.091 in Alberta to 0.004 in Newfoundland and Labrador. In comparison, the top six US states—Idaho, Vermont, California, Massachusetts, Oregon, and Minnesota—generated more than five times the number of patents relative to population than Canada's highest-ranked province, Alberta.

Conclusion

Analyzing jurisdictional differences in entrepreneurship is critical in assessing the effectiveness of public policies aimed at increasing the level of entrepreneurship. Analyzing six different indicators, *Measuring Entrepreneurship: Conceptual Frameworks and Empirical Indicators* is the first step towards a comprehensive measure of entrepreneurship. While there are other important indictors of entrepreneurship (business expansion, innovation, initial public offerings, and business losses), current data are either not available or not comparable for the Canadian provinces and US states. Unfortunately, the indictors for which we have comparable data show that Canadian provinces trail their US counterparts on some of the most important measures of entrepreneurial activity.

Notes

1 More specifically, the study explores the common aspects and differences among the three major schools of thought on entrepreneurship: German, Chicago, and Austrian. The study uses the common aspects found in these schools to develop a comprehensive framework (definition) for measuring entrepreneurship. See Godin et al. (2008) for a more in-depth discussion.

2 This measure of venture capital includes all sources of venture capital spending, including government spending. In Canada, government-supported venture capital represents about half of all venture capital investment in the country (Brander et al., 2008). As such, the *Measuring Entrepreneurship* study contains another measure of venture capital for the provinces that excludes government-sponsored venture capital. See Godin et al. (2008) for further details.

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Why are Quebec's students failing?

continued from page 6

A much more likely reason for the high failure rates is one that has been demonstrated consistently in the Institute's school performance reports in Quebec and other provinces—even when the students' family and personal characteristics are taken into account, some schools are more successful than others in ensuring their students' success. This new analysis suggests that the more successful schools are not randomly distributed across Quebec, but are concentrated in higher-performing CSs.

Directors of education at Quebec's commissions scolaires should be prepared to demonstrate to the families they serve that they have solid plans to reduce failure rates in all of these key subject areas, and the Ministry of Education should resist any pressure that it might receive from these same directors to take the easy route and simply make the tests easier.

A reduction in these failure rates will mean that more of Quebec's secondary school graduates have acquired the knowledge and many of the skills they will need to successfully continue their studies and move on with competence and confidence into the world of work.

Table 1: Quebec compulsory examination failure rates by language and sector, 2006/2007 school year

	Francophone schools		Anglophone schools	
	Public	Private	Public	Private
First language	20.7%	8.4%	8.8%	2.0%
Reading in a second language	30.2%	10.6%	47.2%	22.8%
Basic mathematics	38.8%	23.4%	30.0%	18.5%
Advanced mathematics	30.0%	12.2%	21.0%	7.3%
Physical sciences	27.2%	7.6%	26.3%	9.9%
History of Quebec and Canada	15.1%	4.2%	19.4%	4.8%

Source: Based on data provided by Quebec's Ministry of Education, Leisure and Sport; calculations by author.

Note

1 All examination results quoted in this paper are based on data provided by Quebec's Ministry of Education, Leisure and Sport. Calculations were made by the author where required.

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Canada's physician supply

Doctor-to-population ratio will decline unless Canada becomes more reliant on foreign-trained physicians

Nadeem Esmail

In recent years, Canadians have been paying a significant amount of attention to the supply of physicians in Canada. Reports and commentaries on the issue of physician supply appear regularly in the nation's news media, while studies on the issue have been produced by research organizations, professional associations, and government committees across the country. Most of these discussions and studies have come to the conclusion that there are too few physicians practicing in Canada today.

That conclusion is supported by the available evidence regarding Canadians' unmet health care needs and the relative supply of physicians in this country. For example, in 2007 slightly less than 1.7 million Canadians aged 12 or older reported being unable to find a regular physician (Statistics Canada, 2008). Similarly, a research poll completed in 2007 found that 14% of Canadians (approximately five million) were without a family doctor, more than 41% of whom (approximately two million) were unsuccessful in trying to find a family doctor (CFPC, 2007).

Further, after accounting for the fact that most other developed nations have a greater proportion of seniors (aged 65 and older), and thus a greater demand for health care services (nations with younger populations naturally require fewer health services),[1] Canada's physician-to-population ratio in 2006 ranked 26th among the 28 developed nations that maintain universal access health insurance programs for which data were available (table 1) (OECD, 2008; Esmail and Walker, 2007; calculations by author).

These facts, when combined with evidence that increased spending on physicians has been related to reduced wait times for treatment in Canada (Esmail, 2003), clearly suggest that the supply of physician services in Canada is not meeting the demand.

This article seeks to add to the current understanding of Canada's physician shortage and show how Canada's physician supply may evolve in the coming years.

The evolution of Canada's physician supply

In the early 1970s, Canadians enjoyed one of the highest physician-to-population ratios in the developed world (OECD, 2008). Such generous relative access to doctors was, in light of recent evidence, unquestionably beneficial for Canadians. Unfortunately, in the early- to mid-1980s some government officials voiced concern about the generous and growing number of physicians, and recommended that governments reduce the number of medical school admissions and training positions available (Tyrrell and Dauphinee, 1999). While their calls for reform were not met with a specific policy on physician supply, medical school admissions were reduced slightly in the years that followed (Tyrrell and Dauphinee, 1999; Ryten et al., 1998).

In the early 1990s, however, specific policies on physician supply were introduced following the publication of what has come to be known as the Barer-Stoddart report. In 1991, researchers Morris L. Barer and Greg L. Stoddart published a discussion paper for the Federal/Provincial/Territorial Conference of Deputy Ministers of Health. Their report recommended, among other things, reducing medical school enrollment by 10%; reducing the number of provincially funded post-graduate training positions by 10% to meet the needs of students graduating with M.D.s in Canada; and reducing Canada's reliance on foreign-trained doctors over time (Barer and Stoddart, 1991). Governments responded in 1992 by accepting all three of these recommendations, with the goal of maintaining or reducing the physician-to-population ratio in Canada (Tyrrell and Dauphinee, 1999).

Figure 1 reveals the effect of these decisions: a physician-to-population ratio that increased continuously from the early 1960s to the late 1980s, peaking in 1993 at 2.1 physicians per 1,000 people. (The projections included in this figure will be discussed later in this article.) Since then, Canada's physician supply has been growing just fast enough to maintain a ratio of 2.1 physicians per 1,000 people (except in 1997, when the ratio fell to 2.0), now one of the lowest ratios among nations that guarantee their citizens access to health care insurance regardless of ability to pay (table 1). In other words, Canada's policies have restricted the growth rate of the phy-

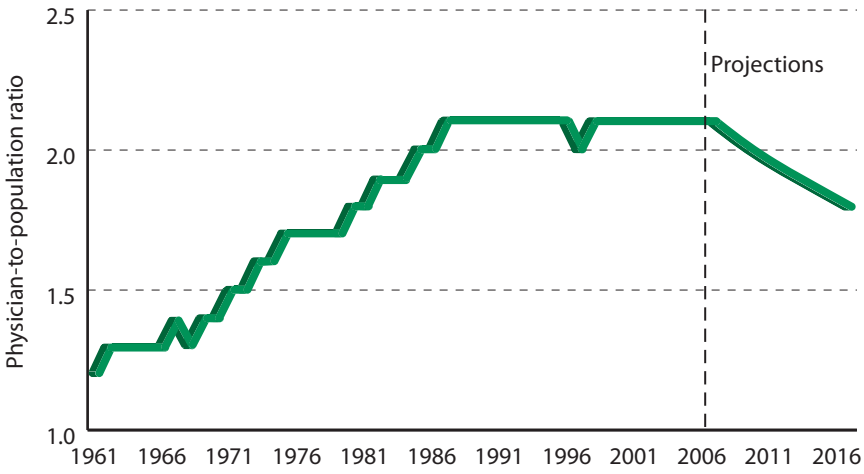
Table 1: Age-adjusted comparison of physicians per 1,000 population for select OECD countries, 2006

Rank of 28	Country	
1	Iceland	4.5
2	Greece (2005)	4.4
3	Netherlands	4.0
4	Czech Republic	3.8
4	Norway	3.8
6	Belgium	3.7
6	Ireland	3.7
6	Slovak Republic (2004)	3.7
6	Switzerland	3.7
10	Denmark (2004)	3.6
11	Austria	3.4
11	Spain	3.4
13	France	3.2
13	Sweden (2005)	3.2
15	Australia (2005)	3.1
15	Italy	3.1
15	Germany	3.1
18	Portugal (2005)	3.0
19	Hungary	2.9
19	Luxembourg	2.9
21	New Zealand	2.7
22	Finland	2.6
23	Korea	2.4
23	Poland	2.4
23	United Kingdom	2.4
26	**Canada**	**2.3**
27	Japan	1.7
28	Turkey	1.6

Note: Figure for Turkey was not age adjusted due to a low 65+ population not conducive to meaningful adjustment.

Sources: OECD (2008); Esmail and Walker (2007); calculations by author.

Figure 1: Canadian physician-to-population ratio, 1961 to 2017



Sources: AFMC (2007); McArthur (1999a); OECD (2008); and Ryten et al. (1998); calculations by author.

sician-to-population ratio in order to maintain a level that is now below what other nations provide through their universal access health programs, and below the current demand for physician services in Canada.

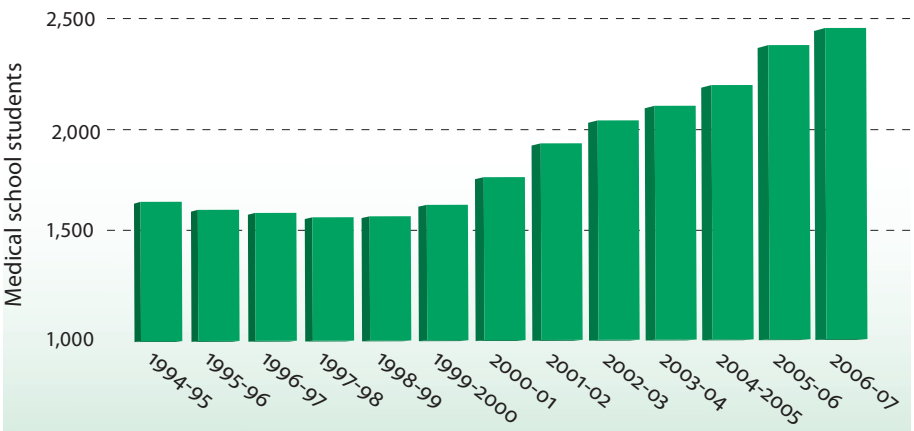
The potential health benefits associated with having a higher physician-to-population ratio (see, for example, Or, 2001, and Starfield et al., 2005) were lost as a consequence of these restrictions.

While it is clear that the current physician supply is insufficient, the numbers to the left of the projections marker in figure 1 tell us nothing of the future. According to recent statistics published by the Association of Faculties of Medicine of Canada, provincial governments have been increasing the number of medical school admissions significantly over the last six or seven years (figure 2). In order to better understand how Canada's physician supply will evolve over the coming years, it is important to consider the impact these changes in school admissions will have on the number of physicians entering the workforce over the next seven to 10 years (the amount of time it will take for these students to become practicing doctors in Canada). It is also important to consider what will happen to the physician supply over that time in order to better understand the impact that government controls have had on medical school admissions and post-graduate training during the late 1990s and the early part of this decade.

