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ENTREPRENEURSHIP AND FISCAL POLICY

HOW TAXES AFFECT ENTREPRENEURIAL ACTIVITY

By Mathieu Bédard, with the collaboration of Kevin Brookes



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HIGHLIGHTS

Many try to divorce entrepreneurship from any fiscal questions, claiming that entrepreneurship is basically a passion, and that entrepreneurs start businesses out of love. Yet one of the fundamental aspects of economic analysis is that cost variations are a primary factor in accounting for human behaviour. Having said this, it is far from obvious which public policies really stimulate entrepreneurship and reduce the cost of starting a business. This paper aims to provide a frank, open discussion of the fiscal measures that affect entrepreneurship.

Chapter 1 – The Ineffectiveness of Business Creation Subsidies

- Canadian companies have access to a multitude of subsidies that can take several forms, including transfer expenditures, tax credits, loans and portfolio investments, and loan guarantees.
- Supporting the economy with subsidies is not a magic bullet, since the taxes used to finance them create distortions in the economy and encourage behaviours that are not socially optimal.
- The existence of subsidies gives rise to “rent seeking,” as entrepreneurs have an incentive to use resources to attempt to receive their share, while politicians have an incentive to use subsidies to increase their chances of being re-elected.
- Governments around the world nonetheless continue to subsidize the creation of businesses because there is a consensus regarding the link between entrepreneurship and job creation, among other desirable economic phenomena.
- Yet an increase in the supply of funding available is not necessarily an effective public policy for growing the number of businesses, since it seems that it is entrepreneurial activity that attracts additional venture capital, and not the other way around.
- Those who favour subsidies for business creation and expansion sometimes invoke market failures and externalities, but arguments based on such phenomena are not persuasive.
- If we look at the effect of subsidies to private businesses on the rate of business creation, we see that there is no notable effect, and there even seems to be an inverse relationship, although the variable is not statistically significant.
- It is an entrepreneur’s own personal savings that constitute the most important source of initial funding for Canadian businesses, with 70.5% of start-up capital coming from entrepreneurs’ personal funds in 2015.
- If governments want to encourage the appearance of more entrepreneurial opportunities, and want these to give rise to productive businesses, it would be better off considering public policies to foster competition, lower taxes, the opening up of borders, and a light regulatory burden.

Chapter 2 – The Decision to Start a Business: The Impact of Taxation

- Everyone recognizes that entrepreneurial passion is an essential prerequisite to starting a business, but one of the first lessons of economics is that incentives, including taxation, are crucial in explaining decisions.
- When an entrepreneur chooses to start a business, he or she renounces a career, sometimes as an employee or maybe even as an executive in an established company, and also renounces the salary that goes with this career.
- Before a potential entrepreneur even poses the question of whether to set off on an entrepreneurial adventure, an important factor comes into play, and this factor is in turn heavily influenced by taxation: the accumulation of capital.
- Convincing investors to participate in a project whose importance and potential only the entrepreneur sees can be a very difficult task, which is why the personal accumulation of wealth is crucial.
- The cost of saving is the immediate consumption that one must forego, and taxation increases this cost, in addition to reducing the amount of resources that could be invested.
- In Canada, net household saving, as a percentage of disposable income, has fallen over time, the consequence not only of taxation, but also of the aging of the population and of very low interest rates, among other things.

Chapter 3 – Progressive Taxation and the Self-Employed Worker

- Comparisons of the progressivity of taxes in industrialized countries show that taxation in Canada is more progressive than in most OECD countries.
- As opposed to progressive taxation, other taxes are called “proportional.” In this case, the same rate applies regardless of income: The amount of tax paid is always the same proportion of income.
- Certain mathematical economists believe that the best tax of all is one that involves a lump sum payment, sometimes called a head tax, but this scenario is inapplicable for political reasons.
- The more progressive the tax rate is, the more it discourages additional effort, saving, and investment, and therefore ultimately entrepreneurship.
- Countries like Chile and Estonia, whose tax systems are among the least progressive in the world, have more entrepreneurial activity than the OECD countries with more progressive income tax systems.
- In certain very specific cases, taxes can increase entrepreneurship by creating tax advantages in favour of self-employment, for example, but the gain for society, namely the entrepreneur’s solution to a problem, is thus negligible or nonexistent.

Chapter 4 – The Effect of the Capital Gains Tax

- Just as sin taxes reduce the behaviour that is being targeted, the capital gains tax hinders capital formation, which is one of the basic foundations of all economic growth and a necessary precondition to most entrepreneurial projects.
- Capital gains taxation also encourages people to lock in their investments, which hurts economic growth by discouraging the reallocation of capital to its most productive uses.
- The capital gains tax also affects which businesses capitalists invest in, reducing the willingness of investors to finance riskier business start-ups and leading them to prefer less innovative forms of entrepreneurship.

- When this tax is high compared to the taxation of salaries, whether because of a high inclusion rate, a high base rate, or some other factor, it can act as a disincentive to starting a business.
- Because the capital gains tax applies to the nominal return on capital, without adjusting for the fact that inflation may have substantially reduced its real value, long-term projects can be made to lose money (or lose even more money) through this tax alone.
- Canadian provinces where the capital gains tax is lower, like Alberta, Saskatchewan, and Newfoundland and Labrador, tend to have some of the highest household savings rates in the country. Conversely, high taxes and low or even negative household savings rates also tend to go together, as in Nova Scotia and Prince Edward Island.

Chapter 5 – The Corporate Income Tax and Entrepreneurship

- The fact that there is more than one corporate income tax rate creates a threshold effect whereby some companies split their activities in order to reduce their tax burden, using time and energy that could be devoted to more productive activities.
- In 2000, when the federal rate was much higher, 15% of companies filing as a “small business” limited their incomes in order to be able to remain in this tax category; in 2009, after the federal rate had been reduced and the income threshold raised, only 8.5% of companies did so.
- The corporate income tax reduces the reward associated with entrepreneurship by making companies less profitable, and also reduces the savings available for capital accumulation, since the non-distributed profits of companies are a form of savings.
- A study examining the effect of this tax in 17 European countries between 1997 and 2004 found that when the tax rate goes from around 30% to 27.5%, the business entry rate increases by 0.88 percentage points.
- Another study looked at 85 countries and found that a 10-percentage-point increase in this tax rate reduces the number of businesses per 100 people by 1.9, and the business entry rate by 1.4 percentage points.

- An American study looking at the number of patents filed for the 1990-2006 period found that two thirds of companies affected by a tax increase filed around 5% fewer patents in the two years following the hike.
- A Canadian study that looked at variations in provincial corporate income tax rates from 1977 to 2006 found that a reduction of one percentage point increases economic growth by 0.1 to 0.2 percentage points, and by deduction, reduces entrepreneurial activity as well.

INTRODUCTION

One of the challenges economists face is to resist the tendency to want to withdraw a whole range of phenomena from economic analysis and entrust these to psychology. Keynesianism, for example, explained investor confidence in terms of “animal spirits,” and the propensity to consume as one’s income varies with a “fundamental psychological law.”¹ To take another example, the debate surrounding taxes and regulations governing the consumption of sugar and of tobacco starts with the assumption that society suffers from a widespread lack of willpower.²

In the same way, many try to divorce entrepreneurship from any fiscal questions. According to them, entrepreneurship is basically a passion, and entrepreneurs start businesses out of love.

The problem with these arguments is that they are not really arguments; they are rather ways of ending the discussion before it has really begun. After all, “there’s no accounting for taste,” as the saying goes.

The Importance of Cost

Yet one of the fundamental aspects of economic analysis is that theories that use cost variations as a primary factor accounting for human behaviour provide better explanations than theories that ask us to accept a change in people’s tastes, preferences, or values as primary factors.

Having said this, it is far from obvious which public policies really stimulate entrepreneurship and reduce the cost of starting a business, just as it is not easy to evaluate the cost of risk-taking for an entrepreneur. The naïve vision would be to believe that government assistance always favours entrepreneurship. After all, if there is a transfer of money—or of risk—then a certain choice is certainly made less expensive. But is the choice that is actually encouraged the one that was supposed to be encouraged?

Reality is more complex because behaviours change in response to public policy changes. For example, we have to make sure that aid goes to the right people, which is to say to entrepreneurs who would not have launched their business without government help.

We also have to make sure that entrepreneurs do not change their projects just to benefit from subsidies, which would be even worse. In such a case, we have not only failed to truly stimulate the creation of new businesses, but on top of this, we have imposed an additional constraint on entrepreneurs that diverts them from their primary function, which is to resolve societal problems, not to satisfy political objectives.

Many try to divorce entrepreneurship from any fiscal questions. According to them, entrepreneurship is basically a passion, and entrepreneurs start businesses out of love.

The question of taxation and how it influences the decision to start a business is sometimes avoided even more directly: The discussion is shut down by pointing out that entrepreneurs must do their part to finance the numerous missions of the government. Yet the problem is precisely that when there are fewer entrepreneurs, there is less economic growth and less prosperity with which to finance those missions. Even those whose main concern is to maximize government resources, come what may, have an interest in not asphyxiating entrepreneurs with disproportionate taxes.

This paper aims to provide a frank, open discussion, based on academic studies and data from respected sources, in order to examine more directly and deeply the fiscal measures that affect entrepreneurship.

Chapter 1 will explore government assistance that aims to stimulate entrepreneurship; Chapter 2 will look into the decision to become an entrepreneur; Chapter 3 will examine the effect of progressive taxation on entrepreneurship; Chapter 4 will look at the effect of the capital gains tax; and Chapter 5, the effect of the corporate income tax.

1. John Maynard Keynes, *The Collected Writings of John Maynard Keynes*, Royal Economic Society, 1978, pp. 114 and 161.

2. Mario J. Rizzo, “Behavioral Economics and Deficient Willpower: Searching for Akrasia,” *Georgetown Journal of Law & Public Policy*, Vol. 14, 2016, pp. 789-806.

CHAPTER 1

The Ineffectiveness of Business Creation Subsidies

Canadian companies have access to a multitude of subsidies. In Quebec, certain specialists claim that there exist over 2,000 programs.³ Not only are there a lot of programs, but the total amounts handed out represent a substantial sum of money.

While Quebec generates just 19% of the provinces' total GDP, it grants nearly 29% of the subsidies paid out by them, as illustrated in Figure 1-1.⁴ The four largest provinces, namely British Columbia, Alberta, Ontario, and Quebec, together spend a little more than the federal government (\$14.6 billion vs. \$14 billion).⁵ In terms of subsidies per person, though, Alberta beats Quebec with \$640 per capita, or around \$100 more than Quebec.

These subsidies can take several forms. They can be *transfer expenditures*, which correspond to what are usually thought of as subsidies: The government grants an amount without acquiring any goods or services. These sums are also granted with no intention of obtaining a return or an eventual reimbursement.

In other cases, they can be *tax credits*, which are advantages aiming to encourage certain kinds of activities or certain kinds of companies; they can be *loans and portfolio investments*, generally granted under conditions that are more favourable than what the company would have obtained on capital markets; or they can be *loan guarantees*, thanks to which the company gets a lower interest rate than it would have obtained on the market. Table 1-1 provides a non-exhaustive list of certain entrepreneurship assistance programs run by the federal government or associated agencies.

A Winning Recipe? Not Really

Supporting the economy with subsidies is not a magic bullet, since government intervention very often has adverse effects. Indeed, the tax increases used to finance these subsidies create distortions in the economy,

modifying prices in a perverse way or creating incentives to adopt behaviours that are not socially optimal, reducing purchasing power and discouraging other potentially more productive activities.

In addition, the existence of subsidies gives rise to “rent seeking.” Instead of trying to be more competitive and better satisfy consumers, entrepreneurs have an incentive to use time, money, and labour to attempt to receive their share of subsidies. For their part, politicians have an incentive to use subsidies to help certain sectors or companies to which voters are more attached, regardless of their economic viability, in order to increase their chances of being re-elected.

While Quebec generates just 19% of the provinces' total GDP, it grants nearly 29% of the subsidies paid out by them.

In fact, when it hands out corporate subsidies, the government is basically confiscating money from certain companies through taxation in order to give it to others, thus spending it on projects with a lot of political visibility, but whose economic impact is not necessarily larger. Whether or not the government gets a positive return from such an operation, it politicizes entrepreneurship and prevents an optimal allocation of resources: Companies are created not in sectors with the best profit opportunities, but in those that the government favours. And very often, policies designed to stimulate entrepreneurship subsidize those who already intended to become entrepreneurs. When this happens, there is no net effect on business creation.

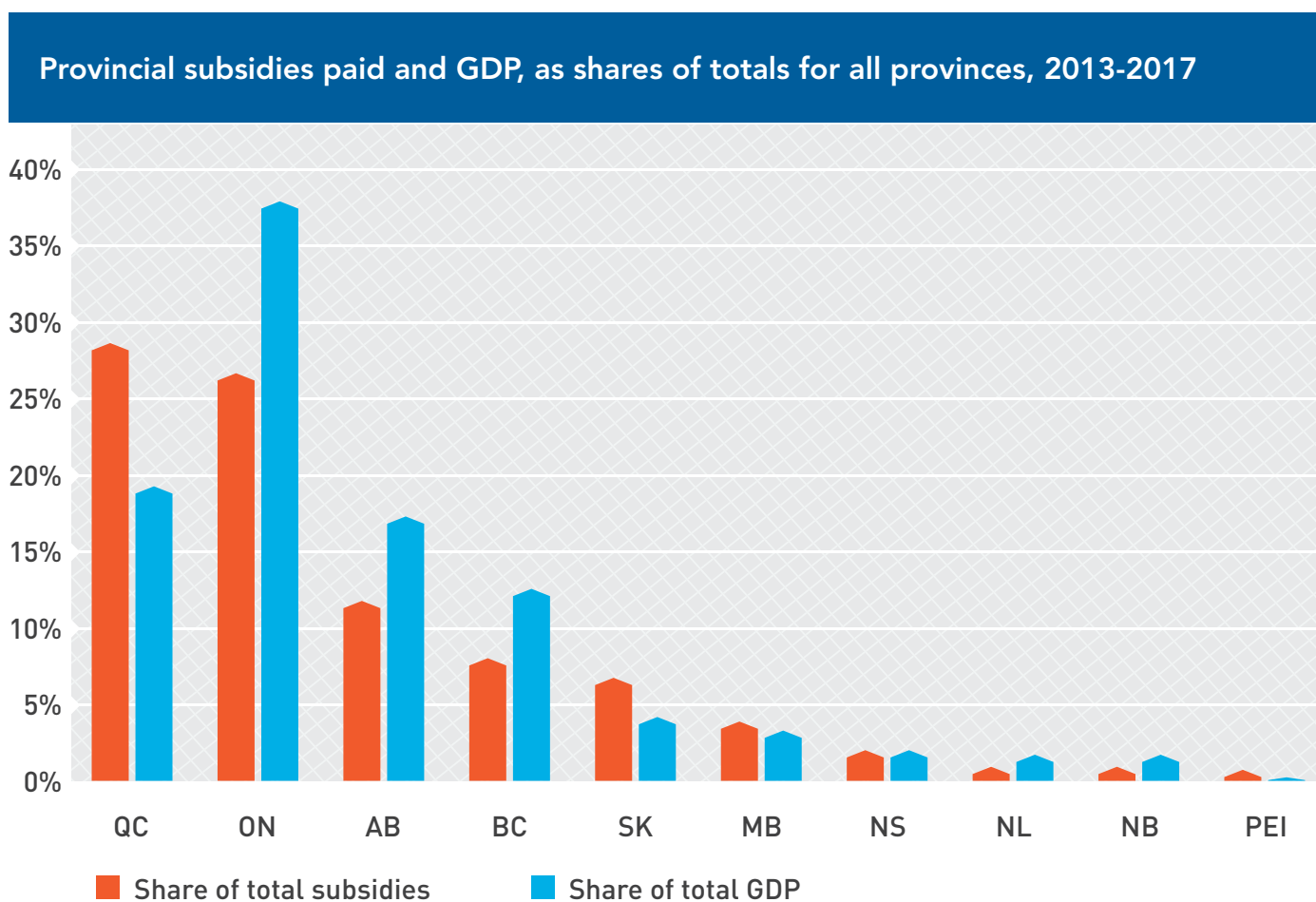
So why do governments all around the world continue to subsidize the creation of businesses? One of the reasons is that there is a broad consensus regarding the strong link between the amount of entrepreneurship and economic growth on the one hand, and job creation on the other. More generally, entrepreneurship is involved in all desirable economic phenomena—innovation, growth, and the optimal allocation of resources—and in everything that these phenomena represent. These are basically the product of entrepreneurs who “buy low and sell high” and who innovate in order to

3. Annuaire des subventions du Québec, Nos publications.

4. Alexandre Moreau, “Quebec Is Still a Corporate Subsidy Champion,” Viewpoint, MEI, January 18, 2018.

5. John Lester, *Business Subsidies in Canada: Comprehensive Estimates for the Government of Canada and the Four Largest Provinces*, SPP Research Paper, University of Calgary, January 2018, p. 11.