Graduation rates and physician supply to 2017

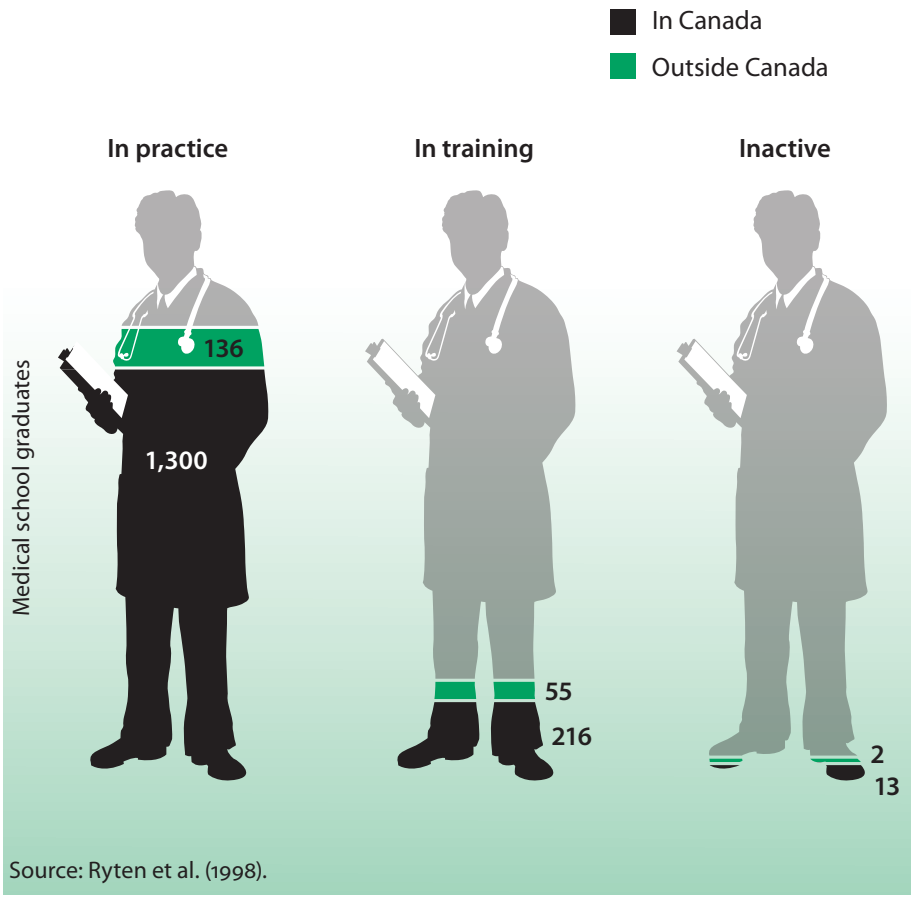
Extrapolating from Canada's medical school graduation rates, it is possible to estimate the number of new doctors who will be entering the workforce in the coming years. To estimate the future supply of doctors accurately, however, it is important to take into account the number of physicians currently working in Canada who will die, retire, or leave for employment in other nations, as these physicians must be replaced in order to maintain a constant supply of physicians over time. An article published in the *Canadian Medical*

Figure 2: First-year enrollment in Canadian faculties of medicine, 1994-95 to 2006-07



Source: AFMC (2007).

Figure 3: Location and professional activity of 1989 Canadian medical school graduates in 1995-1996



Source: Ryten et al. (1998).

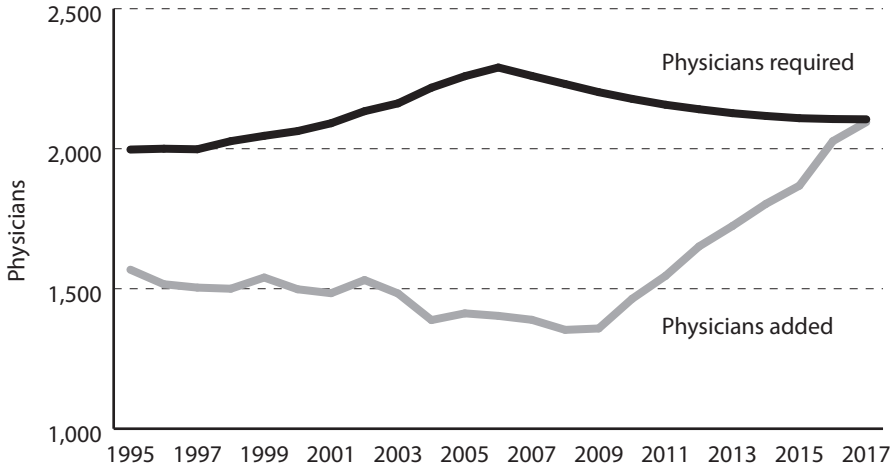
Association Journal sheds some light on both issues.

In early 1996, Ryten et al. followed up with 1,722 medical school graduates (from an entry class of approximately 1,780) who received their degree in 1989 (leaving them sufficient time to complete post-graduate medical training). They found that only 1,300 of the graduates were actively practicing in Canada seven years after graduation. A further 216 were still training to practice in Canada, while 13 students remained in Canada but were not in active practice. Meanwhile, 193 had left the country (figure 3). In total, only 88% of those who graduated in 1989 were practicing or training to practice as Canadian physicians in 1996.

Ryten et al. also found that the number of Canadian-trained physicians entering the workforce was insufficient even to maintain the current supply of doctors at that time. In the mid-1990s, the authors estimated that approximately 650 to 750 new physicians would be needed each year in order to keep up with historical rates of population growth (the physician supply must grow with the population in order to maintain a constant ratio). The authors also determined that a further 900 to 1,100 physicians would be needed to replace those who either retired or died, and that roughly 300 to 350 new physicians would need to be added in order to replace those physicians who left the country. In other words, maintaining the physician-to-population ratio in the mid 1990s would require adding 1,900 to 2,200 new physicians to the workforce every year (between 3.1% and 3.6% of the 1996 physician population)—a substantially greater number than the 1,516 new Canadian-trained additions (who were either in practice or still training to practice in Canada) from the class of 1989.

By applying the proportions determined by Ryten et al., as has been done previously by McArthur (1999a), to

Figure 4: New Canadian-graduated doctors in practice compared to the number of new doctors required to maintain physican-to-population ratio, 1995 to 2017



Sources: AFMC (2007); McArthur (1999a); OECD (2008); and Ryten et al. (1998); calculations by author.

the number of students who enrolled in medical schools in Canada and the number of students who were awarded M.D.s from 2000 onwards, it is possible to estimate the number of new Canadian-trained physicians who will be entering the workforce up to 2017.[2] As figure 4 shows, if 88% of medical school graduates are part of Canada's physician supply seven years after graduation, and if only 97% of those admitted to medical school graduate (as was the case for the class of 1989), then current enrollment and graduation rates suggest that only 2,095 Canadian-trained students will be added to the physician supply in 2017.

Figure 4 also shows the number of new physicians required to maintain the physician-to-population ratio. This number exceeds the number of Canadian-trained physicians entering the workforce every year through 2017, though this difference is small in 2017. This number of physicians required assumes that the number needed to replace those lost to death, retirement, or emigration, and to keep up with population growth is a constant 3.3% of the current physician population over time (which is equal to the addition of 2,000 new physicians in 1996, the low-middle point in the Ryten et al. estimates above).[3] It also assumes that only Canadian-trained doctors will be added to the physician supply between 2006 and 2017.[4]

This replacement rate is a conservative estimate: at present approximately 35.9% of Canada's physicians are aged 55 or older (CMA, 2008), which suggests that the number of physicians needed to replace those who retire or die (900 to 1,100 doctors in the mid-1990s) will rise significantly in the coming years. In addition, this estimate does not take into account the effects of demographic changes in the physician workforce, the consequence of which may be that, in the future, more physicians will be required to deliver the same volume of services being provided today (see, for example, Esmail, 2007). Furthermore, this is only the number of new physicians required to *maintain* the stock of physicians, which is clearly insufficient to meet current demand and will fall well short of demand in the future given that Canada's health needs will increase as our population ages.

Making one additional assumption—that the Canadian population will continue to increase at its average growth rate since 1990 (~1.0%)—allows us to estimate how the physician-to-population ratio will evolve in Canada in the coming years (figure 1). Clearly, without a significant addition of foreign-trained doctors, the Canadian physician-to-population ratio will decline between now and 2017,[5] just as it would have through the 1990s if foreign physicians had not been used to make up for the shortfall caused by insufficient medical school admissions.

Conclusion

The current physician supply in Canada is clearly insufficient to meet the demand for physician care under the present structure of Medicare,[6] and falls well short (in terms of the supply of physicians relative to population) of what is being delivered in other developed nations that also maintain universal approaches to health care insurance. Without a significant intake of foreign physicians, the physician-to-population ratio will fall in the coming years because there are not enough new doctors being trained in Canada. It would seem that a government-imposed limitation on the number of physicians being trained in Canada is a policy choice that is not serving the best interests of Canadians, be they patients in need of a physician or capable students who wish to become doctors but are unable to access medical training in this country.

Notes

1 The methodology used for age-adjustment here is that employed by Esmail and Walker (2007).

2 This estimate uses graduation rates for students awarded M.D.s between 2000 and 2007 (who, between 2007 and 2014 will be at the same point in their careers as the students studied by Ryten et al.), and enrollment rates for students entering medical school between 2004/2005 and 2006/2007 who will, in general, be at the same point in their medical careers between 2015 and 2017 as the students studied by Ryten et al. were in 1996 after graduating in 1989. All graduation and enrollment rates are from AFMC (2007).

3 This replacement value is smaller than the 3.5% estimate of physicians leaving practice in Canada annually (not counting the number of physicians required to account for population growth) used by Tyrrell and Dauphinee (1999) to estimate changes in the physician supply.

4 This second assumption may seem questionable since significant numbers of foreign-trained physicians have been added to the Canadian workforce in order to maintain the existing physician-to-population ratio. However, the precise number of foreign-trained doctors who will be added in the future is difficult to estimate. This assumption does not, however, affect the conclusions of this examination. Since the main purpose of this article is to consider the effect controls have on the supply of Canadian-trained doctors, this simplifying assumption serves to clarify the effect these training restrictions have on the future supply.

5 This decline in the ratio is seen in figure 4 as the decline in the number of physicians required to maintain the physician-to-population ratio between 2006 and 2017.

6 Shortages can only occur when prices are not permitted to adjust. Prices will naturally rise in any functioning market where goods or services are in short supply relative to demand, thus encouraging new supply and reducing demand simultaneously. The outcome is equilibrium of supply and demand (no shortage or excess). In the Canadian health care marketplace, such adjustment is impossible because of restrictions on both the prices and supply of medical services.