Figure 1-1



Note: Subsidy figures are weighted averages for the past five fiscal years ending March 31. Gross Domestic Product, expenditure-based, is for its part a weighted average of the past five calendar years. Transfers to private, for-profit daycares in Quebec are not included. Subsidy amounts are converted into constant dollars for the 2016-2017 fiscal year, while GDP is expressed in 2016 dollars.

Sources: Statistics Canada, CANSIM Table 384-0038: Gross domestic product, expenditure-based, provincial and territorial, 2012-2016; Statistics Canada, CANSIM Table 385-0034: Canadian government finance statistics (CGFS), statement of operations and balance sheet for the provincial and territorial governments, 2012-2016; Statistics Canada, CANSIM Table 326-0020: Consumer Price Index, 2012-2017.

surpass their competitors.⁶ Another conclusion that is quite widely accepted is that entrepreneurship is limited by access to financial resources.⁷

Public policies thus try to encourage entrepreneurship, and one of the main ways in which they do so is by trying to reduce the financial barriers to business creation. For the past twenty years or so, governments around the world have increasingly turned their attention to small businesses, whereas the industrial policies of the

In fact, when it hands out corporate subsidies, the government is basically confiscating money from certain companies through taxation in order to give it to others.

past were essentially focused on large corporations and "jewels."⁸

Many government programs aiming to encourage entrepreneurship therefore revolve around providing funding.

6. Maria Minniti and Roger Koppl, "The Unintended Consequences of Entrepreneurship," *Journal des économistes et des études humaines*, Vol. 9, No. 4, December 1999, pp. 567-586.

7. David S. Evans and Boyan Jovanovic, "An Estimated Model of Entrepreneurial Choice under Liquidity Constraints," *Journal of Political Economy*, Vol. 97, No. 4, August 1989, pp. 808-827.

8. Brett Anitra Gilbert, David B. Audretsch, and Patricia P. McDougall, "The Emergence of Entrepreneurship Policy," *Small Business Economics*, Vol. 22, Nos. 3-4, April 2004, pp. 313-323.

Table 1-1

Non-exhaustive list of federal entrepreneurship assistance programs
Aboriginal Business and Entrepreneurship Development
BDC - Customized financing to buy a business
BDC - Financing to buy a business
BDC - Indigenous entrepreneur
BDC - Small Business Loan-up to \$100K
BDC - Start-up financing
BDC - Women in Technology Fund
Business Development Program
Canada Small Business Financing Program
Canadian Agricultural Loans Act program
Entrepreneurs with Disabilities Program
Foundation Assisting Canadian Talent on Recordings
Futurpreneur Canada
Investing in Business Innovation Program
Northern Aboriginal Economic Opportunities Program
Quebec Economic Development Program
Strategic Innovation Fund
Transition Loan for Farm Transfers
Young Entrepreneur Loan Program
Young Farmer Loan Program

Sources: Futurpreneur Canada, Get started, Financing + Mentoring, 2018; Atlantic Canada Opportunities Agency, Programs and Initiatives, Business Development Program, 2017; Government of Canada, Business and industry, Business grants and financing, Canada Small Business Financing Program, 2017; Western Economic Diversification Canada, Entrepreneurs with Disabilities Program, 2018; Development Bank of Canada, Business loans; Factor, Our programs, 2016; Agriculture and Agri-Food Canada, Programs and Services, Canadian Agricultural Loans Act program, 2017; Farm Credit Canada, Farm Transfers, 2018; Canada Economic Development for Quebec Regions, Quebec Economic Development Program, 2015; FedDev Ontario, Support for businesses, organizations and communities, 2016; Canadian Northern Economic Development Agency, Northern Aboriginal Economic Opportunities Program, 2014; Innovation, Science and Economic Development Canada, Strategic Innovation Fund, 2018; Indigenous and Northern Affairs Canada, Aboriginal Business and Entrepreneurship Development, 2013.

Generally, the implicit idea is that if more is provided, there will be more businesses. Yet this is not necessarily so.

The idea that making more funding available to businesses will increase their number may seem logical. Yet it's not as straightforward as that. A company that succeeds—which is basically what these public policies are trying to stimulate—is analogous to a needle in a haystack. But adding more hay does not necessarily mean there will be more needles.

To understand why this is so, we must return to the very essence of what it means to be an entrepreneur. One of the main theories of entrepreneurship considers it to be an anthropological constant: Being an entrepreneur means being vigilant to opportunities for profit that have not yet been seized. This frame of mind has always existed among human beings, and always will exist. If, in

Very often, policies designed to stimulate entrepreneurship subsidize those who already intended to become entrepreneurs.

Canada as well as in most countries, this vigilance manifests itself in the form of productive businesses, it is because the laws and the other rules of the economic game, both formal and informal, channel these efforts and in particular provide opportunities for productive profit.

But in certain places—or alternatively, further back in history—while entrepreneurs are just as present, they pursue profit opportunities that are sometimes less productive, or even destructive. In sum, the government,

through its public policies, can influence the allocation of entrepreneurship, either in terms of its geographical distribution or in terms of the kinds of entrepreneurial opportunities that entrepreneurs pursue.

If the government adopts good public policies, it can influence the number of entrepreneurs creating traditional companies operating in the formal economy. It has little positive effect on their sheer number, however, which includes entrepreneurs engaged in less traditional entrepreneurship, not very apparent in business creation statistics (like charitable work), or in unproductive entrepreneurship (like organized crime).⁹ Formal and informal rules direct entrepreneurs toward these different kinds of entrepreneurship, but their basic quantity is always more or less fixed.

So, if entrepreneurship is a constant among humans and the quantity of businesses depends especially on the profit opportunities that formal and informal rules provide, an increase in the supply of funding available is not necessarily an effective public policy for growing the number of businesses. On the one hand, such a policy cannot stimulate the vigilance to these opportunities, nor make new ones appear. On the other, not all kinds of available capital are as equally effective when it comes to entrepreneurship. Subsidies, for example, are not a perfect substitute for entrepreneurs' prior savings, as we will see later. In the end, it seems that it is entrepreneurial activity that attracts additional venture capital, and not the other way around.¹⁰

When Subsidies Kill Entrepreneurship

The consequence of the preceding is that subsidies crowd out certain kinds of entrepreneurship in favour of others, or encourage entrepreneurs to modify their business plans in order to become eligible for government support, deviating at least in part from the business opportunities they had initially perceived.

A Canadian example of this crowding out effect is that of the tax credit for labour-sponsored funds, the best-known of which are the QFL Solidarity Fund in Quebec and Growthworks in the rest of Canada. From the creation of this category of fund in 1983, their mandate was to stimulate entrepreneurship, thanks to a tax credit

from the provincial governments. Two years later, the federal government followed suit. These funds still enjoy substantial tax credits today, providing investors with an additional benefit of 30% the year of the initial investment.

However, their success is qualified since the effect of this public policy was to crowd out other kinds of investment and even to reduce the overall supply of venture capital. One study found that the creation of these tax credits, whose goal again was to stimulate entrepreneurship, actually led to 400 fewer investments in Canada, representing a total of around \$1 billion each year.¹¹

A company that succeeds—which is basically what these public policies are trying to stimulate—is analogous to a needle in a haystack. But adding more hay does not necessarily mean there will be more needles.

The reason that these tax credits led to less investment in the creation of businesses is that they allow these funds to offer a better return than what other kinds of funds can offer. They therefore end up outbidding other funds on the market. The counterintuitive result is that there is less funding for businesses than there would be in the absence of this government program.

The Canadian experience with this kind of program is not unique. The current system of loan guarantees to small businesses in the United States has the same effect. Through these programs, the American government pays a portion or all of the interest charges of certain businesses. This is similar to the loan guarantee programs of Investissement Québec or the federal government. When the government offers a loan guarantee, or additional funds, it reduces the funds supplied by the entrepreneur himself or herself.

This increase in loans has the effect of increasing interest rates. The higher cost of loans in turn discourages other entrepreneurs from requesting funds in sectors or for types of projects that are not assisted by the government.

9. Harry P. Bowen and Dirk De Clercq, "Institutional Context and the Allocation of Entrepreneurial Effort," *Journal of International Business Studies*, Vol. 39, No. 4, June 2008, pp. 747-767; Peter J. Boettke and Christopher J. Coyne, "Context Matters: Institutions and Entrepreneurship," *Foundations and Trends in Entrepreneurship*, Vol. 5, No. 3, 2009, pp. 135-209.

10. Steven F. Kretz and Russell S. Sobel, "Public Policy, Entrepreneurship, and Economic Freedom," *Cato Journal*, Vol. 25, No. 3, Fall 2005, pp. 595-616.

11. Douglas J. Cumming and Jeffrey G. McIntosh, "Crowding out Private Equity: Canadian Evidence," *Journal of Business Venturing*, Vol. 21, No. 5, September 2006, p. 605.

The overall effect is to diminish the total supply of capital available for entrepreneurial projects.¹²

Market Failures and Externalities

Besides arguments based on supply—suggesting that the more financing there is, the more entrepreneurship there will be—those who favour subsidies for business creation and expansion sometimes appeal to market failures and externalities. Three kinds of failures and externalities are generally invoked.

The first of these arguments has to do with networks. An isolated entrepreneur, in a country or province where there are few other businesses of the same type, would have access to fewer resources in terms of technical support, suppliers, and skilled labour, to name just a few examples.¹³ His or her “network” will therefore be small or even non-existent, which will make success more difficult.

To appreciate the advantages associated with geographical clusters of businesses, one need only think of the success of places like Silicon Valley, of certain wine-producing regions of France, of streets or neighbourhoods where clothing stores are concentrated, and of all these other places, on different scales, where several similar or complementary businesses are located. Of course, this is not the only reason. In Silicon Valley, low taxes encouraged development,¹⁴ while in the case of wine-producing regions, climate, age-old local knowledge, and other factors were undeniably important.

The network argument holds that subsidizing the creation and expansion of businesses helps them to cluster in order to form networks of businesses, which benefit directly or indirectly from their geographical proximity, by encouraging entrepreneurs to locate in places they would otherwise have avoided.

Obviously, on its very face, this argument only has some weight in places where there are few businesses. Where there is already a certain entrepreneurial fabric, as is mostly the case across Canada, this argument is unconvincing. At best, it can apply to entrepreneurship in remote areas. But even then, in many cases, entrepreneurs

will not set up shop in these places for reasons related to the availability of labour, supplies of raw materials, or other factors. The network argument is not decisive.

The second argument related to market failures or externalities appeals to the role of positive examples. The success of certain entrepreneurs can encourage others to start businesses of their own. Supporting certain entrepreneurs could therefore create more of these positive examples. Once again, this argument has more weight in countries, provinces, or regions where there are few entrepreneurs and where these are not seen in a particularly favourable light.

Being an entrepreneur means being vigilant to opportunities for profit that have not yet been seized. This frame of mind has always existed among human beings, and always will exist.

The most recent *Global Entrepreneurship Monitor* report shows that this does not apply to Canada, as illustrated in Figure 1-2.¹⁵ According to nearly 75% of the population, successful entrepreneurs enjoy an elevated social status in Canada, while 65% consider being an entrepreneur a good career choice. Compared to other industrialized countries that carried out the same survey, Canada is among the countries where the perception of entrepreneurship is the most favourable.

The third type of these arguments refers to the benefits of certain entrepreneurs’ bankruptcies. Indeed, we often see failures as bad for society. But while it is true that the disappearance of a business is almost always painful for entrepreneur and employees alike, it is often a source of lessons for businesses that survive.

The example of the restaurant industry, where it is particularly difficult for businesses to survive, is enlightening. Significant renewal of restaurants is in fact a sign that the market is healthy. The number of new restaurants, but also the number that close, is relatively high in almost all big cities around the world, and each failure offers lessons for other restaurateurs, who can use them to improve their cuisine and their service. The errors that kill certain restaurants make the others stronger, and the great Canadian restaurants and their internationally renowned chefs certainly benefited from both the successes

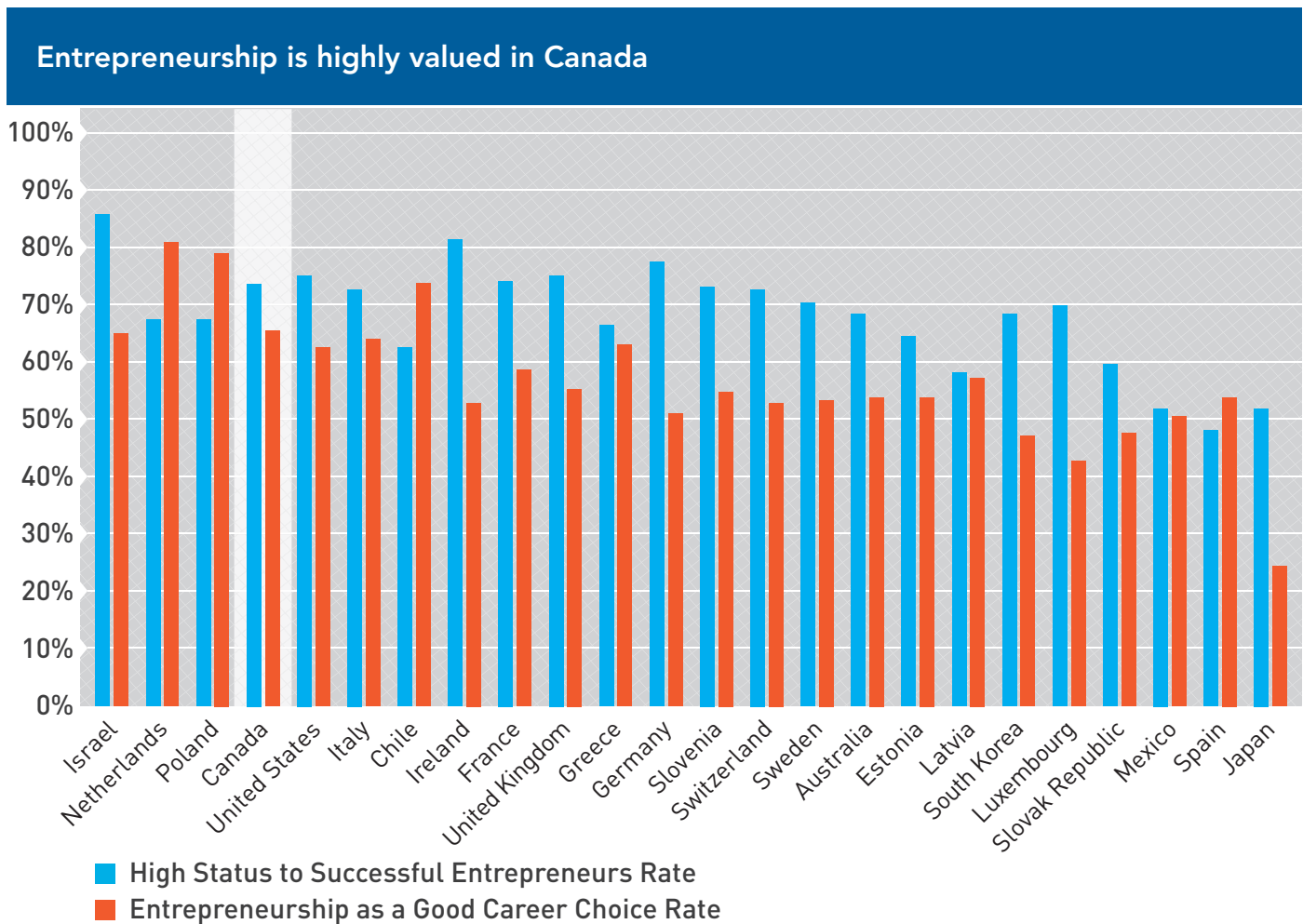
12. Wenli Li, “Entrepreneurship and Government Subsidies: A General Equilibrium Analysis,” *Journal of Economic Dynamics and Control*, Vol. 26, No. 11, September 2002, pp. 1815-1844.