The optimal solution to Canada's shortage is obviously to remove restrictions on training, practice, and pricing, and to introduce user charges. This would increase the supply of services while simultaneously encouraging more informed use of medical practitioners' time (thus reducing the demand for treatment overall and improving the allocation of physician manpower and effort). Such a change in policy would bring Canada more in line with some of the world's top-performing universal access health care programs (Esmail and Walker, 2007). Unfortunately for Canadians, the introduction of user fees and extra billing are not permitted under the current federal legislation guiding Medicare. The analysis here takes the current legislation as given and discusses only the supply of physicians.

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Missile defense goes global

It's time for Canada to join the IMD team

Alan W. Dowd

In 2005, after then-Prime Minister Paul Martin decided Canada would not participate in the US-led international missile defense system (IMD), Washington moved ahead without Ottawa, as expected. What was less expected, perhaps, was the very different reaction Washington's missile defense plans received in other allied capitals—and the wide-ranging progress missile defense has made.

Missile defense advocates can be thankful that the IMD coalition didn't wait on Canada.

Yesterday

Before recapping IMD's progress since Martin politely rebuffed President George W. Bush, it pays to recall some of the history that preceded Martin's surprising reversal.

Some critics of IMD—in both Canada and the United States—believe it was Bush who forced the issue and pushed missile defense from the realm of theory into the arena of international politics. In fact, this shift began in the late 1990s, after a Congressional commission raised a number of warnings about ballistic missile threats and, as if on cue, North Korea test-fired a three-stage rocket. President Bill Clinton then signed legislation that paved the way for deploying a system "as soon as is technologically feasible" to defend against "limited ballistic missile attack" (National Missile Defense Act of 1999).

Clinton's critics say he could have done more, which is true. But he also could have done much less. In the end, he followed the Hippocratic Oath when it came to missile defense: he did no harm.

By endorsing missile defense, Clinton reflected the emergence of broad agreement in the US on the issue. As General Henry Obering, director of the United States Missile Defense Agency (MDA), observes, today's missile defense program is the product of four administrations, 11 Congresses, and $115 billion in US investment (Obering, 2008a).

Thanks in part to this convergence of opinion on missile defense, Bush was able to accelerate the program. First, he notified Moscow of America's intentions to scrap the anachronistic Anti-Ballistic Missile (ABM) Treaty. He promised to slash America's nuclear arsenal from 6,000 warheads to 1,700 and assured the Russians that IMD would not upset the US-Russia deterrent balance. At the time, Vladimir Putin agreed, albeit less than wholeheartedly, concluding that Washington's decision "does not pose a threat to the national security of the Russian Federation" (*BBC News*, 2001, Dec. 14).

Then Bush began to build the IMD coalition.

In February 2003, the British government agreed to needed upgrades of ground-based radar stations in the United Kingdom. Denmark soon approved similar upgrades at radar and satellite-tracking stations in Greenland.

Tokyo had been cooperating quietly with Washington on missile defense since the late 1990s. But it was not until February 2003 that Japan's Defense Agency announced its intention to join the US military for missile defense tests in and around Hawaii. In December 2003 then-Japanese Prime Minister Junichiro Koizumi gave military officials the go-ahead for construction of a Japanese missile defense system, in close partnership with the United States.

Word of Australia's participation in the IMD coalition also came in December 2003 (Dobell, 2003, Dec. 5). The United States and Australia signed a 25-year pact on missile defense cooperation in 2004.

It was also in 2004 that Ottawa formally notified Washington of its desire to participate in the blossoming missile defense program. Citing "the growing threat involving proliferation of ballistic missiles and weapons of mass destruction," Canadian defense minister David Pratt informed his US counterpart that the Martin government envisioned "a mutually beneficial framework to ensure the closest possible involvement … in the US missile defense program" (Pratt, 2004). That same year, Ottawa ordered Canadian personnel at the North American Aerospace Command to share missile-launch information with their US counterparts (Struck, 2005, Feb. 25).

But then Martin had a change of heart, and Canada backed out in 2005. It was not exactly a profile in courage. As the *Globe and Mail* editorialized, "When Mr. Martin put his finger in the air over missile defense, he felt a chill" (Struck, 2005, Feb. 25).

In a recent Fraser Institute report, Alexander Moens, Sean McCarthy, and Cassandra Florio concluded that "Canada worsened the situation by delaying its decision and eventually refusing to take any responsibility for cost-free participa-

tion in ballistic missile defense" (Moens et al., 2007: 3). As Moens and Barry Cooper explained in an earlier study, the costs to Canada of participating in the missile defense program would have been low—"a near free ride"—and the benefits high (Moens and Cooper, 2005).

"The Bush administration had asked for little more than moral support for the new system," as the *New York Times* observed (Krauss, 2005, Feb. 27). But Martin lacked the political capital to provide even that.

Then-official opposition leader Stephen Harper criticized Martin's decision at the time, and during his first bid for prime minister raised the possibility of reopening talks with Washington on missile defense. As prime minister, Harper has hinted at his support for the program, noting, as the Associated Press reported in 2007, that he recognizes the need for "a modern and flexible defense system" against missile threats (AP, 2007, Mar. 5).

But trying to corral a minority government has pushed missile defense to the bottom of Harper's inbox. The result: Harper's hopes remain in a holding pattern and Canada remains on the sidelines.

It's worth noting that other voices in Canada have expressed support for missile defense. In 2006, for instance, the defense committee of the Canadian Senate endorsed participation in the IMD program, with a note of common sense. "If there is the tiniest chance that it could [work], why would we turn up our noses at the opportunity to be a partner in this project?" a committee report asked (*CBC News*, 2006, Oct. 5).

Today

We can debate IMD's chances for success, but one thing is certain: the chances that a rogue missile attack or accidental missile launch will occur are growing.

Three decades ago, there were nine countries that possessed ballistic missiles. Today, there are 32 (Arms Control Association, 2007). As many as 12 of them are unfriendly, unstable, or uncertain about their relationship with the West.[1] With twin terror programs that seek to match rockets with nuclear weapons, North Korea and Iran top this list.

In July, Obering reported, "Iran orchestrated launches of several short- and medium-range ballistic missiles capable of striking Israel and the US bases in the Middle East" (Obering, 2008b).

Once deployed, Iran's latest variant of the Shahab rocket will be able to hit targets in southern Europe and across the Middle East. The Defense Intelligence Agency estimates that "Iran could have an ICBM [intercontinental ballistic missile] capable of reaching the United States by 2015," Obering notes, ominously adding, "We should not assume that we have full understanding of ballistic missile activities around the world. We have been surprised in the past" (Obering, 2008a).

That brings us to the current regime in North Korea. Over the past decade, Pyongyang has test-fired long-range rockets and detonated a nuclear weapon, surprising Western intelligence agencies on both occasions. This September, we learned that North Korea conducted tests on rocket engines for a newer long-range missile and constructed a new facility for ICBM tests—and launches (Hess, 2008, Sep. 10; Harden, 2008, Sep. 17).

Yet if proliferation gives us reason to worry, IMD's important strides this year offer reason for hope.

On the diplomatic front, NATO officially endorsed the IMD system during its summit in Bucharest earlier this year. No longer noncommittal on missile defense, the alliance now envisions a "NATO-wide missile defense architecture" that will extend "coverage to all Allied territory and populations not otherwise covered by the United States system" (NATO, 2008).

In August, Poland and the United States agreed on deployment of interceptor missiles on Polish soil. The bed of interceptors will work in tandem with a new radar facility in the neighbouring Czech Republic.

To prepare Moscow for this eventuality, US officials held 10 formal IMD discussions with their Russian counterparts in 2006 and 2007. Washington even offered to allow Russian personnel to be stationed at IMD facilities in Central Europe.

However, Moscow was not pleased with the deal. "Poland," warned Russian General Anatoly Nogovitsyn, "is exposing itself to a strike" (AP, 2008, Aug. 15). Russian foreign minister Sergey Lavrov called the basing of US interceptors in Poland "a threat to Russia's security" (AP, 2008, Sep. 11).

To cut through all of Moscow's bluster, consider an everyday example: few of us would think of a cop wearing a bullet-proof vest as threatening, but most of us would consider a gunman loading his weapon as provocative and threatening.

The gunman that the IMD coalition is worried about is not in Moscow, and the bullet-proof vest offered by IMD is not designed to neutralize Russian missiles. Putin and his generals know this.

It pays to recall that, due to both the placement of the system and the number of Russian missiles, IMD elements in Poland could never defend against Russia's arsenal. "Ten interceptors in Poland could absolutely not match the hundreds of interceptors and thousands of warheads that the Russians have deployed," Obering observes (2008b).

Plus, as an MDA report explains, "There would not be sufficient time to detect, track, and intercept" Russian missiles launched toward North America using the radars and interceptors planned for Central Europe (MDA, 2007: 8).

Tomorrow

Beyond Europe, Washington and the United Arab Emirates (UAE) an-

nounced plans late this year to cooperate on the deployment of the Terminal High Altitude Area Defense system (THAAD). It will be America's first THAAD sale (Wolf, 2008, Sep. 8), and the UAE seems like an ideal candidate. Sitting just across the Persian Gulf from Ahmadinejad's Iran, the UAE would be a prime target for Iranian missiles in a time of hostilities. According to the US State Department, the UAE "hosts more US Navy ships than any port outside the US" (US Department of State, 2007).

On the capabilities front, the airborne laser (ABL) was successfully tested in September 2008 aboard its demonstrator aircraft (though not yet in the air; that will come next year). Mounted on a 747, the ABL will be able to loiter just outside enemy territory and intercept missile threats long before they enter allied airspace.

Those threats that the ABL cannot thwart will be engaged by a growing number of sea-based and ground-based assets. There are already 15 Aegis warships equipped with SM-3 interceptor missiles, and three more are set to be deployed by the end of 2008. We glimpsed the real-world capabilities of these ships in February 2008, when the USS *Lake Erie* intercepted a falling satellite—traveling 17,000 mph (approx. 27,000 km/h) 150 miles (approx. 240 km) above the earth—with an SM-3.

In addition to naval assets, there will be 30 ground-based interceptors at US sites by the end of the year. By 2011, the United States will have 44 interceptors at US sites, and 10 more in Europe by 2012-13 (Obering, 2008a). "None of this existed just four years ago," Obering is quick to remind us (2008b).

To be sure, the missile defense system has failed tests from time to time. But no weapons system is perfect. Since 2001, IMD assets have scored successes on 35 of 43 hit-to-kill intercepts (Obering 2008b), or 81.39% of the time. The United States Missile Defense Agency is deploying new radar systems to enhance IMD's ability to distinguish between warheads and decoys, improving the odds of success.

The critics latch on to this as a reason to de-fund or downgrade the program, knowing that defining success as a 100% intercept rate makes "failure" inevitable. But what future president or prime minister would prefer a zero-percent chance of deflecting an inbound missile over an 81% chance, 50% chance, or even a 20% chance?

No less than 18 nations are partnering with Washington on IMD (Obering, 2008b). The IMD roster includes the United States, Japan, the United Kingdom, Australia, Israel, Denmark, Italy, Germany, Poland, the Czech Republic, the Netherlands, South Korea, Ukraine, Taiwan, and India (MDA, 2008).

It's time for Canada to rethink its ill-considered policy on this issue and join the IMD team.

Note

1 These include Afghanistan, Belarus, Iran, Iraq, Libya, North Korea, Pakistan, People's Republic of China, Russia, Syria, Vietnam, and Yemen; not all of these nations currently possess long-range missiles.