13. Huanmei Li, Graciela Corral de Zubielqui, and Allan O’Connor, “Entrepreneurial Networking Capacity of Cluster Firms: A Social Network Perspective on How Shared Resources Enhance Firm Performance,” *Small Business Economics*, Vol. 45, No. 3, October 2015, pp. 523-541.

14. Brian Domitrovic, “Silicon Valley Exists Thanks to Tax Cuts,” *Foundation for Economic Education*, August 3, 2017.

15. Cooper H. Langford, Peter Josty, and Chad Saunders, 2016 *Gem Canada National Report: Driving Wealth Creation & Social Development in Canada*, *Global Entrepreneurship Monitor*, 2017, pp. 17-18.

Figure 1-2



Note: Percentage of the population aged 18-64 who agree with the statements that in their country, most people consider starting a business as a desirable career choice, and that successful entrepreneurs enjoy high social status.

Source: Global Entrepreneurship Monitor, Data, Entrepreneurial Behaviour and Attitudes, 2017.

and the failures of other restaurateurs in order to perfect their offerings, to the great pleasure of food lovers.

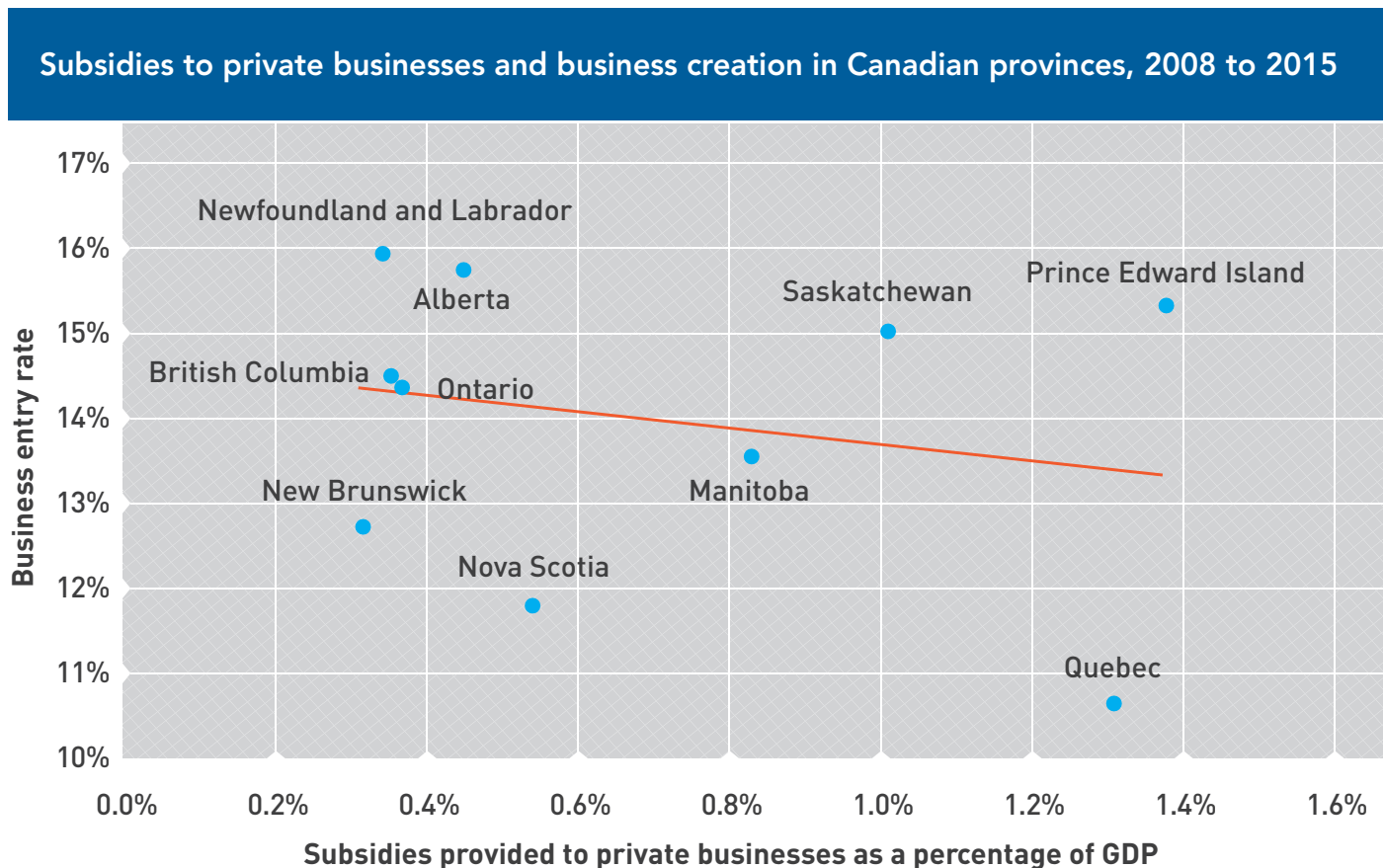
The argument therefore holds that entrepreneurship, even if it's doomed to fail, can create value in the economy by fostering a certain form of experimentation, and that government help can encourage this experimentation. While the first part of this reasoning is solid, it must be noted that government intervention is not neutral, and that it generally encourages a certain kind of experimentation that is related to political concerns, or that provides high visibility. Conversely, a certain number of Canadian entrepreneurial successes happened in markets that would have had less appeal to a government concerned with its image, or that must manage a multitude of lobby groups.

Subsidies crowd out certain kinds of entrepreneurship in favour of others, or encourage entrepreneurs to modify their business plans in order to become eligible for government support.

It is therefore probably more profitable for a politician to support “mediagenic” industries like aviation, multimedia, or technology in general, for example, than the retail sector, which can be less attractive yet have as much of an impact on prosperity.

Another example can help to illustrate the effects of politicizing investment. In Quebec, a certain number of companies have developed systems for making appointments

Figure 1-3



Note: The data points are averages of annual data from 2008 to 2015.

Source: Statistics Canada, CANSIM Table 527-0007: Business Dynamics measures, by industry, per province or territory, 2008-2015; Statistics Canada, CANSIM Table 384-0038: Gross domestic product, expenditure-based, provincial and territorial, 2008-2015; Statistics Canada, CANSIM Table 385-0034: Canadian government finance statistics (CGFS), statement of government operations and balance sheet for the provincial and territorial governments, 2008-2015.

in the public health care system, for a relatively small fee, which has corrected serious deficiencies both in terms of access to a doctor and in terms of waiting times in clinics, which was greatly improved not only for patients who use them, but also for all the rest. This is a good entrepreneurial success story, where a private company essentially resolved a problem by providing what can be described as a new public service.

The Quebec government, however, did not look favourably upon what it perceived as the intrusion of a private company in the public health care system, deciding in the end to intervene where the market had already responded to the need, raising costs for taxpayers all while erasing a portion of the value of the investment of one of these entrepreneurs.¹⁶ Such an intervention not only has no effect; it is costly and harmful. This shows

The creation of these tax credits, whose goal again was to stimulate entrepreneurship, actually led to 400 fewer investments in Canada, representing a total of around \$1 billion each year.

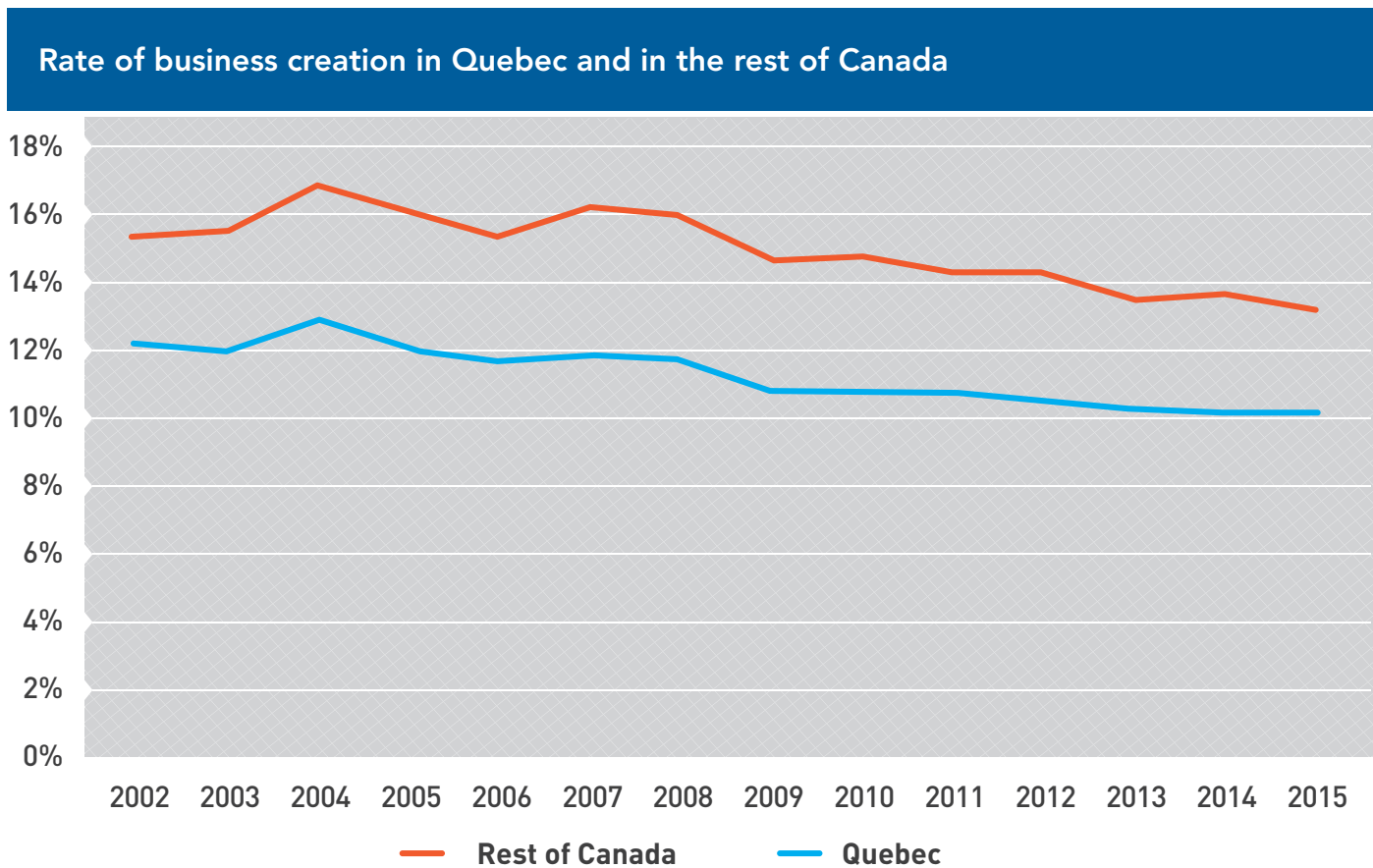
once more that the government does not necessarily invest in the best projects, or at least that if it does, it will try to influence them, and not always in the right direction.

No Effect on Business Creation

If we look at the effect of subsidies to private businesses on the rate of business creation, we see that there is no notable effect. Indeed, there even seems to be an inverse

16. Patrick Déry, "Laissez Bonjour-santé tranquille," *Le Journal de Montréal*, November 29, 2017.

Figure 1-4



Note: The rate of business creation is measured by the entry rate.

Source: Statistics Canada, CANSIM Table 527-0007: Business Dynamics measures, by industry, per province or territory, 2002-2015.

relationship, although the variable is not statistically significant, as shown in Figure 1-3. At a provincial level, corporate subsidies therefore do not increase entrepreneurship.

In certain ways, Quebec is the laggard in Canada when it comes to business creation. In a very general manner, this observation, which is anecdotal from a statistical point of view, is not surprising. The government is much more present in the economy than elsewhere in Canada. Moreover, the gap with the rest of Canada seems relatively stable, as shown in Figure 1-4. Despite the fact that there is more and more talk of entrepreneurship, the form of assistance favoured by successive Quebec governments does not seem to deliver results.

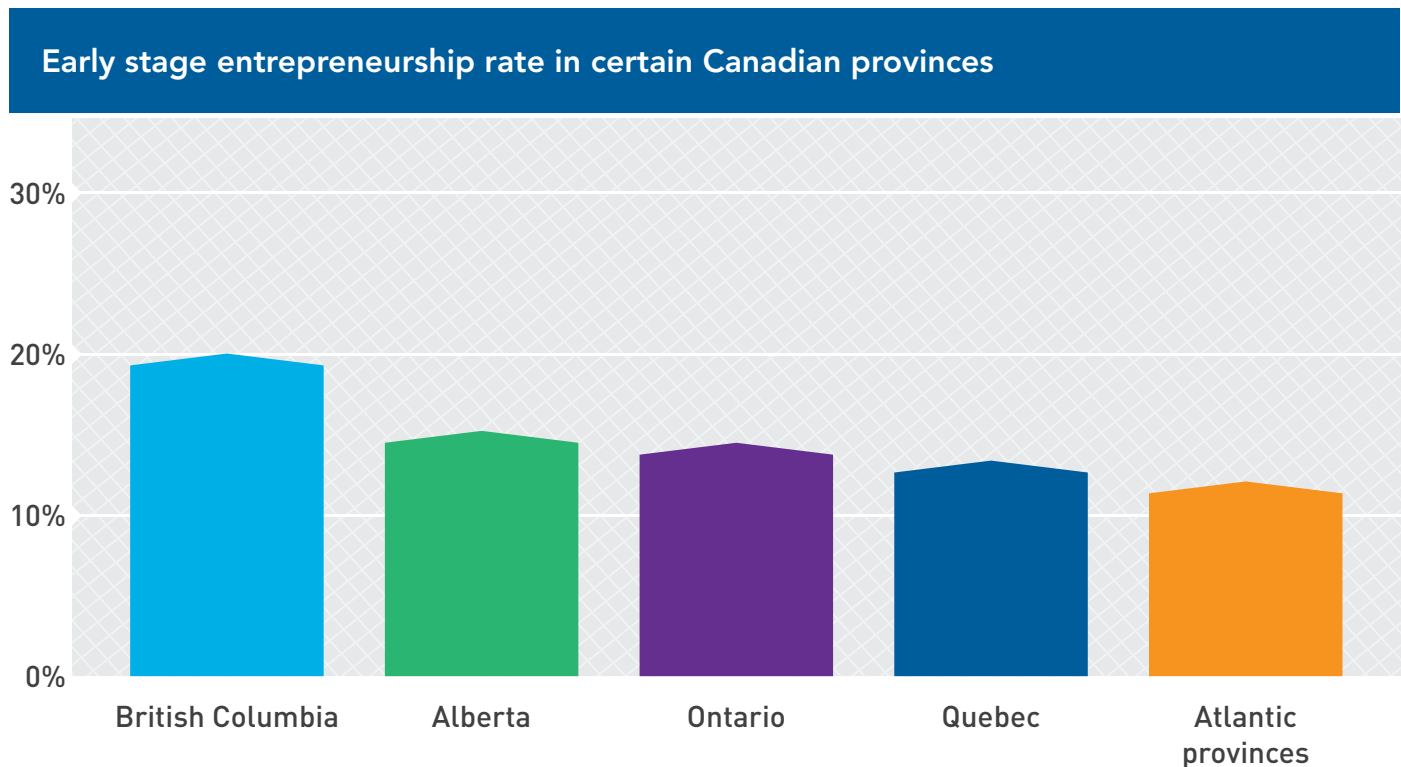
Another measure taken from the *Global Entrepreneurship Monitor* compares early stage entrepreneurship, which is to say the percentage of the working age population declaring themselves entrepreneurs involved in the creation of a business, as well as those whose businesses are up to three and a half years old. This measure gives

According to nearly 75% of the population, successful entrepreneurs enjoy an elevated social status in Canada, while 65% consider being an entrepreneur a good career choice.

a similar result, although the Atlantic provinces group is behind Quebec, as can be seen in Figure 1-5.

Finally, as Figure 1-6 shows, generally speaking, the more governments spend, the fewer new businesses are created. A portion of this relation is unquestionably explained by the crowding out effect: When the government takes on more missions, as is the case for example in education and health care in Canada, there is less room for companies. They are even in many cases formally excluded by public monopolies, although these are areas that are highly conducive to private entrepreneurship, as can be seen in other countries, and even

Figure 1-5



Source: Cooper H. Langford, Peter Josty, and Chad Saunders, 2015 *Gem Canada National Report*, Global Entrepreneurship Monitor, 2015, p. 56.

here, when the government fails to provide the services demanded by the population.

Another part of the relation between the number of businesses created and government investment can be explained by the fact that the latter includes business subsidies. Overall, at best, there is no positive link between these two variables.

Entrepreneurs Finance Themselves

Of course, the existence of barriers to access to financial resources can hinder the process of business creation. But it must not be forgotten that government funding accounts for just a very small part of the financing of businesses. Even venture capital, which certain public policies want to encourage or imitate, is important only for a relatively limited number of businesses with strong growth potential. It is an entrepreneur's own personal savings that constitute the most important source of initial funding for Canadian businesses. In 2015, 70.5% of

start-up capital came from entrepreneurs' personal funds.¹⁷

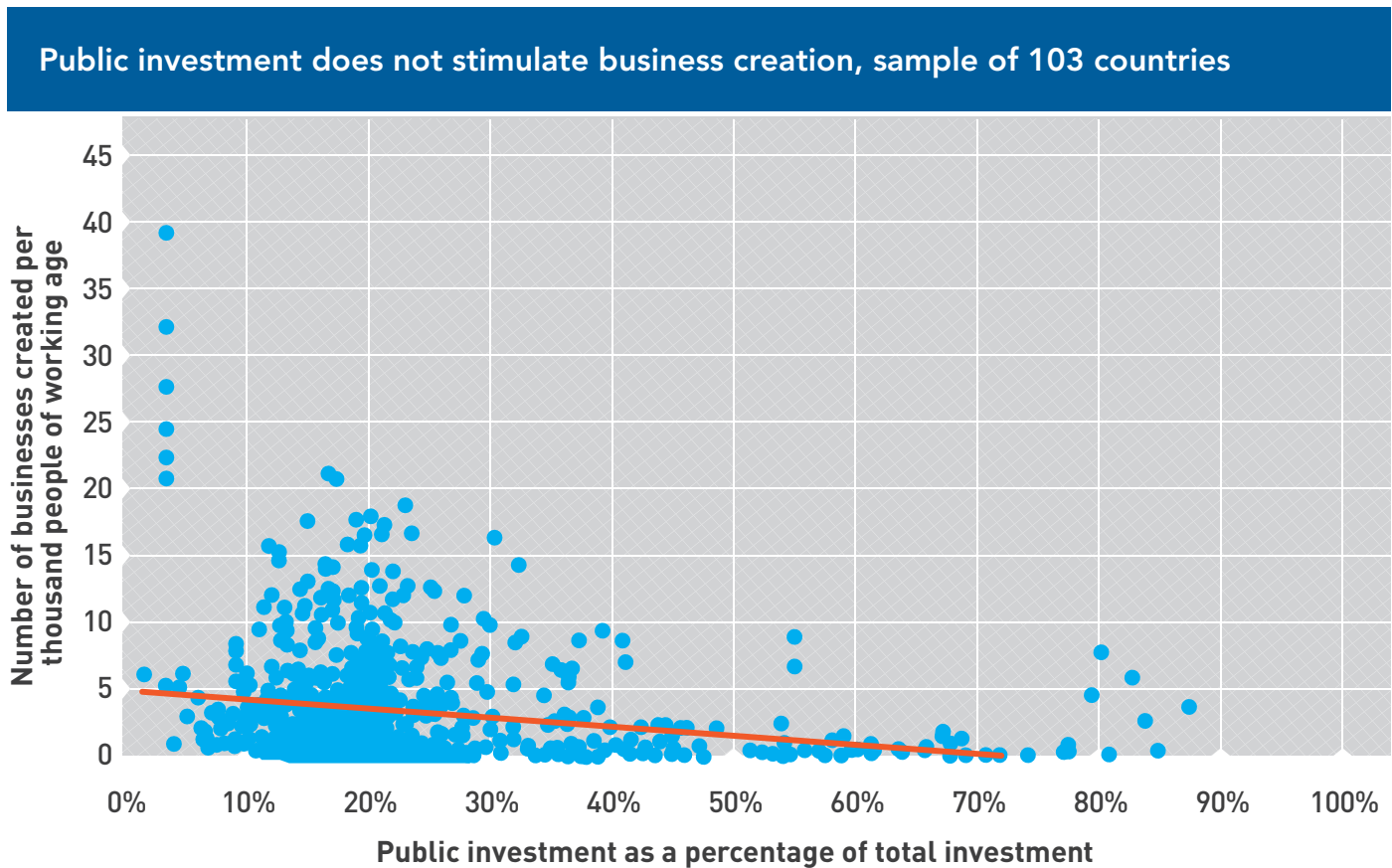
It is probably more profitable for a politician to support "mediagenic" industries like aviation, multimedia, or technology in general, for example, than the retail sector.

Of course, banks still play an important role in the United States when it comes to providing liquidity to young businesses.¹⁸ But as shown in Figure 1-7, informal sources of funding, such as family and friends, are also present in a large portion of businesses created. Certain targeted studies, focusing on poor American neighbourhoods, even show that in these neighbourhoods, loans are generally not a significant source of funding for the

17. Caroline Daniels, Mike Herrington, and Penny Kew, *Global Entrepreneurship Monitor Entrepreneurial Finance Special Topic Report 2015-2016*, Global Entrepreneurship Research Association, 2016, p. 51.

18. Alicia M. Robb and David T. Robinson, "The Capital Structure Decisions of New Firms," *The Review of Financial Studies*, Vol. 27, No. 1, January 2014, pp. 153-179.

Figure 1-6



Note: The selected countries are those for which data was available for the two indicators between 2006 and 2015. Public investment as a percentage of total investment uses the raw data used to build the index, rather than the index itself, in order to have a continuous rather than a discrete variable.

Source: James Gwartney, Robert Lawson, and Joshua Hall, *Economic Freedom of the World: 2017 Annual Report*, Fraser Institute, 2017, Dataset - Data for researchers; World Bank, Doing Business, Data, Entrepreneurship.

creation of businesses; up to 50% of people questioned had financed their businesses entirely from their own resources.¹⁹

Companies relying mainly on entrepreneurs' savings in their infancy are not necessarily destined to remain small. In 2000, among the 500 fastest growing companies (according to *Inc. 500*), 16% started with less than \$1,000, 42% with \$10,000 or less, and 58% with \$20,000 or less.²⁰ Businesses having launched with less than \$20,000 are unlikely to have received initial funding from angel investors or other sources; they probably

relied on the savings of the entrepreneur, family, or personal relations.

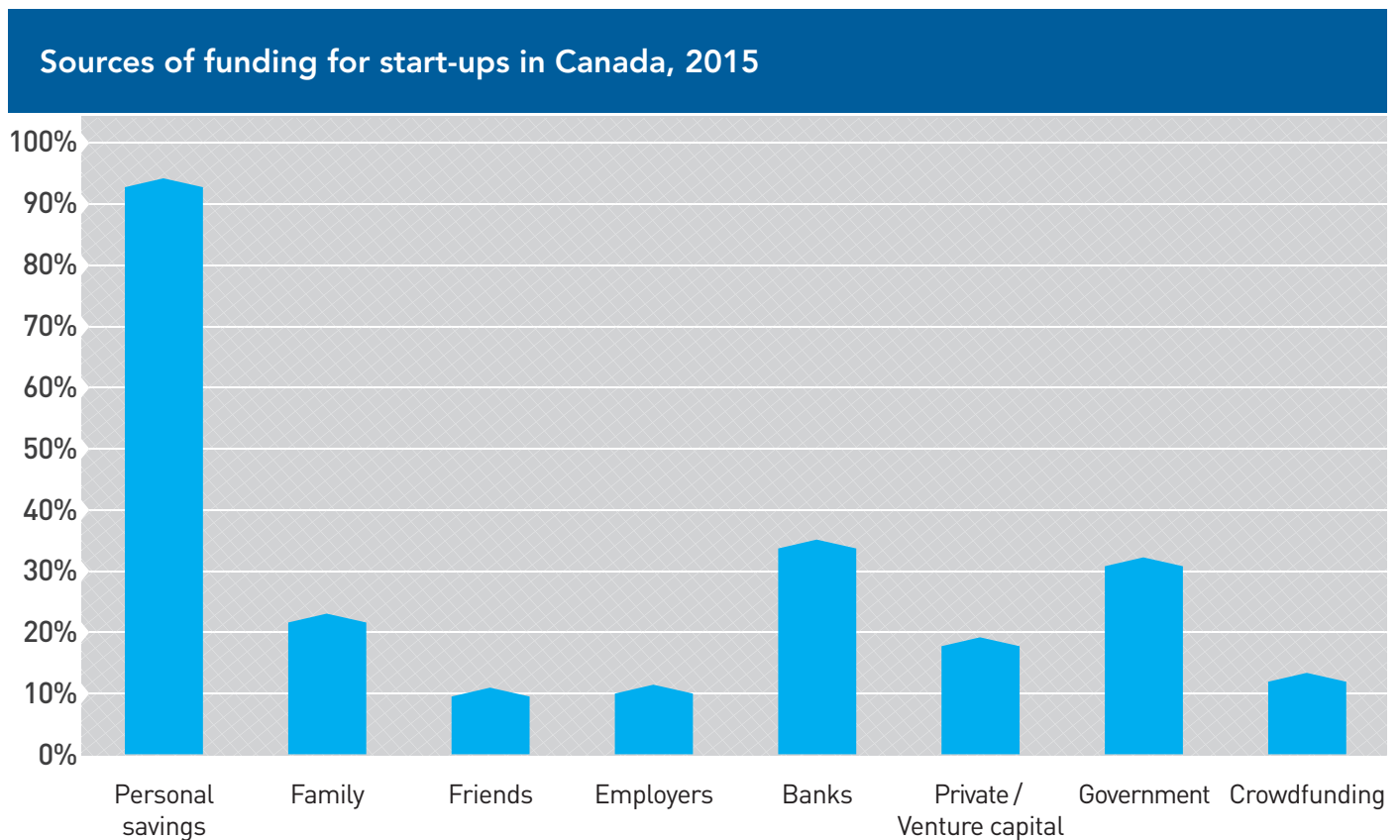
This shows that the government does not necessarily invest in the best projects, or at least that if it does, it will try to influence them, and not always in the right direction.

If the accumulation of capital is a significant source of funding for businesses, then high taxes are a very real drag on investment, since they reduce and slow this capital accumulation. Basically, it is therefore better to let entrepreneurs build up their own start-up capital thanks to low taxes, rather than subsidizing business creation.

19. Philip Bond and Robert Townsend, "Formal and Informal Financing in a Chicago Ethnic Neighborhood," *Federal Reserve Bank of Chicago Economic Perspectives*, Vol. 20, No. 4, 1996, pp. 3-27.

20. William D. Bygrave and Niels Bosma, "Investor Altruism: Financial Returns from Informal Investments in Business Owned by Relatives, Friends and Strangers," in Maria Minniti (ed.), *The Dynamics of Entrepreneurship: Evidence from Global Entrepreneurship Monitor Data*, Oxford University Press, 2011.

Figure 1-7



Source: Caroline Daniels, Mike Herrington, and Penny Kew, *Global Entrepreneurship Monitor Entrepreneurial Finance Special Topic Report 2015-2016*, Global Entrepreneurship Research Association, 2016, p. 51.

If we look at the effect of subsidies to private businesses on the rate of business creation, we see that there is no notable effect. Indeed, there even seems to be an inverse relationship.

Beyond funding, if governments want to encourage the appearance of more entrepreneurial opportunities, and want these to give rise to productive businesses, it would be better off considering public policies to foster competition, lower taxes, the opening up of borders (internal as well as external), and a light regulatory burden.

Such public policies are measured by the *Economic Freedom of the World Index*. Numerous studies have shown that this index is positively correlated with the quantity and the quality of entrepreneurship internationally, regionally (provinces and states), and at the metro-

politan level.²¹ Figure 1-8 shows that when comparing countries, there is a clear link between economic freedom and the rate of business creation.

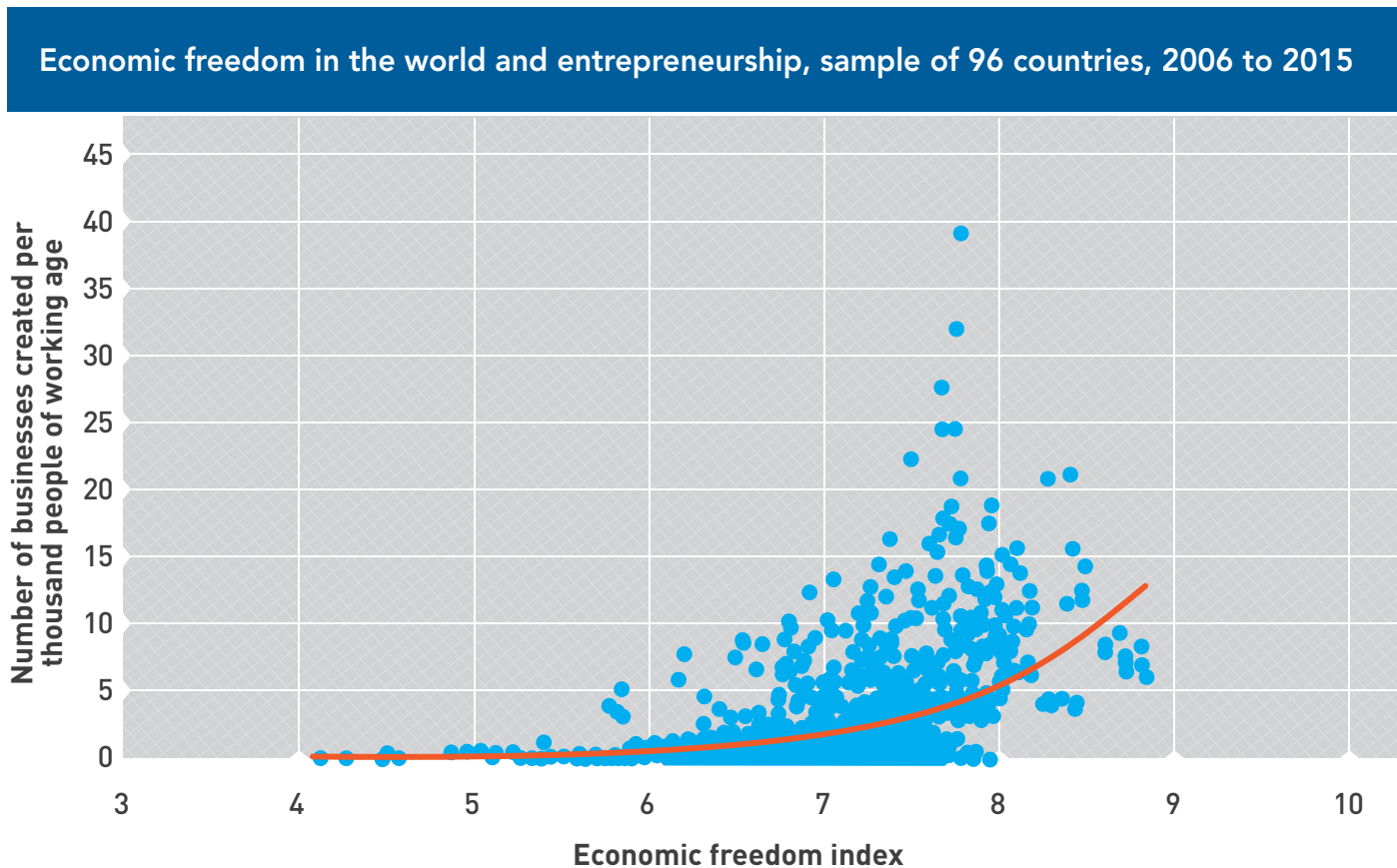
Conclusion

The notion that subsidizing the creation or the expansion of businesses has a decisive impact on entrepreneurship is not confirmed. Indeed, this kind of assistance seems to reduce the number of businesses. Other, more sophisticated arguments, invoking theories of market failure and positive externalities to defend subsidies for business creation, are no more convincing.