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Cars and climate change

Quebec's auto regulations will yield more harm than benefit

Diane Katz

The government of Quebec is preparing to impose the nation's most stringent regulations on auto emissions. Officials claim the new standards are necessary to combat climate change and spur development of "eco-energetic" automobiles (Quebec, Department of Sustainable Development, the Environment and Parks, 2007a). Regardless of the intent, this sharp turn of policy will not fulfill its stated purpose. It is far more likely to endanger the public than to protect us.

The regulations would, if enacted, require automakers to reduce average fleet-wide emissions of carbon dioxide by 30% between 2010 and 2016 (Quebec, Department of Sustainable Development, the Environment and Parks, 2007b: 11). The requirements mirror standards first proposed by California, which, if implemented, would establish a US precedent for stringency.[1]

The fundamental premise of the regulatory regime is dubious. Contrary to the claims of environmental alarmists, there still exists considerable scientific uncertainty about the interplay between greenhouse gas emissions and climate change. But even assuming that man-made emissions are warming the planet, the Quebec regulations would have no effect.

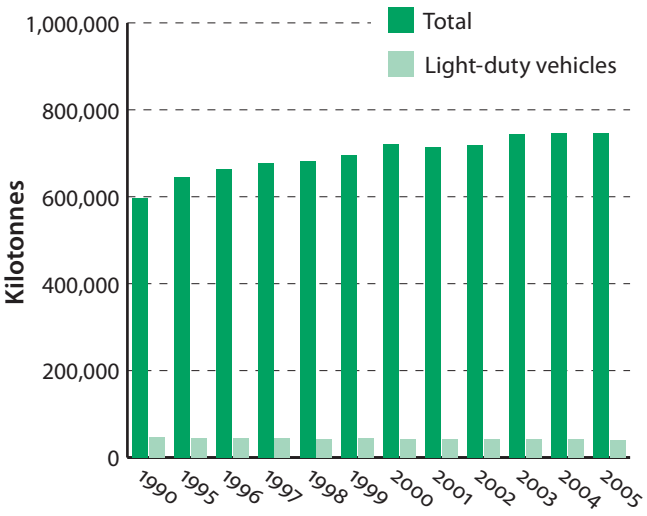
Quebec emits a mere 0.3% of annual greenhouse gas emissions worldwide. Transportation-related releases account for an even smaller fraction (Quebec, Ministry of Transport, 2007). Indeed, emissions from passenger and light-duty vehicles across Canada are dwarfed by other sources.

Consequently, total elimination of emissions in Quebec would barely register. And because CO_2 emissions from vehicles disperse throughout the troposphere, neither the province nor the rest of the nation would gain any meaningful measure of the purported benefits of reduction despite incurring huge regulatory costs.[2]

As it now stands, automakers are already operating under voluntary emission reduction standards negotiated with Ottawa. The most recent agreement, signed in April 2005, commits the industry to a reduction in annual greenhouse gas emissions of 5.3 megatonnes[3] by 2010. Thereafter, federal officials are proposing to mandate tighter standards beginning with the 2011 model year. Minister of Transport Lawrence Cannon announced in January that Canada will implement standards "at least as stringent" as those in the United States, i.e., 6.7 liters per 100 kilometres by 2020, or a 20% reduction from the current average of 8.6 liters per 100 kilometres.

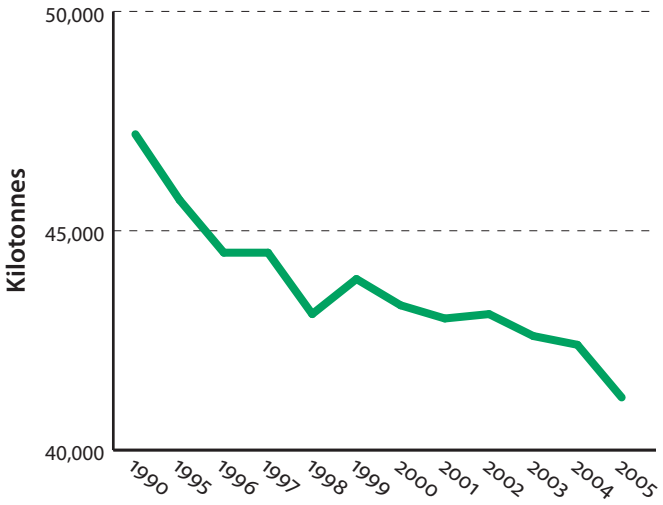
Carbon dioxide is a by-product of automotive combustion. There is a direct correlation between the amount of fuel burned by a vehicle and the volume of CO_2 released. Thus there are four primary ways to reduce CO_2 emissions from vehicles: a) drive less; b) drive slower; c) substitute low-carbon fuels for conventional gasoline; and d) improve fuel efficiency.

Figure 1: Carbon dioxide emissions in Canada from light-duty vehicles compared to total CO_2 emissions, 1990, 1995-2005



Source: Environment Canada (2007: Annex 8).

Figure 2: Carbon dioxide emissions in Canada from light-duty vehicles, 1990, 1995-2005



Source: Environment Canada (2007: Annex 8).

Years of government nagging have largely failed to induce drivers to forego their autos for a bus or to slow their speed for a hypothetical risk. Meanwhile, billions of dollars in subsidies already are supporting the development of so-called renewable fuels. But petroleum substitutes are hardly environmentally benign, and they remain too expensive to replace conventional gasoline.

Fuel efficiency already has increased measurably over time, a consequence of improved aerodynamics, reduced engine friction, direct fuel injection, and front-wheel drive, among other advances. For example, the maximum fuel efficiency of passenger vehicles traveling at 60 miles per hour was 17.5 miles per gallon in 1973; by 1997, the maximum efficiency exceeded 31 miles per gallon (US Department of Energy, 2008).

Reducing the overall weight of a vehicle delivers the most significant fuel savings, but it also entails the most dire risks. A variety of studies have documented that smaller, lighter vehicles increase the risk of fatalities in crashes—and not just crashes with larger vehicles. According to the National Academy of Sciences (2002), the "downweighting" and downsizing of autos likely resulted in an additional 1,300 to 2,600 traffic fatalities in 1993 alone.

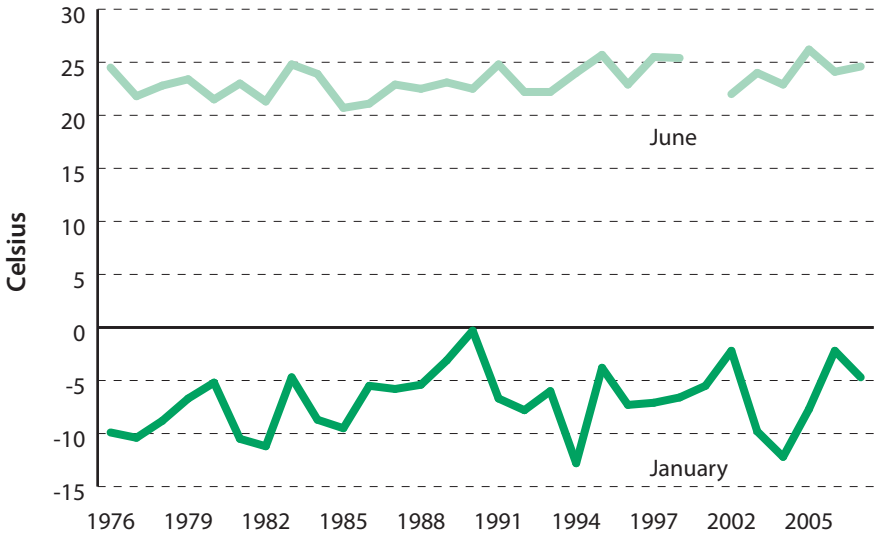
Researchers at Harvard University and the Brookings Institution likewise found that, on average, for every 100 pounds shaved off new cars to meet Corporate Average Fuel Economy (CAFE) standards, between 440 and 780 additional people were killed in auto accidents, or a total of 2,200 to 3,900 lives lost per model year. Using data from the National Highway Traffic Safety Administration (NHTSA) and the Insurance Institute for Traffic Safety, *USA Today* calculated that size and weight reductions of passenger vehicles undertaken to meet CAFE standards resulted in more than 46,000 deaths.

There have been other unintended consequences to regulating fuel efficiency. For example, stricter standards allow drivers to travel farther at less cost. Consequently, the number of vehicle miles traveled actually increases overall when fuel efficiency is improved, resulting in no net reduction in fuel consumption or emissions. Meanwhile, to the extent that the regulations increase the sticker prices of new vehicles, consumers tend to delay a new car purchase, which keeps older, less fuel efficient vehicles on the roads for longer periods of time.[4]

Quebec officials apparently have also failed to consider the additional emissions that would be generated by the manufacture of vehicle components from lightweight materials such as aluminum, plastics, or composites needed for downsizing. According to a recent study by the National Academy of Sciences (2002), "while increasing [fuel efficiency] standards might reduce greenhouse gas emissions from automobile tailpipes, these reductions would be offset by increases in emissions from the new technologies needed to produce more efficient cars."

Since 1992, the government of Quebec has pledged allegiance to United

Figure 3: Mean maximum temperatures in Montreal (January and June), 1976 to 2007



Source: Environment Canada (2002b).

Nations' regulatory schemes to mitigate climate change. Yet greenhouse gas emissions in the province have increased (Quebec, Department of Sustainable Development, the Environment and Parks, 2006)—although, contrary to global warming theory, there's no trend in Montreal toward warmer temperatures in either winter or summer (figure 3) (Environment Canada, 2002a).

Likewise, Canada's emissions of greenhouse gases have increased 24.4% despite ratification of the Kyoto Protocol. The increase is double that of the United States, which has not ratified the climate change treaty (Reynolds, 2008, May 1). All of which to say that yet more costly regulation isn't likely to benefit citizens of Quebec. If past experience is any guide, more stringent tailpipe standards are more likely to spill blood on the highways than change the climate.

Notes

1 The state's request for a waiver from federal regulations has been denied by the Bush administration, which favours a uniform national standard. The legal battles that have ensued, including a challenge by automakers, appear to be headed for the US Supreme Court.

2 The US Environmental Protection Agency likewise estimates that raising fuel economy standards to 40 mpg would reduce greenhouse gas emissions worldwide by less than 0.5%.

3 One megatonne equals one million tonnes.

4 General Motors estimates that stricter fuel economy standards will increase the cost of new vehicles by $6,000, on average. Advocates of stricter standards claim the cost increase would not exceed $1,500. The Brookings Institution has estimated that consumers would incur a net loss of at least several hundred dollars under the stricter standards, as the higher cost of the car would exceed the discounted fuel savings.

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Competition in health care

The Netherlands provides a lesson for Canada

Maureen Hazel

Health care expenditures are growing faster than GDP in most developed nations—and Canada is no exception (Kotlikoff and Hagist, 2005). In fact, Canada spent 10% of its gross domestic product on health care in 2006, up from 8.8% a decade earlier (OECD, 2008). Yet, despite high levels of spending, Canada has been shown to provide substandard access to health care services (Esmail and Walker, 2007).