At best, the net effect of subsidies to entrepreneurship is null, but the impact on public finances, and therefore on taxes levied, is in the billions, which is without any doubt harmful to entrepreneurship, since the quantity of capital available for investment is reduced. If governments

21. Mathieu Bédard, *Entrepreneurship and Economic Freedom: An Analysis of Empirical Studies*, Research Paper, MEI, November 4, 2016.

Figure 1-8



Note: The rate of business creation is expressed as the number of businesses created per thousand people of working age.

Source: James Gwartney, Robert Lawson, and Joshua Hall, *Economic Freedom of the World: 2017 Annual Report*, Fraser Institute, 2017, Dataset – Data for researchers; World Bank, Doing Business, Data, Entrepreneurship.

want to encourage entrepreneurship, they must adopt more effective measures.

Despite the fact that there is more and more talk of entrepreneurship, the form of assistance favoured by successive Quebec governments does not seem to deliver results.

This chapter looked at the more macroeconomic issue of public policies actively trying to influence the number of businesses through subsidies of various types. The next chapter will examine, from a microeconomic and therefore more individual and personal point of view, the motives that push entrepreneurs to start a business.

CHAPTER 2

The Decision to Start a Business: The Impact of Taxation

Entrepreneurs, when asked, often claim that taxation had no impact on their decision to start a business. The passion to create and run a business is, according to them, the only factor in their decision. Yet taxation obviously has an undeniable effect on an entrepreneur's income. Does the heart have reasons of which reason knows nothing?

Everyone recognizes that entrepreneurial passion is an essential prerequisite to starting a business. But one of the first lessons of economics is that incentives, including taxation, are crucial in explaining decisions.

When economists maintain that incentives matter, some non-economists imagine this means that other influences, like passion, don't matter. Yet this is not at all what economists mean; they simply insist that if all other influences are absolutely stable (the passion to start a business, the related glory, the recognition of society, the fact of being one's own boss, etc.) while the tax burden is reduced, then more people will be entrepreneurs, since the reward will be bigger. Conversely, if this reward is reduced while all other influences remain constant, fewer people will turn to entrepreneurship.

Both entrepreneurship and taxation are matters of extensive study in economics. This chapter will attempt to reconcile these two notions and to situate the importance of taxation in the decision to start a business.

The Decision to Become an Entrepreneur

There is an indisputable fact about entrepreneurship which is of high importance when discussing public policies likely to increase its prevalence: Starting a business has a very personal cost for an entrepreneur. This is not the cost of the initial investment needed for the down payment—although we will return to this later—but of the opportunity cost.

According to a saying attributed to the French philosopher André Gide, "choosing is renouncing." When an entrepreneur chooses to start a business, he or she renounces a career, sometimes as an employee or maybe even as an executive in an established company, and also renounces the salary that goes with this career. This is done for the passion of being an entrepreneur and of building something, but also in the hope of a future

income that is uncertain and that depends on the success of the new business.

Taxation has effects on this decision on several levels and in several ways. First, of course, it has an effect on the size of the reward the entrepreneur will get if the business succeeds, which is much more uncertain than the reward of being a salaried worker.

But taxation also has an effect on the decision to start a business or not, even though many people—including many entrepreneurs—claim the opposite. In a certain way, those who say that taxes have no effect on entrepreneurship are partly right. A survey of the available academic research on the matter does not at first glance reveal a broad consensus for or against the idea that the weight of the tax burden discourages entrepreneurship, as Table 2-1 shows.

The more that research techniques are refined, the more the hypothesis that high taxes reduce entrepreneurship is confirmed.

Yet this is only true at first glance, since the more that research techniques are refined, the more the hypothesis that high taxes reduce entrepreneurship (and investment in general) is confirmed. Despite somewhat divergent results, we can therefore state that there is convincing proof that the fundamental intuition of economics, according to which taxes have a negative effect on entrepreneurship and investment, still holds.²²

Why is this so? For one thing, the apparent contradictions listed in Table 2-1 are the result of different methodologies used by different researchers, of the time period studied, of the countries chosen, of particular variables, and of several other methodological choices.

One of these differences has to do with the risk of starting a business. As mentioned before, it is common to think that creating a business exposes an entrepreneur

22. Simeon Djankov et al., "The Effect of Corporate Taxes on Investment and Entrepreneurship," *American Economic Journal: Macroeconomics*, Vol. 2, No. 3, July 2010, pp. 31-64; Magnus Henrekson and Tino Sanandaji, "Entrepreneurship and the Theory of Taxation," *Small Business Economics*, Vol. 37, No. 2, September 2011, pp. 167-185; William M. Gentry and R. Glenn Hubbard, "Tax Policy and Entrepreneurial Entry," *American Economic Review*, Vol. 90, No. 2, May 2000, pp. 283-287.

Table 2-1

Summary of recent research on the connection between taxation and entrepreneurship			
AUTHORS	COUNTRIES	TAXATION VARIABLES	EFFECT ON ENTREPRENEURSHIP
Baliamoune-Lutz and Garelo (2014)	15 European countries at the same stage of development	Progressivity of taxation	–
		Average tax rate	x
		Maximum tax rate	x
van Stel <i>et al.</i> (2004)	36 countries at different stages of development	Social security spending	–
		Government tax revenue	+
Parker and Robson (2004)	12 OECD countries	Average tax rate	+
		Social security contributions	–
Wennekers <i>et al.</i> (2005)	36 countries at different stages of development	Social security spending	–
		Government tax revenue	+
Georgellis and Wall (2006)	United States (aggregate state data)	Marginal tax rate	– and + (U-shaped curve)
Bruce and Deskins (2012)	United States	Progressivity of personal income taxes	+
Bruce (2000)	United States	Marginal self-employment tax rate	+
		Marginal self-employment tax rate	–
Schuetze (2000)	United States and Canada	Average federal and regional tax rates	+
Carroll <i>et al.</i> (2001)	United States	Average tax rate on entrepreneurial income	–
Parker (2003)	United Kingdom	Tax incentives	x
Gentry and Hubbard (2000)	United States	Marginal tax rate	–
		Average tax rate	+
		Progressivity of taxation	–
Gentry and Hubbard (2004)	United States	Marginal tax rate	x
		Progressivity of taxation	–
Gentry and Hubbard (2005)	United States	Marginal tax rate	–
		Progressivity of taxation	–
Stabile (2004)	Canada	Marginal tax rate	–
		Social security taxes on salaries	+

Table 2-1 (cont.)

Summary of recent research on the connection between taxation and entrepreneurship			
AUTHORS	COUNTRIES	TAXATION VARIABLES	EFFECT ON ENTREPRENEURSHIP
Gurley-Calvez and Bruce (2009)	United States	Marginal tax rate for salaried workers	+
		Marginal tax rate for entrepreneurs	-
Fossen and Steiner (2009)	Germany	Marginal tax rate for SMEs	-
Bacher and Brühlhart (2010)	Switzerland	Progressivity of corporate taxation	+
Hansson (2012)	Sweden	Marginal tax rate	-
		Average tax rate	-
Da Rin et al. (2011)	17 European countries	Corporate tax rate	-
Parker (1996)	United Kingdom	Marginal tax rate	+
Robson (1998)	United Kingdom	Marginal tax rate	x
		Average tax rate	+
Robson and Wren (1999)	15 OECD countries	Marginal tax rate	x
		Average tax rate	+
Bruce and Moshin (2006)	United Kingdom	Several taxation measures	-
Stenkula (2012)	Sweden	Payroll taxes	-
		Taxes on earned income	x
		Capital gains taxes	x

Legend: + Positive effect - Negative effect x No link found

Sources: Mina Balamoune-Lutz and Pierre Garelo, "Tax structure and entrepreneurship," *Small Business Economics*, Vol. 42, No. 1, January 2014, pp. 165-190. The research cited in the table is: André van Stel et al., "Explaining Variation in Nascent Entrepreneurship," EIM bv, Zoetermeer, January 2004; Simon C. Parker and Martin Robson, "Explaining International Variations in Self-Employment: Evidence From a Panel of OECD Countries," *Southern Economic Journal*, Vol. 71, No. 2, 2004, pp. 287-301; Sander Wennekers et al., "Nascent Entrepreneurship and the Level of Economic Development," *Small Business Economics*, Vol. 24, 2005, pp. 293-309; Yannis Georgellis and Howard J. Wall, "Entrepreneurship and the Policy Environment," *Review of the Federal Reserve Bank of St. Louis*, March 2006, pp. 95-112; Donald Bruce and John Deskins, "Can State Tax Policies Be Used to Promote Entrepreneurial Activity?" *Small Business Economics*, Vol. 38, 2012, pp. 375-397; Donald Bruce, "Effects of the United States Tax System on Transitions into Self-Employment," *Labour Economics*, Vol. 7, No. 5, 2012, pp. 545-574; H. J. Schuetze, "Taxes, Economic Conditions and Recent Trends in Male Self-Employment: A Canada-US Comparison," *Labour Economics*, Vol. 7, No. 5, 2000, pp. 507-544; Robert Carroll et al., "Personal Income Taxes and the Growth of Small Firms," in James Porterba (ed.), *Tax Policy and the Economy*, Vol. 15, MIT Press, 2001; Simon C. Parker, "Does Tax Evasion Affect Occupational Choice?" *Oxford Bulletin of Economics and Statistics*, Vol. 65, No. 3, 2003, pp. 379-394; William M. Gentry and R. Glenn Hubbard, "Tax Policy and Entrepreneurial Entry," *American Economic Review*, Vol. 90, No. 2, 2000, pp. 283-287; William M. Gentry and R. Glenn Hubbard, *Tax Policy and Entry into Entrepreneurship*, Williams College and Columbia University, 2004; William M. Gentry and R. Glenn Hubbard, "'Success Taxes', Entrepreneurial Entry and Innovation," in J. B. Adam, J. Lerner, and S. Stern (eds.), *Innovation Policy and the Economy*, Vol. 5, 2005, NBER and MIT Press; Mark Stabile, "Payroll Taxes and the Decision to Be Self-Employed," *International Tax and Public Finance*, Vol. 11, 2004, pp. 31-53; Tami Gurley-Calvez and Donald Bruce, "Do Tax Rate Cuts Encourage Entrepreneurial Entry?" *Journal of Entrepreneurship and Public Policy*, Vol. 2, No. 2, 2013, pp. 178-202; Frank M. Fossen and Viktor Steiner, "Income Taxes and Entrepreneurial Choice: Empirical Evidence from Two German Natural Experiments," *Empirical Economics*, Vol. 36, 2009, pp. 487-513; Hans Ulrich Bacher and Marius Brühlhart, "Progressive Taxes and Firm Births," *International Tax and Public Finance*, Vol. 20, No. 1, February 2013, pp. 129-168; Åsa Hansson, "Tax Policy and Entrepreneurship: Empirical Evidence from Sweden," *Small Business Economics*, Vol. 38, No. 4, pp. 495-513; Marco Da Rin, Marina Di Giacomo, and Alessandro Sembenelli, "Entrepreneurship, Firm Entry, and the Taxation of Corporate Income: Evidence from Europe," *Journal of Public Economics*, Vol. 95, Nos. 9-10, October 2011, pp. 1048-1066; Simon C. Parker, "A Time Series Model of Self-Employment under Uncertainty," *Economica*, Vol. 63, No. 251, August 1996, pp. 459-475; Martin T. Robson, "The Rise in Self-Employment Amongst U.K. Males," *Small Business Economics*, Vol. 10, No. 3, May 1998, pp. 199-212; Martin T. Robson and Colin Wren, "Marginal and Average Tax Rates and the Incentive for Self-Employment," *Southern Economic Journal*, Vol. 65, No. 4, April 1999, pp. 757-773; Donald Bruce and Mohammed Moshin, "Tax Policy and Entrepreneurship: New Time Series Evidence," *Small Business Economics*, Vol. 26, No. 5, June 2006, pp. 409-425; Mikael Stenkula, "Taxation and Entrepreneurship in a Welfare State," *Small Business Economics*, Vol. 39, No. 1, July 2012, pp. 77-97.

to a more uncertain future. Many researchers take this as a given, but not all. By definition, an entrepreneur is an individual who is convinced that there is a business opportunity just waiting to be seized.

From his or her point of view, creating a business can indeed even be a strategy for minimizing risk, since being a wage earner is not without its uncertainties: It happens from time to time that companies scale back their activities and fire some employees; they even sometimes disappear, entailing the loss of many jobs, and in certain cases, taking employee pension funds with them.

It is therefore not possible to state, with certainty and objectivity, that entrepreneurs all have a taste for risk, nor that they are afraid of risk for that matter. All that we can safely say is that entrepreneurs are not indifferent to risk.

What Is an Entrepreneur?

Another methodological difficulty that can explain these different results has to do with the very definition of an entrepreneur. Research in this area struggles with an identification problem: It is not easy to find statistics that succeed in precisely defining what an entrepreneur is.

For example, studies often use the number of self-employed workers as an indirect indicator of the number of entrepreneurs, but this is not a perfect metric.²³ The labour market is not the same all around the world, and in certain countries, a portion of the labour force identifies as self-employed essentially for tax purposes, without their activity being very entrepreneurial, regardless of how entrepreneurship is defined. The same kind of problem occurs on different levels when using data representing entrepreneurial activity or the number of nascent businesses.

Entrepreneurship is an abstract concept. An entrepreneur not only is attentive to profit opportunities that have not yet been seized, but also acts to seize them, which is something that is very difficult, and maybe impossible, to measure. Even entrepreneurship in the conventional sense, namely the creation and management of a new for-profit business, is not easy to quantify. The person who shows vigilance and seizes a profit opportunity is not always the owner, or even a manager, but sometimes a third party. Add to this the phenomenon of “intrapreneurship,” in which employees act like entrepreneurs within an organization by innovating, and it becomes

obvious that an empirical assessment, however detailed, will only ever paint a partial picture.

Despite all this—and as mentioned before—as identification techniques improve, the hypothesis that a heavier tax burden leads to fewer entrepreneurs seems to be confirmed.