However, as reforms in countries such as Sweden and Switzerland show, costs can be reduced and access improved by introducing competition. Competition can also have an important and beneficial impact on health expenditures (Lofgren, 2002; Gerdtham et al., 1997; Herzlinger, 2004). By promoting responsiveness to consumer preferences and greater efficiency, competition means that consumers can get better value for their money.

In this regard, the Netherlands offers a prime example of what competition can do for a health care system. On January 1, 2006, the country markedly increased competition in the health insurance market by introducing a set of health care reforms that allow consumers to shop around and choose their own insurers. While there is still a need for further reforms in the health care delivery market, the Dutch system is an example of how combining competition and consumer responsibility with universal coverage can help contain costs and ensure basic coverage for all, regardless of ability to pay.

The health insurance market

The Dutch system is one of universal coverage delivered through private insurers only. Fourteen insurance companies (van de Ven and Schut, 2008) provide basic coverage (the contents of which are determined by government) using a community-rated premium.[1] Insurers who cover an above-average mix of high-risk individuals are compensated through a risk equalization fee from the tax-funded Risk Equalization Fund (REF).[2]

The government-determined standard package of benefits is fairly generous and incorporates virtually all essential care, including medical care (all services by GPs, hospitals, medical specialists, and obstetricians), hospital stays, dental care for those aged 18 years or younger, specialist dental care and false teeth for those older than 18, select medical appliances, pharmaceuticals, prenatal care, patient transport (e.g., ambulance), and paramedical care (Klazinga, 2008).

Citizens must buy private health insurance from the company of their choice, and are able to switch their insurer and/or plan once a year (de Jong et al., 2008). Insured individuals are also responsible for covering deductibles, but will be refunded a portion of their premium if they do not receive care during the insurance period (Dudgeon, 2007). Of the total cost of insurance, 50% of total premium payments are paid by individuals as a direct premium payment to insurance companies, while the other 50% is paid by the REF (essentially, by employers). Those having incomes below specific thresholds qualify for government subsidies intended to assist in the payment of premiums[3, 4] (Statistics Netherlands, 2008).

Any supplementary insurance must be paid for by the individual. Notably, more than 90% of Dutch citizens purchase additional coverage for services such as dental care for adults, physiotherapy, eyeglasses, alternative medicine, and select cosmetic surgeries (van de Ven and Schut, 2008).

In addition to government-determined basic coverage and the coverage provided by optional supplemental insurance, the tax-financed Exceptional Medical Expenses Act (AWBZ) ensures that citizens are insured for expenses in seven other areas: household care, personal care, nursing, supportive guidance (e.g., help with organizing one's daily life, day care), activating guidance (e.g., help with adapting one's behaviour or learning new skills), treatment (e.g., rehabilitation after a stroke), and accommodation (e.g., sheltered housing, constant supervision, institutionalization) (Netherlands, Ministry of Health, Welfare and Sport, 2007). Applicants can choose to receive services in kind or receive cash payments.

The success of the insurance market reforms can be assessed in two ways: whether the insured are shopping around and switching insurers according to their preferences, and whether insurers are competing among themselves by providing competitive premiums.

Shopping for insurance has been facilitated by a Dutch government website where consumers can compare price, services, supplementary insurance, consumer satisfaction, and performance

(http://www.kiesbeter.nl/). Preliminary data reveals that 18% of those insured switched insurers in 2006 (Douven et al., 2007). There is evidence that switching is motivated by consumer preferences: insurers with higher premium levels were found to have a greater chance of seeing increased numbers if they had greater perceived quality (Douven et al., 2007).

Also, insurer mark-ups (above health care expenditures) are low and not increasing, suggesting increased competition on premiums among insurers. Indeed, mark-ups were "lower [in 2006] than the operating expenses of many former public health insurance funds and private insurance companies in the past" (Douven et al., 2007: 4). This mark-up fell between 2006 and 2007, though insurers faced an estimated €570 million and €40 million loss on basic insurance packages and supplementary packages, respectively, in 2006[5] (Douven et al., 2007). It is too early to predict how premiums will evolve over time.

Health care purchasing market

Optimally, health care providers should compete for patients by providing quality health care at a reasonable cost. In the health care purchasing market in the Netherlands, the most potential for improvements in efficiency under the newly introduced structure can be found in the marketplace for hospital care. Notably, individual insurance companies do not yet have a large amount of influence on charges for family doctors or drug-prescribing behaviour.[6]

Dutch hospitals are mostly private non-profit organizations whose care is financed by health insurers. Ten percent of all hospital services are reimbursed according to "diagnosis treatment combinations (DTCs)," a classification of hospital cases into groups with similar hospital resource use.[7] The other 90% of services are reimbursed through "function-oriented budgeting" (Klazinga, 2008). These budgets are fixed, irrespective of services provided, and vary according to hospital administrative parameters such as number of beds, nursing day admissions, and specialists' beds (Van De Ketterij et al., 2002). Under this system, there are fewer incentives to improve efficiency than there would be if all hospital production were DTC-funded (Esmail, 2007).

In response to the factors limiting the control insurers have over efficiency and health care expenditures, an extensive safety net has been established. Four ex-post payment schemes were developed and covered by the REF: high-risk equalization, retrospective equalization, retrospective adjustment of hospital care costs, and a bandwidth scheme for hospital care costs (see Douven et al., 2007, for details).[8] These schemes greatly reduce costs (and thus risks) for a given insurer in the event that its hospital care costs exceed that of other insurers and therefore undermine competition.

Selective contracting can also have important beneficial impacts on both prices and quality in the marketplace. However, the majority of insurers in the Netherlands have contracts with nearly all hospitals, suggesting that they fear losing customers since premiums do not yet differ significantly between free-choice and limited-choice insurance policies (Douven et al., 2007). Moreover, a lack of information regarding provider quality may have restricted insurers' willingness to select providers (Douven et al., 2007).

In sum, three main factors have restricted the ability and incentives of insurers to access the most efficient care for their customers: limited financial risk for insurers, limited price negotiations for hospitals, and limited selective contracting between insurers and preferred providers.

Going further with the Dutch system

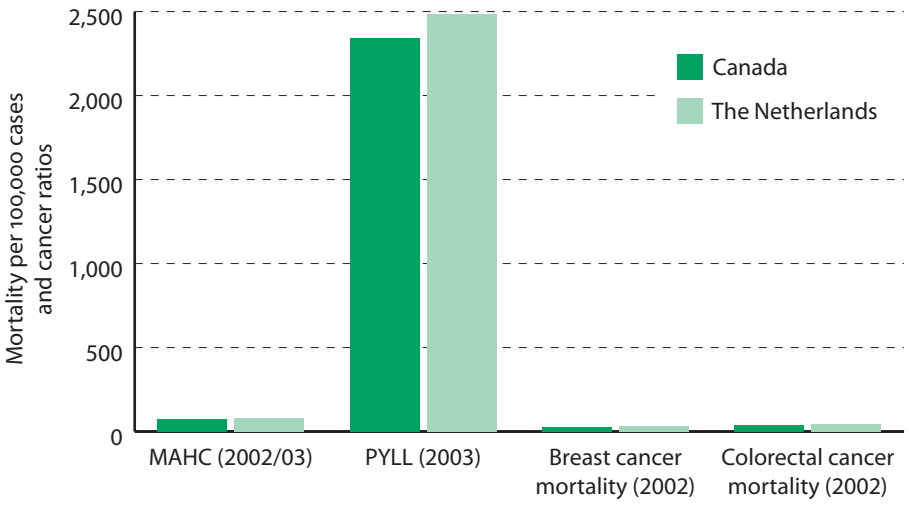
The Dutch reform has had apparent successes in the insurance market but less success in the health care purchasing market. The potential for market forces to drive down the price of hospital care has been limited by regulations that stifle incentives for hospitals and insurers and hinder their ability to focus on delivering more efficient and cost-effective services in their contracts. Furthermore, hospitals are denied flexibility in their pricing strategies with insurers, and there is little information on provider quality, which in turn reduces incentives for insurers to contract more selectively.

The Dutch model has been praised for attaining "health insurance for everyone, coupled with a tighter lid on costs." Canada, on the other hand, has been shown to provide substandard access to health care services at a relatively high cost.

Comparison with Canada

The Dutch model has been praised for attaining "health insurance for everyone, coupled with a tighter lid on costs" (Naik, 2007, Sep. 6). Canada, on the other hand, has been shown to provide substandard access to health care services at a relatively high cost (Esmail and Walker, 2007). While data on the post-reform performance of the Dutch health care system is limited due to the fact that the reform is still fairly recent, some indicators are available to compare the two systems.

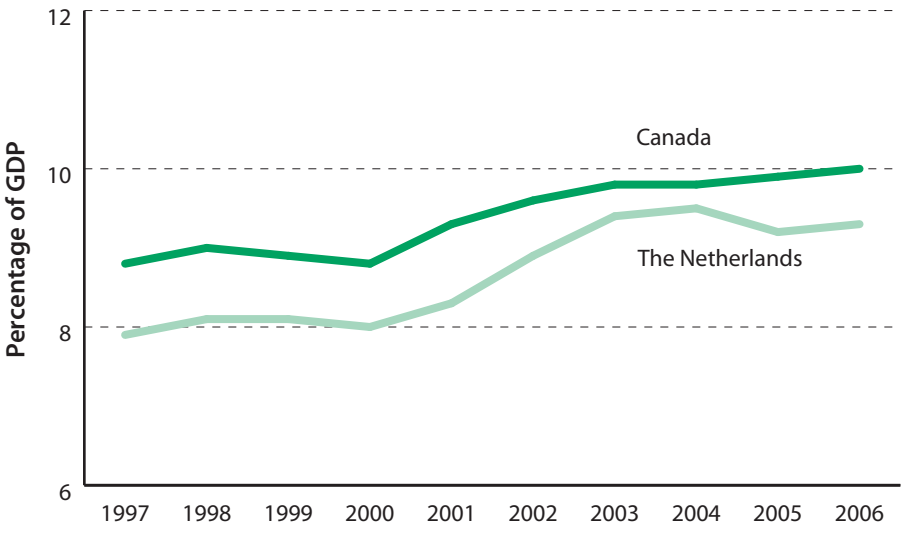
Figure 1: Health outcomes for Canada and the Netherlands, 2004



Notes:
1 Mortality Amenable to Health Care (MAHC) represents mortality per 100,000 cases where death considered preventable.
2 Potential Years of Life Lost (PYLL) represents mortality per 100,000 cases where death considered preventable, weighted by years left to live.
3 Breast cancer and colorectal cancer ratios represent the ratios of incidence (per 100,000) over mortality (per 100,000).

Sources: Esmail and Walker (2007); Nolte and McKee (2008).

Figure 2: Health care expenditures as a percentage of GDP, 1997-2006



Source: OECD (2008).

Prior to the 2006 reforms, the Dutch experienced worse health outcomes than Canadians (figure 1) while spending less on health care as a percentage of GDP (figure 2). According to the most recent OECD health data (figure 2), Canada has had consistently higher spending relative to its GDP than the Netherlands between 1997 and 2006. This has been coupled with better health outcomes, as measured by mortality amenable to health care, potential years of life lost, and breast cancer and colorectal cancer ratios (Esmail and Walker, 2007; Nolte and McKee, 2008).[9, 10] Since the Dutch health care system seems to have provided inferior outcomes for less expenditure, it is not clear which system was more efficient in terms of reducing mortality.

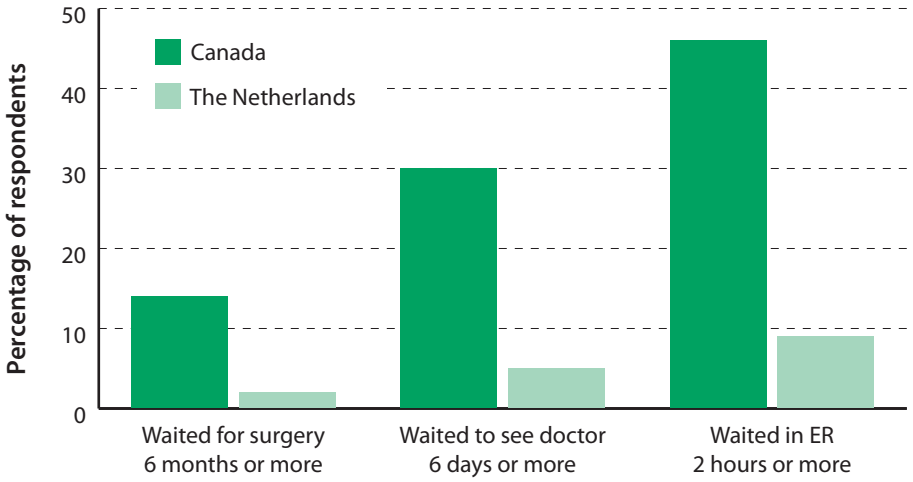
More recent information, however, collected after the 2006 reforms, suggests that the Dutch are receiving fairly quick access to health care services compared to Canadians. According to a survey conducted by the Commonwealth Fund (Schoen et al., 2007), wait times for an appointment with a doctor, surgery, or ER treatment in Canada are substantially longer than they are in the Netherlands (figure 3). Thus it seems that while the Dutch spend less than Canada on their universal access health insurance program, they are receiving quicker access to health care services. Unfortunately, there are no comparable wait time series data available.

Conclusion

Competition will, in any market, promote responsiveness to consumer preferences as well as greater efficiency. The Netherlands, along with Germany, Switzerland, Belgium, and the United States among others, has introduced competition between health insurance companies in order to improve quality and lower costs.

Since its implementation in 2006, the Dutch health care reform has resulted

Figure 3: Selected wait times for Canada and the Netherlands based on survey responses, 2007



Source: Schoen et al. (2007).

in increased competition in the health insurance market, as consumers shop around for insurers with the best price-to-perceived quality of insurance service ratios. Contracting between insurers and providers of care, however, has been limited due to excessive financial protection of insurers and restrictions on hospital pricing. A further liberalization of the health care market—specifically, in terms of the delivery of health care services—would enable competitive forces to improve efficiency in the purchase of health care services.

Despite a need for reforms in the health care delivery market, the Dutch model is a promising avenue in light of spiraling health care costs in Canada and around the world.[11] The Dutch system offers a combination of competition, consumer responsibility, and universal coverage, which can help contain costs and ensure basic coverage for all, regardless of ability to pay.

Notes

1 Health insurers are free to set their own premiums, with the restrictions that the premium applies to every member within each of the 12 Dutch provinces and does not vary with age or risk (Stam, 2007).

2 The REF is funded by income-related contributions paid by the insured through taxes. Employers reimburse the insured for the entire contribution. These contributions represent 6.5% of the first €30,000 of annual taxable income or 4.4% for those without an employer (Klazinga, 2008). The government also contributes to the fund for children under 18 years of age.

3 The Care Allowance Act stipulates that the recipient of the subsidy and his or her partner must have an income of less than €40,100. The claimant receives the maximum yearly subsidy of €1,155 if the couple's combined income is less than €17,500. A recipient without a partner must earn €25,100 or less. A claimant who earns €17,500 or less receives the maximum yearly subsidy of €403 (Statistics Netherlands, 2008).

4 The financial impact of the reform on households depends on their previous insurance status (social health insurance or private insurance) and their age (if they were covered by private insurance). One study shows that the purchasing power parity of households increased by 1.5% in 2006 (Greb, Manouguian, and Wasem, 2007).

5 It is still unclear how mark-ups will evolve in coming years and whether insurers will increase their mark-ups once a customer base is built.

6 Currently, family doctors receive capitation (per head) payments, and their contracts are negotiated with insurers. Physician payments are expected to become increasingly DTC-based (Klazinga, 2008). Competition is also limited in the control of drug prices since they are set out in a voluntary agreement between the Ministry of Health, Welfare and Sport and the pharmacists, health insurers, and drug manufacturers (Douven et al., 2007).

7 This figure is expected to rise to 20% in 2008 (Douven et al., 2007).

8 High-risk equalization means that 90% of costs over a certain threshold are divided among insurers. Retrospective equalization means that 30% of additional costs (above the average for all insurers) incurred for hospital care are divided among insurers. Retrospective adjustment of hospital care costs means that 35% of costs are reduced retrospectively. Finally, the bandwidth scheme for hospital care costs means that any costs above a certain threshold, after the three first adjustments, will be cut by 90%.

9 The infant mortality rate in Canada (5.4 per 1,000 live births) is lower than it is in the Netherlands (4.9 per 1,000 live births). Furthermore, the rate of improvement in infant mortality over the most recent five-year period is higher in the Netherlands, which experienced a 9.3% improvement, than it is in Canada, where the rate declined 3.8% (OECD, 2008; calculations by author).

10 In Canada, mortality amenable to health care was 76.83 per 100,000, compared to 81.86 per 100,000 in the Netherlands. Potential years of life lost were 2,345 per 100,000 in Canada and 2,484 per 100,000 in the Netherlands. Breast cancer and colorectal cancer ratios (incidence over mortality) were 25.0 and 38.2, respectively, in Canada and 31.7 and 46.5, respectively, in the Netherlands. See Esmail and Walker (2007) for a discussion on how these are indicative of health system performance.

11 Incidentally, the Dutch model is, in many ways, similar to the 15-year-old Swiss model,

which also maintains a competitive private insurance marketplace within a universal access health insurance model (Federal Social Insurance Office of Switzerland, 2006).

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Water rights under threat in Quebec

Bill 92 ignores property rights, market forces

Diane Katz &
Jean-Francois Minardi

The government of Quebec is proposing to abolish all private property rights to water and to empower regulators to dictate who may use water, how much they may use, and how they may use it. Proponents claim that such measures are necessary to protect the natural resources of the province. But such overzealous regulation offers no guarantee that water will be apportioned wisely. Instead, it promises to politicize every aspect of water use, dissuade industrial investment, and deprive citizens of basic rights.

Bill 92, if enacted, would declare both surface water and groundwater to be "part of the common heritage of the Québec nation" and off limits to appropriation "except under the conditions defined by law." Currently, surface water is considered to be a public resource, but legal precedent in the province holds that property owners have a claim to the groundwater beneath their land.

This is no small matter for several million Quebecers whose private wells constitute their primary source of drinking water. Indeed, nearly half the population of the province relies on the groundwater beneath their property (Quebec, Ministry of Sustainable Development, Environment and Parks, 2003). To terminate these private property rights would constitute a massive transfer of wealth from citizens to the government.[1]

Economic growth and investment in Quebec are also at stake. Industry and agriculture—both of which require ready access to water supplies—are staples of the provincial economy. The imposition of a costly regulatory scheme would thus dissuade investors and undercut the economy.

The proposed legislation is riddled with vague and arbitrary provisions, and it grants virtually limitless regulatory power to the minister of sustainable development, environment and parks. For example, all water withdrawals of 75,000 litres or more per day would require authorization from the minister who, at her discretion, may "refuse to issue or renew an authorization, or, on the minister's own initiative, modify the conditions to which it is subject."

There already exist prohibitions on bulk water withdrawals and diversions under provincial, federal, and international law. However, the proposed legislation is specifically structured for subsequent imposition of water royalties. Indeed, at the press conference following her introduction of Bill 92 last year, Line Beauchamp, minister of sustainable development, environment and parks, announced that water royalties would be imposed in the near future (Radio-Canada, 2008, June 5).

Agriculture and industry do siphon hundreds of millions of litres of water from the Great Lakes-St. Lawrence River Basin. But Canadian withdrawals have declined by 30% since the mid-1990s (Environment Canada, 2003). Moreover, the vast majority of waters withdrawn are returned to the basin, often after treatments that improve water quality. Only about 5% is actually "consumed" (depleted) by human activity (Environment Canada, 2003). According to researchers at Environment Canada (2003), "[a] loss of this magnitude does not appear to be placing significant pressure on water resources" (table 1).

The legislation prescribes the application of the "prevention principle" to water regulation—that is, the principle that environmental quality is best achieved by avoiding pollution rather than mitigating impacts. But it is possible to ascribe risk to almost any use of water and thereby to prohibit many perfectly legitimate—and economically beneficial—activities.

Quebec's water supplies are hardly threatened. The province contains 20% of Canada's freshwater land area and encompasses more than 3% of the world's fresh water reserves (Environment Canada, 2004). The renewable reserves of groundwater in Quebec's inhabited regions total an estimated 200 cubic kilometres (200 trillion litres), according to the Ministry of Sustainable Development, Environment and Parks. Still, 75% of Quebecers are concerned that provincial water reserves will be commercialized (Girard, 2007, Oct. 14). Moreover, 66% of Canadians surveyed in 2004 opposed the idea of water sales to the United States (EKOS Research Associates, cited in Lasserre, 2005: 7).

Who owns the water?

The policy framework adopted by the province in 2000 noted "a certain ambiguity with respect to defining the legal status of water, leading to many debates as to its ownership" (Quebec, Ministry of Sustainable Development, Environment and Parks, 2002).

Table 1: Uses of water withdrawals in Quebec, 2002

Uses of water withdrawals	Millions of litres per day
Public	4,164
Domestic	271
Irrigation	34.9
Livestock	72.3
Industrial	475
Fossil Fuel	178
Hydro Power	1,150,371
Total	**1,155,566**

Source: Great Lakes Commission (2002).

The government of Quebec, in its 2002 Quebec Water Policy, attempted to end the debate with a simple declaration: "Water, both surface and groundwater, is recognized in the Civil Code of Quebec as something whose use is common to all, subject to rights of use or limited appropriation rights that may be recognized." The status of water as "common to all" effectively empowered the provincial government to regulate all water use (Quebec, Ministry of Sustainable Development, Environment and Parks, 2002).

Bill 92 is an attempt to codify that declaration as well as other elements of the Quebec Water Policy. The bill is contrary, however, to legal precedence in the province that suggests land owners do have property rights to the groundwater beneath their parcel. As noted by Robert Dutrisac (2002, Sep. 11) in *Le Devoir*: "The jurisprudence suggests that water taken from the water table belongs to the owner of the land lying above it, even if this water table is not often confined to a single lot or a single piece of land."

The Ministry of Sustainable Development, Environment and Parks likewise recognizes landowners' rights to groundwater, stating on its website: "Under the Civil Code of Quebec, groundwater is considered to be property under private ownership linked to the ownership of immovable property" (Quebec, Ministry of Sustainable Development, Environment and Parks, 2000).