There is another, more fundamental reason, though, why taxation has a significant impact on entrepreneurship, despite the lack of consensus and despite the personal experience of certain entrepreneurs: This is the fact that taxation has an effect *before* the decision to become an entrepreneur or not.

The Crucial Role of Saving

Before a potential entrepreneur even poses the question of whether to set off on an entrepreneurial adventure, an important factor comes into play, and this factor is in turn heavily influenced by taxation: the accumulation of capital.

Taxation has an effect before the decision to become an entrepreneur or not.

In the first chapter, we saw that in many cases, a very large proportion of a business’s start-up capital comes from the entrepreneur’s savings, and that in over 90% of cases, at least some of the entrepreneur’s personal savings are used.

This is not a new or original idea, since it is even present in the 18th century writings of Adam Smith:²⁴

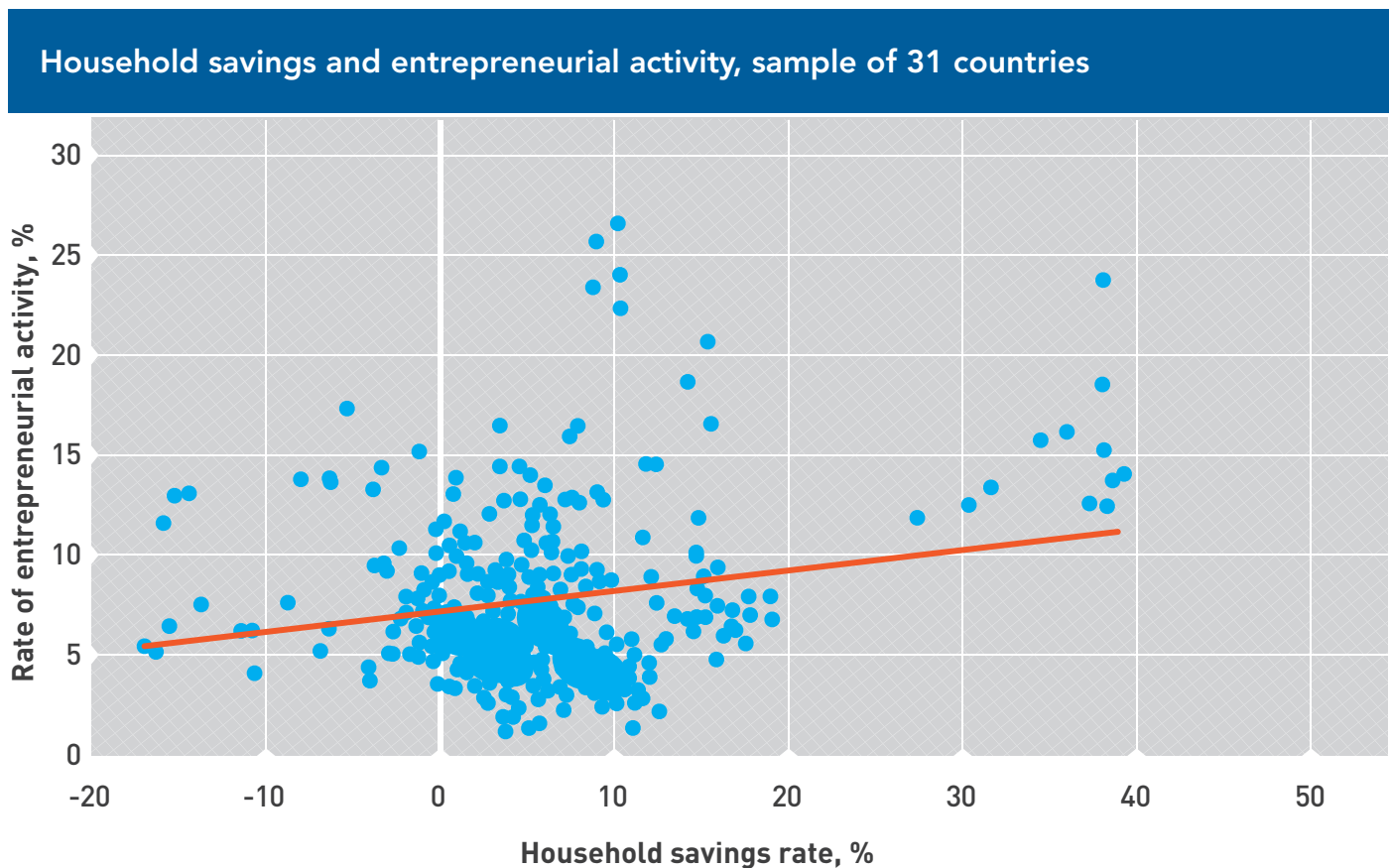
Besides possessing a little capital, he must be able to read, write, and account, and must be a tolerable judge too of, perhaps, fifty or sixty different sorts of goods, their prices, qualities, and the markets where they are to be had cheapest. He must have all the knowledge, in short, that is necessary for a great merchant, which nothing hinders him from becoming but the want of a sufficient capital.

Personal savings are important because the other sources of investment are not perfect substitutes. By definition, entrepreneurs are people who have understood something that others have not noticed. Their vigilance when

23. David G. Blanchflower, “Self-Employment: More May Not Be Better,” *Swedish Economic Policy Review*, Vol. 11, 2004, pp. 15-73.

24. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Edwin Cannan (ed.), Methuen, Vol. 1, Book 1, Chapter 10, 1904 (1776), p. 114.

Figure 2-1



Note: The household savings rate is net household savings divided by disposable household income.

Sources: OECD, Data, "Household savings," 2018; Global Entrepreneurship Monitor, Entrepreneurial Behaviour and Attitudes, 2001-2016.

it comes to profit opportunities allows them to perceive a demand that is unsatisfied, or a supply source that is not yet fully exploited by the market. The communication of this knowledge and these intuitions is not always easy, even though they may be clear in the mind of the entrepreneur.

A very large proportion of a business's start-up capital comes from the entrepreneur's savings.

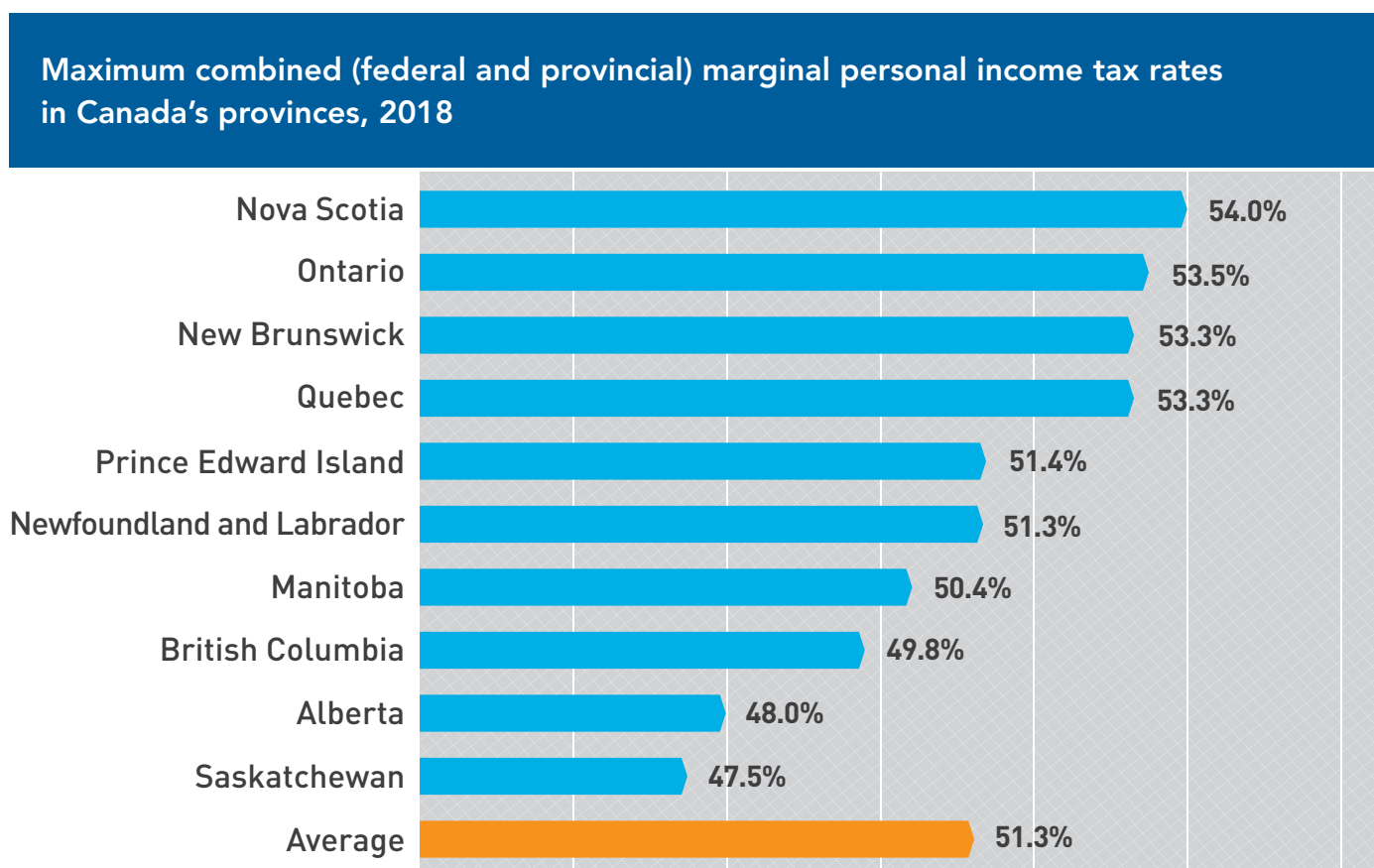
This is the case, for example, with certain kinds of expertise that are difficult to explain, much less to prove, to external investors. Convincing investors to participate in a project whose importance and potential only the entrepreneur sees can be a very difficult task, whether the investor is a family member, a bank, an angel investor, or even the government. The personal accumulation of wealth is therefore crucial to entrepreneurship, because it is difficult to replace it with other sources of funding.

In other cases, the communication of this entrepreneurial opportunity, to which only the entrepreneur has been vigilant, is made more complicated by the entrepreneur's communicational abilities, independent of the quality of the opportunity. It is not all entrepreneurs who are skilled at persuading their interlocutors. In these conditions, obtaining external funding can also prove difficult.

In all of these cases, the absence of personal savings, or simply the fact that these savings are smaller, can have a decisive impact on the possibility of starting a business. For example, a study looking at American households between 1983 and 1989 confirmed the link between savings and entrepreneurship.²⁵ Among other things, well-off households are more likely to include an entrepreneur, which suggests that financial constraints do indeed limit

25. William M. Gentry and R. Glenn Hubbard, "Entrepreneurship and Household Saving," *Advances in Economic Analysis & Policy*, Vol. 4, No. 1, 2004.

Figure 2-2



Source: Chaire en fiscalité et en finances publiques, *Bilan de la fiscalité au Québec édition 2018*, Université de Sherbrooke, Cahier de recherche 2018/01, January 11, 2018, p. 29.

the creation of businesses.²⁶ A Canadian study conducted based on data from 1981 concluded that having investment income thanks to a substantial inheritance increases the odds of becoming an entrepreneur.²⁷

Other research proves this point indirectly by also showing that the move to entrepreneurship becomes more likely following the reception of significant and sometimes unexpected money, like a large inheritance or a lottery win.²⁸

Finally, it is possible that having fewer savings in the first place makes one less vigilant when it comes to profit

The personal accumulation of wealth is therefore crucial to entrepreneurship, because it is difficult to replace it with other sources of funding.

opportunities. According to this hypothesis, the option of starting a business only features among the choices considered possible and feasible by an individual when he or she already has a minimum of savings, or at least a current or future capacity to save that is sufficient. This is moreover consistent with the idea that one starts a business out of passion, and not because of taxation: Taxation, because it reduces savings, removes from those who do not have the ability to save enough the option of starting a business out of passion.

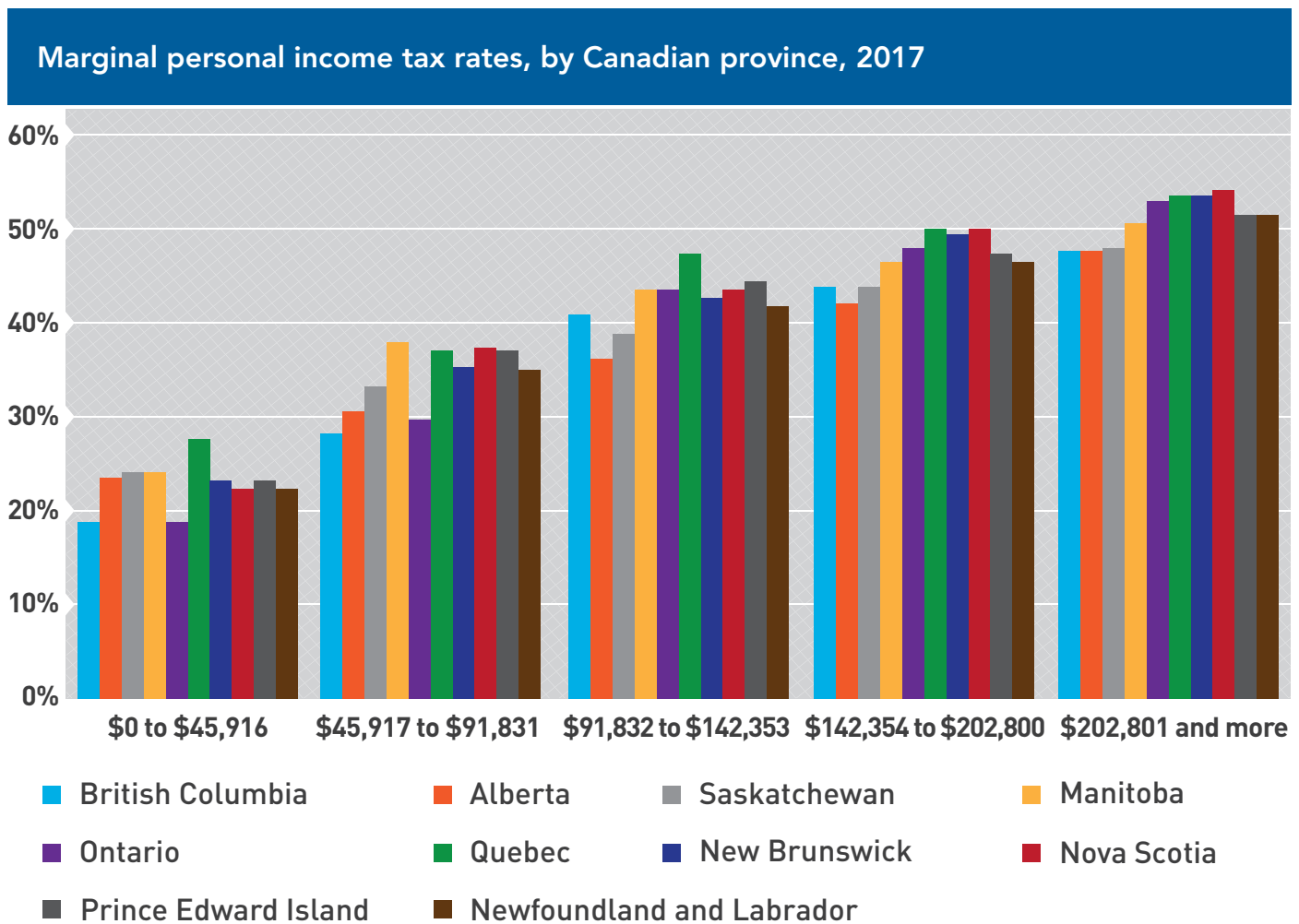
As shown in Figure 2-1, household savings stimulate entrepreneurial activity. Countries like China, Chile, and

26. However, there is other research that qualifies the amplitude of the financial constraint. Erik Hurst and Annamaria Lusardi, "Liquidity Constraints, Household Wealth, and Entrepreneurship," *Journal of Political Economy*, Vol. 112, No. 2, April 2004, pp. 319-347.