As previously noted, enacting Bill 92, in its current form, would extinguish those private property rights. While for some this may seem justified for the sake of protecting the water table, evidence abounds that private property rights, in many cases, result in superior environmental stewardship than government regulation (Anderson and Leal, 2001).

The bottled water exemption

Bill 92, if enacted, would prohibit the out-of-province transfer of any water withdrawn in Quebec. However, the legislation does exempt "water withdrawn … to be marketed for human consumption, if packaged in Quebec in containers of 20 litres or less."

Quebec's water-bottling industry is undergoing rapid growth; it currently generates sales of $75 million a year (Agriculture and Agri-Food Canada, 2000).

However, the industry is already tightly regulated by the province. As Daniel Colpron (2003), former president of the Quebec Water Bottlers' Association, explains:

"Since 1994, nobody can take water for bottling purposes without first obtaining a certificate of catchment authorization from the Quebec environment department. To get this catchment authorization, environmental and hydro-geological studies must be conducted and must show that water catchment will not have harmful effects on the environment or on the quantity of water available for neighbouring activities. This legal supervision ensures the public that there will not be excessive pumping by bottlers that could degrade the resource or deprive neighbours of access to the resource. The fears of local communities when a bottling plant is installed are thus unfounded."

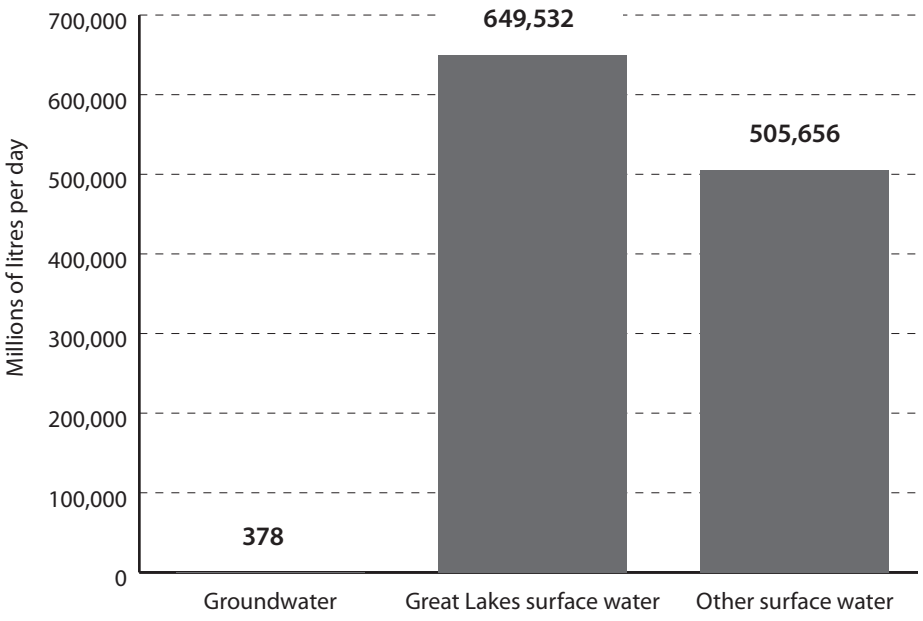
Among some environmental activists, bottled water is Public Enemy No. 1. For example, the municipality of London, Ontario, has banned the sale of bottled water in municipal buildings. The City of Toronto is slated to consider such a ban this fall. Vancouver, Kitchener, and Ottawa also have shown interest in a similar prohibition (Tison, 2008, Aug. 22). But in reality, withdrawals related to the beverage industry, in general, and bottled water specifically, do not approach those of industry and agriculture (Côté, 2006). According to the Quebec Water Bottlers' Association, spring-water bottlers use only 0.08% of the annual total volume of groundwater extracted in Quebec.

Conclusion

Proponents of Bill 92 may be sincere about ensuring the sustainability of Quebec's water supplies. However, given the actual rates of withdrawal and consumption, any fears of water depletion are overblown (figure 1).

To the extent that local action might be warranted, government officials have wholly ignored market-based incentives, such as tradable water rights, as a stewardship method. But as noted earlier, property rights and market incentives have proven far more effective than regulation in protecting the environment. As noted by researchers Clay J. Landry and Laurel E. Phoenix (2003), "there is a broad recognition and understanding

Figure 1: Types of water withdrawals in Quebec, 2002



Source: Great Lakes Commission (2002).

among researchers and policy makers that well defined property rights to resources such as water are fundamental to giving people the proper incentives for sustainable management."

A water market would allow farmers, industry, municipalities, and even environmental groups to buy and sell water rights as dictated by supply and demand. The prices would reflect the true value of water with far more accuracy than any government royalty scheme and thus better encourage efficiency and conservation.

Unfortunately, Bill 92 ignores the power of market forces in favour of government force. In so doing, the legislation, if enacted, will rob Quebecers of their property rights and discourage investment in the province.

Note

1 For discussions on the environmental, public health, and economic benefits of property rights and water markets see T. Anderson and P. Snyder, *Water Markets: Priming the Invisible Pump* (Cato Institute, 1997); T. Anderson (ed.), *Water Rights: Scarce Resource Allocation, Bureaucracy and the Environment* (Pacific Institute for Public Policy Research, 1983); and F. Segerfeldt, *Water for Sale, How Business and the Market Can Resolve the World's Water Crisis* (Cato Institute, 2005).

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Economic freedom reduces poverty

Developing nations grow when freedom increases

Amela Karabegović & Fred McMahon

Canada ranked seventh, just ahead of the United States, in the latest global rankings of economic freedom released by the Fraser Institute.

Hong Kong once again ranked first among the 141 nations and jurisdictions ranked in the *Economic Freedom of the World: 2008 Annual Report*. Another high-ranking jurisdiction was Chile which, at 6th place, was the first Latin American country to break into the top 10. The 2008 report is based on 2006 data, the most recent available.

The cornerstones of economic freedom are personal choice, voluntary exchange, freedom to compete, and security of private property. In other words, economic freedom measures the extent to which individuals and families are free to make their economic decisions regarding where to work, what to buy, what to sell, where to invest, and so on.

The index is based on 42 different measures which are grouped into five broad categories: (1) size of government; (2) legal structure and security of property rights; (3) access to sound money; (4) freedom to trade internationally; and (5) regulation of credit, labour, and business.

Economic freedom is measured on a scale from zero to 10 where a higher value indicates a higher level of economic freedom. The top 10 most economically free nations are Hong Kong (8.94), Singapore (8.57), New Zealand (8.28), Switzerland (8.20), United Kingdom (8.07), Chile (8.06), Canada (8.05), United States (8.04), Australia (8.04), and Ireland (7.92).

African nations, along with Venezuela and Myanmar, continue to have the lowest levels of economic freedom. The 10 nations with the lowest levels of economic freedom are Zimbabwe (2.67), Angola (4.10), Myanmar (4.19), the Republic of Congo (4.64), Niger (4.67), Venezuela (4.76), Guinea-Bissau (5.01), Central Africa Republic (5.01), Chad (5.12), Rwanda (5.23), and Burundi (5.23).

Economic freedom and poverty

The 2008 edition of the economic freedom report includes new research by Seth Norton and James Gwartney on the relationship between economic freedom and poverty in developing nations. Using both monetary and non-monetary measures of poverty, they found a positive relationship between economic freedom and poverty reduction.

For instance, the weighted (by population) $1-per-day poverty rate was 29.7% in 2004 for countries with economic freedom ratings of less than 5, but only 7.7% for countries with economic freedom ratings between 6 and 7. Furthermore, Norton and Gwartney found that the $2-per-day poverty rate declines from 51.5% to 46.2% to 38.9% as one moves from the least free (a rating of less than 5) to more free (a rating between 5 and 6) to the most free (a rating between 6 and 7) developing nations. (No developing nation in the sample had an economic freedom score greater than 7.)

Moreover, econometric analysis indicates that a one-unit increase in a nation's economic freedom rating between 1980 and 1995 was associated with a 5.21 percentage-point reduction in the $1-per-day poverty rate and a 5.22 percentage-point reduction in the $2-per-day poverty rate.

As for non-monetary measures of poverty, the authors found that in mostly unfree economies (a rating of less than 5) 72.6% of the population have access to safe water, while in the mostly free developing nations (a rating greater than 7), nearly 100% have this access. Similarly, life expectancy for people in the mostly free group is over 20 years greater than it is for those in the mostly "unfree" group.

Furthermore, Norton and Gwartney found that for every 1,000 births, 64 more infants survive in mostly free developing countries per year than in the mostly unfree developing nations, and for every 1,000 children under the age of five, 109 more children survive in mostly free developing nations each year than in those countries that are mostly unfree.

Overall, the authors found that nations with high rates of economic growth also experience poverty reduction. Economic freedom plays a key role in this process. Research has shown that economic freedom is the most important driver of economic growth and prosperity. Economic freedom provides the institutions, such as rule of law and protection of private property, that are necessary for entrepreneurship and wealth creation. Without these institutions, sustainable economic growth is unachievable.

Reference

Gwartney, James, and Robert Lawson with Seth Norton (2008). *Economic Freedom of the World: 2008 Annual Report*. Fraser Institute. <www.freetheworld.com>. □

Economic freedom in the **Francophonie** nations

Louis-Philippe Beland

Francophonie nations have some of the lowest levels of economic freedom in the world, according to a recently released Fraser Institute report, *La liberté économique dans la Francophonie (2008)*. In 2006, the Francophonie nations had an average economic freedom score of 6.15, compared to 6.81 for the Commonwealth Nations, 6.70 for the Arab league nations, 6.66 for Central and South America, and 6.26 for Asia (Gwartney and Lawson with Norton, 2008; Beland et al., 2008). The Francophonie nations are below the world average in all five areas of economic freedom. The report, based on the *Economic Freedom of the World: 2008 Annual Report,* analyzes in detail for the first time the economic freedom of the countries that are members of the Organisation Internationale de la Francophonie (OIF),[1] and provides policy recommendations for increasing economic freedom and prosperity.

The Economic Freedom of the World index measures the degree to which the policies and institutions of countries support economic freedom. As shown by many peer-reviewed studies, economic freedom is the most important driver of economic growth and prosperity. Economic freedom has also been found to reduce poverty, increase other freedoms, and improve quality of life.[2]

Twenty-nine of the 35 members of the Francophonie included in the report are developing nations. They have low GDP per capita and remain deplorable in terms of their development, having shorter life expectancies at birth and lower infant survival rates compared to developed countries. One of the goals of the OIF (2008) is to help its developing members integrate with the global economy and effectively fight against poverty. As *La liberté économique dans la Francophonie (2008)* shows, a lot remains to be done.

Results[3]

Economic freedom is measured in five areas: (1) size of government; (2) legal structure and security of property rights; (3) access to sound money; (4) freedom to trade internationally; and (5) regulation of credit, labour, and business. Economic freedom is measured on a scale of zero to 10 where a higher value indicates a higher level of economic freedom.

The average score of the Francophonie nations was enhanced by the presence of six developed nations that have relatively high levels of economic freedom: Switzerland (4th in the world) with a score of 8.20; Canada (7th) with a score of 8.05; Luxembourg (21st) with a score of 7.58; Belgium (44th) with a score of 7.20; France (45th) with a score of 7.19; and Greece (54th) with a score of 7.03.

The remaining Francophonie nations are developing nations that generally do very poorly overall and across different areas of economic freedom. Some of the Francophonie members are among the least economically free nations of the 141 countries ranked in the world index: Democratic Republic of Congo (130th, 5.25); Burundi (131st, 5.23); Rwanda (131st, 5.23); Chad (133rd, 5.12); Central African Republic (134th, 5.01); Guinea-Bissau (134th, 5.01); Niger (137th, 4.67); and the Republic of Congo (138th, 4.64). Mauritius performed the best among the Francophonie developing nations, ranking 41st worldwide with a score of 7.26.

Among the developing members, six countries became considerably more free between 1990 and 2006: Albania (from 4.12 to 6.99), Bulgaria (from 4.08 to 6.54), Democratic Republic of Congo (from 3.28 to 5.14), Egypt (from 5.03 to 6.79), and Romania (from 4.73 to 6.58).

Francophonie developing nations performed most poorly on measures of legal structure and security of property rights. Twenty member countries scored below 5.0 in terms of the quality of their legal systems. Six of them scored below 3.0: Central African Republic (2.99), Haiti (2.59), Togo (2.46), Republic of Congo (2.35), Chad (2.28), and the Democratic Republic of Congo (2.06).

The rule of law—the enforcement of contracts, an impartial court system, and an independent judiciary—is essential to the protection of property and the security of contracts, both of which are cornerstones of a market economy. If the powerful can steal property or violate contracts at will, then they can build businesses and deprive the rest of the population of economic freedom. Without the rule of law, economic growth and prosperity are not possible.

Francophonie developing nations also scored poorly on measures of freedom to trade internationally and regulations measures. In terms of freedom to trade, four countries scored below 5.0

out of 10: Niger (4.46), Rwanda (4.39), Burundi (4.31), and Central African Republic (4.03). In terms of their regulations, six countries scored below 5.0: Niger (4.98), Egypt (4.93), Central African Republic (4.91), Chad (4.81), Togo (4.77), and the Democratic Republic of Congo (4.26).

Reducing poverty

Because developing Francophonie nations have a low level of economic prosperity and economic development, they also have high levels of poverty. Recent research shows that economic freedom reduces poverty. According to Seth W. Norton and James D. Gwartney (and Lawson, 2008), authors of chapter 2 of the *Economic Freedom of the World: 2008 Annual Report*, there is a strong positive relationship between economic freedom and poverty reduction for both pecuniary and non-pecuniary indicators of poverty (see previous article, "Economic freedom reduces poverty," pg. 32).

A similar pattern can be observed among the Francophonie countries. Freer Francophonie countries have higher GDP per capita, higher growth, higher life expectancy at birth, and lower infant mortality. They also obtain higher scores in the areas of corruption levels, political rights, civil liberties, and environmental quality.

Conclusion

A society that encourages mutually beneficial agreements differs dramatically from a society without economic freedom, where "rent-seeking" (lobbying for wealth transfers rather than competing for wealth in the market) is the path to increase prosperity and power. The first situation promotes the development of a stable, productive, and free society, while the latter leads to a decrease in prosperity.

Developing Francophonie nations need to focus on increasing economic freedom to promote growth and decrease poverty. The Francophonie and, in particular, the Francophonie developing nations should have three priorities:

- Establish the rule of law in order to protect property rights, encourage investment, and reduce corruption. Without proper mechanisms of dispute resolution and the security of property rights, many mutually beneficial exchanges are prevented, thus undermining the market exchange system. Although crucial for prosperity, improving the legal system is a complex task that cannot be achieved overnight. Developing nations must be both determined and patient, and should be inspired to follow in the footsteps of similar countries that have been successful in this area.
- Remove trade barriers. Developing nations tend to have smaller domestic markets and, therefore, could benefit from opening their market to international trade by gaining access to bigger markets and more buyers.
- Simplify business regulations to encourage investment and business creation by eliminating unnecessary regulatory barriers, reducing corruption, and decreasing administrative costs for businesses.

These changes would increase economic activity in Francophonie developing countries and increase productivity. Transformations and improvements in policies are possible. As noted by Norton and Gwartney, Peru and Chile are proof that reforms are possible. Those two countries managed to increase their economic freedom rating by about two points over a relatively brief period.

Francophonie nations have the capacity to do so as well and to begin effectively reducing the poverty of many of their citizens.

Notes

1 The 35 members of the Organisation Internationale de la Francophonie for which economic freedom scores were computed are: Albania, Belgium, Benin, Bulgaria, Burkina Faso, Burundi, Cameroon, Canada, Central African Republic, Chad, Democratic Republic of Congo, Republic of Congo, Côte d'Ivoire, Egypt, France Gabon, Greece, Guinea-Bissau, Haiti, Luxembourg, Macedonia, Madagascar, Mali, Mauritania, Mauritius, Moldova, Morocco, Niger, Romania, Rwanda, Senegal, Switzerland, Togo, Tunisia, and Vietnam. Associate members and observers have not been included.

Any state or government that wishes to join the OIF must make a formal request. The fact that French is not the official language of the requesting country does not constitute an obstacle to its accession. However, the place of the French language in the candidate country is one of the criteria for eligibility (OIF,2008).

2 For a sample of literature on economic freedom, see http://www.freetheworld.com

3 For more results and analyses, see Beland et al. (2008).

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"Tough love" for the downtown eastside

Vancouver's former top cop on Insite, homelessness, and making streets safer

Last month, the Fraser Institute hosted former Vancouver police chief Jamie Graham as part of its Behind the Spin series in Vancouver.

Prior to the event, ***Fraser Forum*** *editor Kristin Fryer spoke with Graham about his views on the problems faced by Vancouver's downtown eastside, and what can be done to improve the situation.*

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Kristin Fryer: Vancouver is seven years into its "four pillars" drug strategy, those four pillars being prevention, treatment, enforcement, and harm reduction. Do you think this strategy is working?

Jamie Graham: If you look at the strategies that are mentioned in the four pillars, the one that needs attention is treatment. We just finished a long tour today of the downtown eastside, and there's an overwhelming need for more treatment facilities, more beds. You come across people who are suffering, be it from mental illness or addiction, and they need to get into a treatment facility. But there are simply insufficient numbers.

There's no easy answer to the cure for drug addiction—there just isn't. It's a very complicated formula, and you have to look at it from multiple levels. What I have found in my experience policing is that when someone is addicted and gets to that stage in their lives where they need help, and they seek treatment and someone is able to connect with them, there has to be a place they can go.

KF: Insite, Vancouver's safe injection site, has been a controversial project. What kind of impact has it had on the downtown eastside? Has it been successful?

JG: You have to accept the fact that it has had impact. The opening of Insite occurred around the same time as we put 60 additional police officers in the downtown eastside. That had a huge impact.

Insite itself, the facility itself, is one more way that people can try to get help. If they don't use Insite, if they don't go in there and get a clean rig, then they use a needle and flush it in dirty pond water and continue infections. One has to realize what the original goals of Insite were—to deal with infectious disease, to reduce the transmission of HIV and hepatitis. And all you have to do is read the research and the work that's been done—in that narrow area of dealing with addictions, it seems to have been somewhat successful.

I'm having a difficult time reconciling the harm reduction philosophy which allows the continued use of drugs when there is not a stronger focus on the education component. If they want to demonize something, let's demonize the use of drugs itself. You should never be able to talk about drugs and drug addiction without a clear, articulate message that drugs are bad, they're wrong. I'm not a big fan of Nancy Reagan's philosophy, but I remember her "Say No to Drugs" campaign. We don't hear a lot of that anymore.

KF: Do you think Insite should continue to operate?

JG: Very seldom are you going to hear a police officer or certainly me, in the position of a retired police chief, saying "Yes." Issues related to the continuation of Insite are medical decisions, government decisions that have to be made by the people who are knowledgeable in addictions medicine. My job is to enforce the law. Whatever the government decides to do—whether they want to close Insite, or give it another term to continue—we will simply enforce the law.

The thing that bothers me is the demonization of the people who dare to criticize Insite. If you criticize Insite, there are forces that will mobilize against you—you become the enemy. I think that we have to encourage dialogue; we have to get people to talk about Insite, about the benefits versus the mistakes, and allow the government to make an informed decision.

KF: In the past, you have been a strong advocate of getting more police officers for Vancouver. Why do you think this is so important?

JG: There is tons of research that indicates that more police officers mean more safety. If you put more police officers in a community, crime is going to go down, people are going to feel safer, they're going to interact with their neighbours, they're going to get out of their homes and enjoy what they're supposed to enjoy.

Retired police chief Jamie Graham (left) leads event attendees on a tour of Vancouver's downtown eastside, stopping at the Vancouver Native Health Society on East Hastings Street.

We [the VPD] did fairly detailed research in 2005 at the request of city council to determine the exact number of officers we needed. The numbers were put forward to council, and after a series of discussions and decisions, we did not get the number of police officers that we needed. The current police chief, Jim Chu, has done an admirable job of liaising with the city finance people to come to that point where the city is prepared to spend the money to hire the additional cops.

KF: According to a count done by the Greater Vancouver Regional Steering Committee on Homelessness in March 2008, there are about 3,000 homeless people in Metro Vancouver. This number is up more than 20% from 2005. Why do you think the number is growing? What can be done about homelessness?

JG: It's not a simple formula, seeing someone who's living on the streets and getting them into a home. Many of these people choose to be homeless; many of them are very hard to house because of mental health issues. But there's no question that if you can find a home for somebody, some place they can call their own residence, where they can keep their own materials, and are able to close the door and feel that they're secure, then that's the beginning. You cannot expect to have people in treatment and getting well if they're on the streets where they face the elements and are victims of the continuing criminal element. It's absolutely crucial.

KF: This week, Canadians elected a new federal government, and next month, Vancouverites will elect a new city government. What can they do to improve the situation? What policies should change and what kinds of policies should be put in place?

JG: There's a certain number of priorities the Vancouver police have put forward to be considered at the federal level. They have to do with amendments to the criminal code. I know they're looking for stronger legislation dealing with the non-returnable warrant issue, meaning the people who are wanted and take flight from other provinces, come to Vancouver, commit crimes here, and are simply not returned to their home area. Jim Chu created the "con-air" program and we've sent people back. That's a temporary fix. We need some legislation to deal with offenders in multiple jurisdictions so that they can be dealt with quickly.

The habitual offender program is a never-ending issue. These are people who commit multiple offenses, over and over again, but have not felt the full force of the law. We think there should be substantial jail terms for people who commit serious indictable offenses on a continual basis but seem to be able to skip through the process.

KF: The title of your talk tonight is Tough Love: The Right Treatment for the Downtown Eastside. *What is a "tough love" approach?*

JG: It's all about responsibility and accountability. People have to be responsible for their actions. The downtown eastside is an interesting microcosm of Vancouver. It's a wonderful community combined with a number of people who are down on their luck and a number of people who prey upon the vulnerable.

I think we're on the right track. So far, progress is slow, but we're moving ahead. And I'm optimistic about the future. □