27. Irwin Bernhardt, "Comparative Advantage in Self-Employment and Paid Work," *Revue canadienne d'économie*, Vol. 27, No. 2, May 1994, pp. 273-289.

28. See David G. Blanchflower, *op. cit.*, footnote 23 for an overview of several studies in various countries. In particular, see Douglas Holtz-Eakin, David Joulfaian, and Harvey S. Rosen, "Entrepreneurial Decisions and Liquidity Constraints," *The RAND Journal of Economics*, Vol. 25, No. 2, 1994, pp. 334-347.

Figure 2-3



Note : This figure applies to salary income and includes all provincial and federal income taxes and surtaxes, excluding tax reductions for low-income people and provincial health premiums. The following federal and provincial tax credits are included in the calculations: the federal employment amount, Canada and Quebec Pension Plan contributions, premiums paid for employment insurance and the Quebec Parental Insurance Plan.

Given that more than one rate can apply to a particular income bracket because of differences between federal and provincial thresholds, the rates indicated in the figure are the midpoints of the federal tax brackets. The figure assumes an income that is in the middle of a given tax bracket.

For provinces that have tax brackets above the top federal tax bracket of \$202,800 (which is to say, Alberta and Ontario), the average of the two rates was used.

Significant salary income in addition to the income in the middle range of the bracket may entail a higher marginal tax rate.

Source: KPMG, Tax Facts 2017-2018, 2017, p. 37.

Mexico are countries where the household savings rate is high; they also have a lot of entrepreneurial activity.

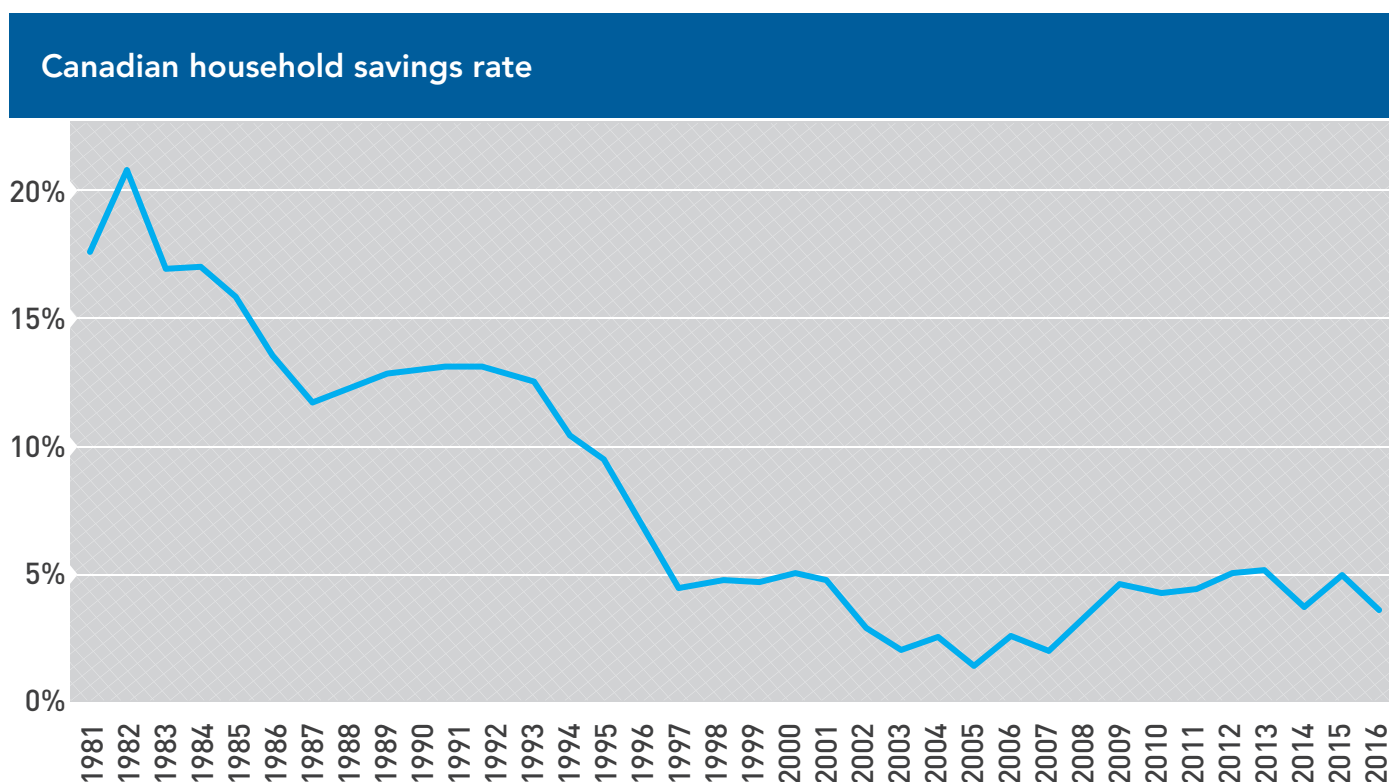
Savings, which are essentially the result of the accumulation of wealth prior to the creation of a business, are very significantly affected by taxation.²⁹ The reason is that taxation raises the cost of saving.

Should I Save or Should I Spend?

At any given moment, saving is in competition with immediate consumption in the budgets of individuals; these are alternative ways of allocating income. Returning to the concept of opportunity cost evoked earlier, the cost of saving is, from this perspective, the immediate consumption that one must forego. Conversely, the cost of immediate consumption is the saving one must forego, but also the future income that this saving would generate, which must also be foregone. To understand how taxation increases the cost of saving, compare a

29. Karel Mertens and Morten O. Ravn, "The Dynamic Effects of Personal and Corporate Income Tax Changes in the United States," *American Economic Review*, Vol. 103, No. 4, pp. 1212-1247.

Figure 2-4



Note: The household savings rate is net household savings divided by disposable household income.

Sources: Statistics Canada, CANSIM Table 380-0078: Undistributed corporation profits; Statistics Canada, CANSIM Table 380-0072: Current and capital accounts – Households; Statistics Canada, CANSIM Table 384-0040: Current accounts – Households, provincial and territorial; Statistics Canada, CANSIM Table 380-0080: Revenue, expenditure and budgetary balance – General governments; Statistics Canada, CANSIM Table 380-0064: Gross domestic product, expenditure-based; Statistics Canada, CANSIM Table 326-0021: Consumer Price Index.

scenario without income tax to a scenario in which income tax is collected.³⁰

In our example, an individual receives a \$1,000 bonus. He or she has the choice to use this additional income for immediate consumption, for example to buy a \$1,000 home theatre system, or to purchase bonds for the same amount. Suppose, to use a round number, that these pay 10% interest annually and therefore produce \$100 of income each year. In this first scenario, the opportunity cost of the home theatre is, obviously enough, the \$100 of annual income which our investor must forego.

Now, let's incorporate taxation to understand how it influences the decision to save. Suppose that, in a second scenario, the marginal tax rate that applies to this \$1,000 bonus is 25%. (For simplicity's sake, we will ignore

The option of starting a business only features among the choices considered possible and feasible by an individual when he or she already has a minimum of savings.

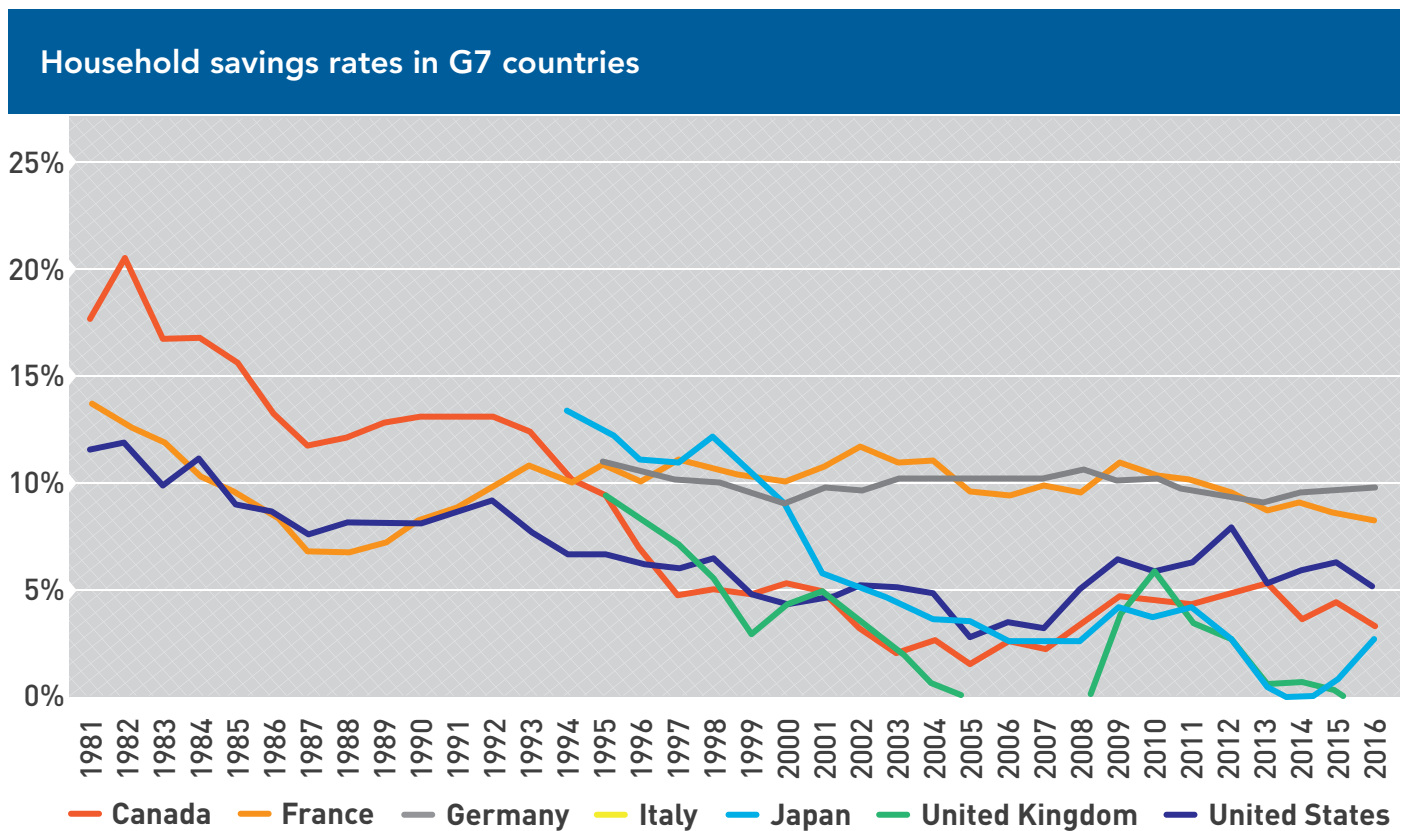
Registered Retirement Savings Plans (RRSPs), Tax-Free Savings Accounts (TFSAs), and other government programs, which are important, but with which we need not concern ourselves for the purposes of the exercise.)

In this second scenario, taxes reduce the income from \$1,000 to \$750. With this amount, an individual can either immediately consume \$750 or invest, still at the same 10% interest rate, for an annual income of \$75. But since interest is taxed as income in Canada, this investment will generate net income of only \$56.25.

The difference between the scenarios with and without taxation is the following: Without taxation, one must

30. This scenario borrows heavily and freely from a passage of a scientific paper. Norman B. Ture, "The Economic Effects of Tax Changes: A Neoclassical Analysis," in *The Supply-Side Solution*, Bruce Bartlett and Timothy P. Roth (eds.), Manhattan Institute for Policy Research, 1983, p. 37.

Figure 2-5



Source: OECD, National Accounts at a Glance, Household net saving, Percentage of net household disposable income.

forego \$1,000 of immediate consumption to obtain an additional annual income of \$100. The investment cost, per dollar of future annual income, is therefore the abandonment of \$10 of immediate consumption.

With taxation, one must forego \$750 of immediate consumption to obtain an additional income of \$56.25 per year. The cost of investment, per dollar of future annual income, is therefore the abandonment of \$13.33 in immediate consumption. That's an extra 33%.

Moreover, in this simplified example, the marginal tax rate is just 25%, which is relatively low. In Canada, maximum marginal tax rates are much higher, exceeding 50% in most provinces, and reaching a peak of 54% in Nova Scotia in 2018, as shown in Figure 2-2.

As for the 25% marginal tax rate used in our example, it applies to Canadians who declare income of around \$45,000 or less per year, as shown in Figure 2-3. It thus

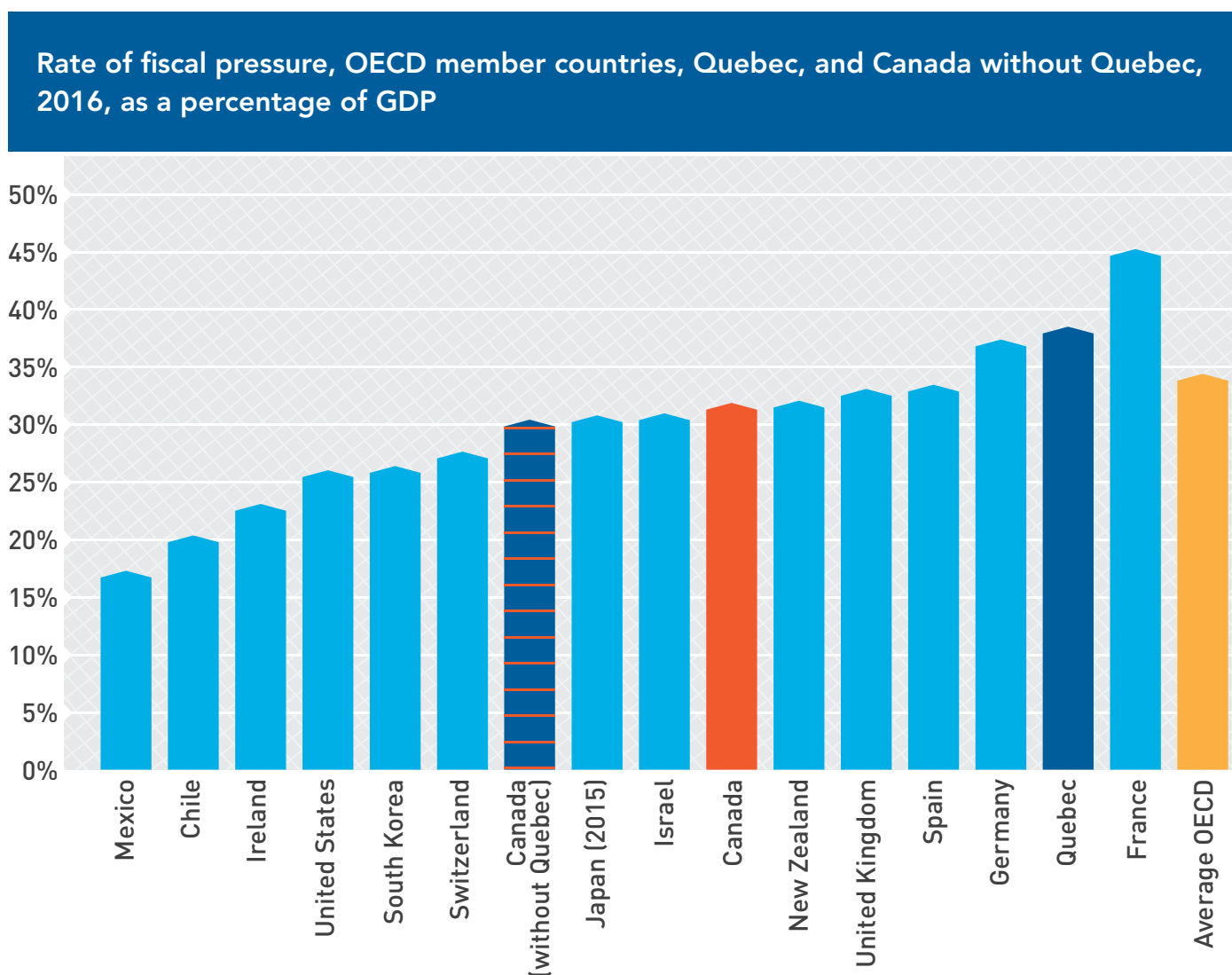
Taxation, because it reduces savings, removes from those who do not have the ability to save enough the option of starting a business out of passion.

applies to people who earn incomes around or below the Canadian average.³¹

If we used a tax rate of 50%, much closer to Canada's maximum rates, the income in our example would be \$500 a year once the fiscal impact is accounted for, and the investment income would be just \$25. The cost of the investment, per dollar of future annual income, would thus be \$20 of immediate consumption, exactly double our scenario without taxes, or 100% more.

31. Statistics Canada, CANSIM Table 206-0052: Income of individuals by age group, sex and income source, Canada, provinces and selected census metropolitan areas.

Figure 2-6



Note: Data for 2015 for Japan.

Source: Chaire en fiscalité et en finances publiques, *Bilan de la fiscalité au Québec édition 2018*, Université de Sherbrooke, Cahier de recherche 2018/01, January 11, 2018, p. 16.

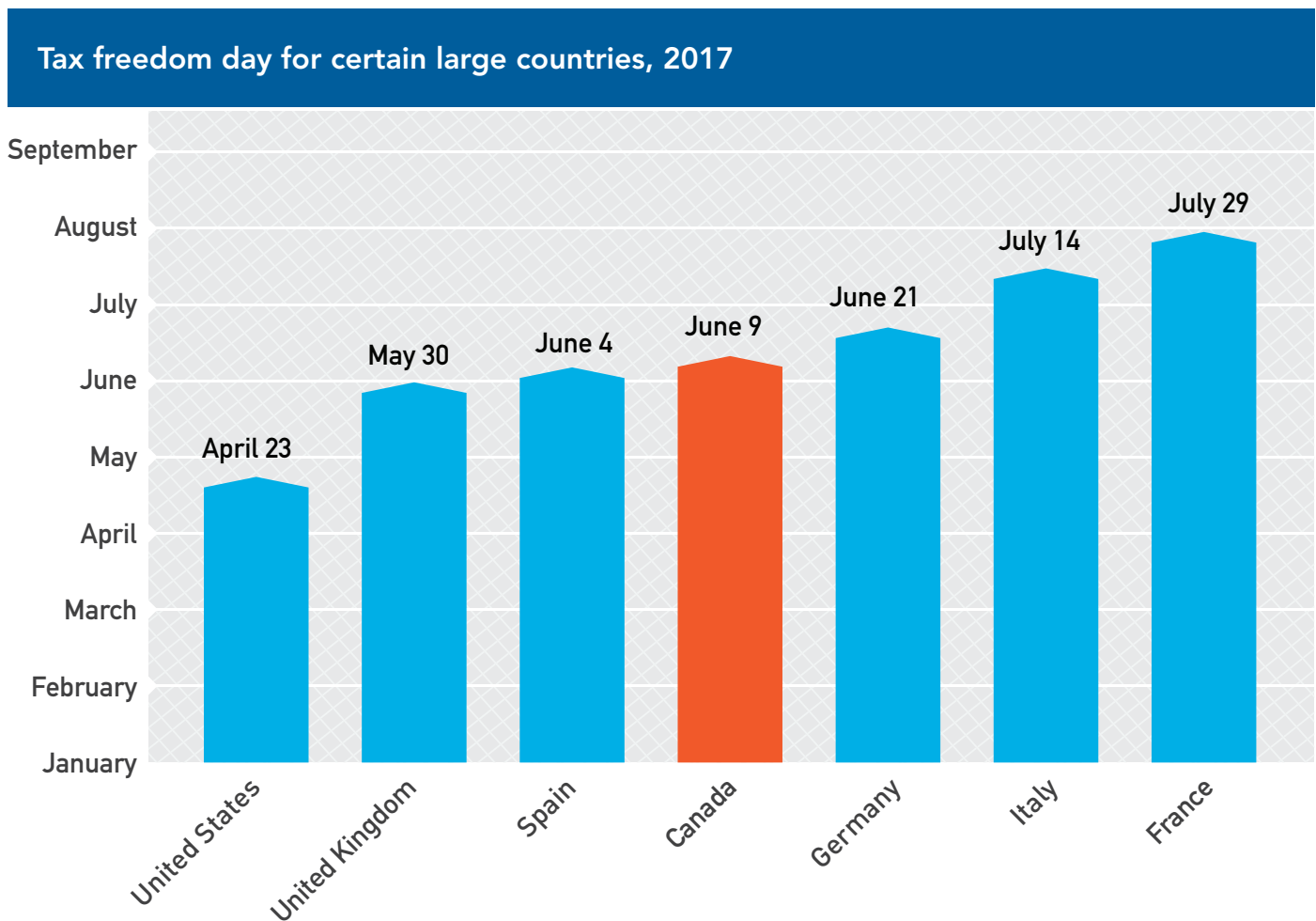
The cost of immediate consumption is the saving one must forego, but also the future income that this saving would generate.

Of course, this simplified example does not take into account numerous tax credits and tax-exempt registered accounts. It nonetheless shows that the simple fact of paying taxes pushes us toward more consumption and less saving. This does not mean the government should never collect taxes, just that this is a fact that all political decision-makers should be aware of.

The effect of taxation is obviously not limited to the incentive to invest. When we subtract taxes from an individual's income, there are fewer resources left for investing, even if the incentives remain the same. In our scenarios, when taxes reduce income from \$1,000 to \$750 or to \$500, there's that much less money to feed capital accumulation and serve as investments in new businesses.

Moreover, ironically enough, even contributions to public systems like the Canada and Quebec Pension Plans reduce savings: Workers save less because they expect government to provide for their needs when they get older.

Figure 2-7



Sources: Deloitte, "Czechs Will Spend 168 Days Working to Pay Taxes as This Year's Tax Freedom Day Falls on 17 June," Press release, February 7, 2017; Milagros Palacios, Feixue Ren, and Charles Lammam, "Canadians Celebrate Tax Freedom Day on June 9, 2017," Fraser Research Bulletin, Fraser Institute, June 2017, p. 3.

On average, when looking at the entire Canadian population, the effect of the system is null: Overall, for each dollar collected, individuals reduce their savings by the same amount. However, when looking at different age or income groups, the effect is not always null. For certain groups, it is in fact negative. For the middle class, a one-percentage-point increase in contributions entails a 1.44-percentage-point drop in personal savings, while for the lowest income group, it's a drop of 3.11 percentage points.³²

In Canada, net household savings, as a percentage of disposable income, has fallen over time, as shown in Figure 2-4. This evolution is not only the consequence

Taxation decreases the accumulation of capital, and with less capital accumulated, there is less entrepreneurship.

of taxation, but also of the aging of the population and of very low interest rates, among other things.

The same trend prevails in other industrialized countries, to varying degrees, as shown in Figure 2-5. Since 2010, Canadians save more than the British or the Japanese, for example, but less than the French and the Germans.

Canadians' rate of fiscal pressure is lower than the OECD average, although Quebec's is above it, as shown in Figure 2-6. This metric, which indicates the share of a

32. François Vaillancourt et al., *Compulsory Government Pensions vs. Private Savings: The Effect of Previous Expansion to the Canada Pension Plan*, Fraser Institute, July 2015, p. 26.

country's wealth that is absorbed by taxation, is broader than the individual tax burden, but remains an excellent tool for international comparisons.

Another way to illustrate Canadians' tax burden, which captures the imagination, is to calculate the day when Canadians have paid all of their taxes and therefore are starting to work for themselves. In 2017, it was June 9, after a little more than 40% of the year had passed. Figure 2-7 compares the "tax freedom" days of several large countries.

Conclusion

Entrepreneurs and entrepreneurship specialists are right to emphasize passion, since it is probably true that this is an essential prerequisite to starting a business. However, conceptually and theoretically as well as empirically, economics shows that taxation has a significant impact on the decision to become an entrepreneur or not.

The influence of taxation is not limited to the fact that it reduces the fruit of the labour of entrepreneurs, decreasing their reward (even if this effect is very real, as we shall see in subsequent chapters). Indeed, a large part of this effect happens upstream: Taxation decreases the accumulation of capital, and with less capital accumulated, there is less entrepreneurship.

This relation is true for several kinds of taxes and for several ways of collecting them. The following chapters will look at the case of personal income taxes, focusing on the effect of maximum marginal tax rates, and the effect of the progressivity of income taxes, which is to say that higher incomes are taxed at progressively higher rates; then at the effect of capital gains taxes; and finally, at the effect of corporate income taxes.

CHAPTER 3

Progressive Taxation and the Self-Employed Worker

The progressivity of taxation refers to taxes whose burden is heavier when the incomes taxed are higher. In other words, it refers mainly to a tax whose rate increases as the value of what is taxed increases. In this chapter, we will focus on personal income taxation and its effect on entrepreneurship.

Self-employed workers are an interesting case since their incomes are taxed according to conditions similar to those applied to wage earners.³³ Moreover, in many cases, self-employment is a status that includes entrepreneurs: Individuals identify profit opportunities that have not yet been seized and try to seize them by solving one of society's problems. There is therefore a trade-off between being an employee and being self-employed, in which the tax rate is a factor that can lead to this kind of entrepreneurship, even though there exist several others.

As mentioned in the preceding chapter, we must also keep in mind that the tax rate has wider effects on the decision to become an entrepreneur, because of its influence on prior savings.³⁴

The Progressivity of Taxation in Canada

The way that income tax rates vary in Quebec, across Canada, and almost everywhere in the world is as a function of income thresholds (or brackets). In Canada, for example, the federal government does not tax the first \$11,809 earned. Income exceeding this threshold, up to \$46,605, is taxed at 15%; income from \$46,605 to \$93,208 is taxed at 20.5%; and so on, for a total of five tax brackets.

Thus, the income of a taxpayer who declares more than \$205,842 (the last threshold at the federal level) is not taxed at the highest level on all of his or her income, but according to a different rate for each of these five income brackets (or six if we include the first, un-taxed \$11,809 slice).³⁵ Figure 3-1 details these rates.

The more progressive the income tax system, the steeper these steps will be. If we establish an average of these tax rates in order to calculate the average rate paid for different incomes, this average would go up as a function of income instead of being stable. This shows that Canada's tax rates are progressive.

Figure 3-2 details this progressivity of taxes in Canada and in certain other industrialized countries for a couple with two incomes and two children. The calculation of this index uses the difference between the average rate for a family whose income is half of the average salary and the rate for a family whose income is five times the average salary.³⁶ In Canada, taxation is more progressive than in most OECD countries.

There is a trade-off between being an employee and being self-employed, in which the tax rate is a factor.

As opposed to progressive taxation, other taxes are called "proportional." In this case, the same rate applies regardless of income: The amount of tax paid is always the same proportion of income, whether one earns \$30,000, \$100,000, or \$200,000. Another possibility is that taxes are degressive, which is to say that the tax rate decreases as income increases.³⁷

For example, certain mathematical economists believe that the best tax of all is one that involves a lump sum payment, sometimes called a head tax. This means that everyone pays the same amount, regardless of income.³⁸

It is easy to see the reasons that attract these economists. Since such a tax is applied to all, independent of their economic activity, there would be no money wasted in lobbying to obtain a preferential rate or tax credits for a specific industry (and none of the economic distortions that these involve), no choice between legal and

33. Notwithstanding certain particular tax measures like the possibility of deducting certain professional expenses.

34. Also, it is possible that a self-employed worker will decide to incorporate, and make other choices that push him or her toward other kinds of entrepreneurship.

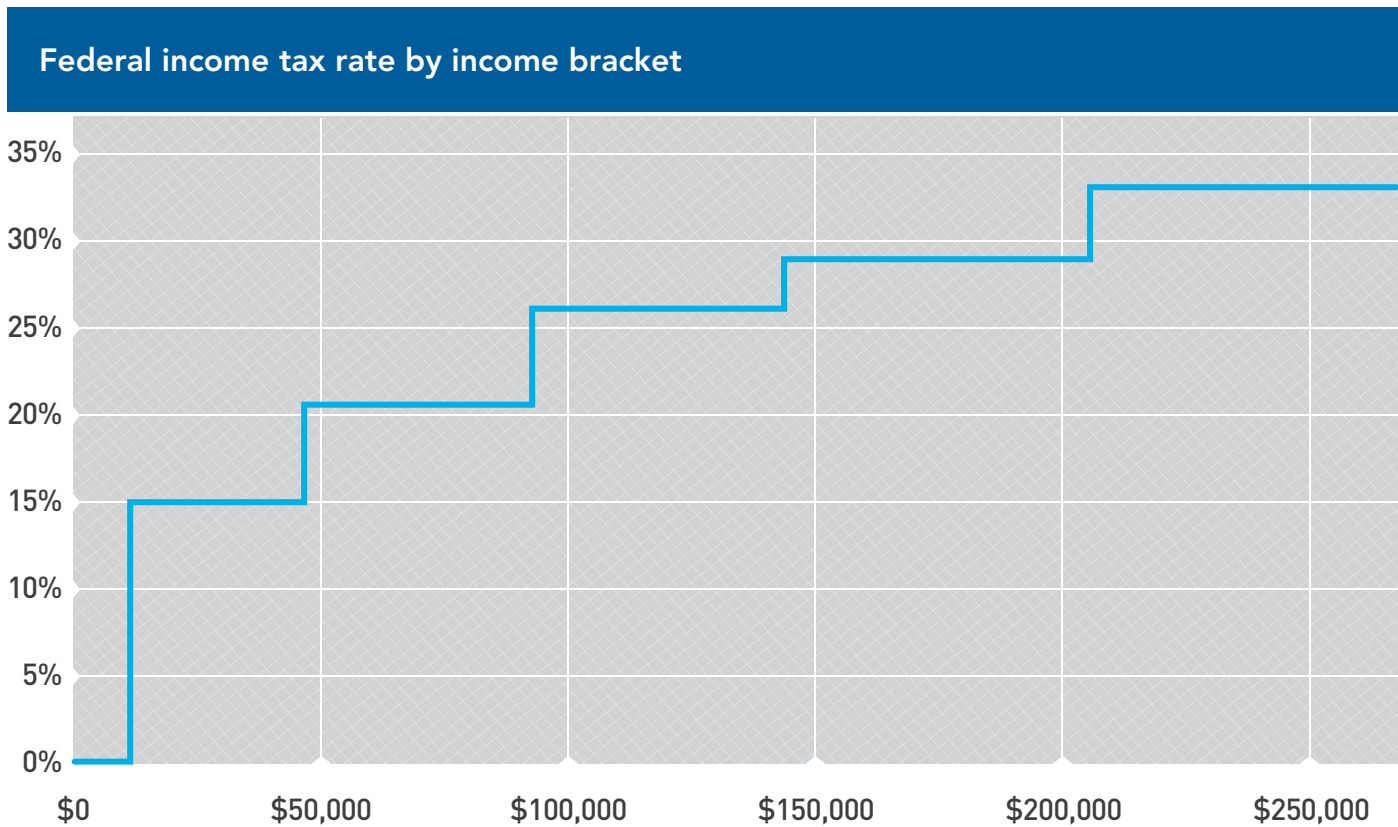
35. Government of Canada, Indexation adjustment for personal income tax and benefit amounts.

36. See Tommy Gagné-Dubé and Luc Godbout, *La progressivité des impôts sur le revenu : comparaison avec l'OCDE et portrait de la situation actuelle au Québec*, document de travail 2016/10, Chaire en fiscalité et en finances publiques, Université de Sherbrooke, September 2016.

37. This is not to be confused with a regressive tax, which sometimes describes a tax that hits the poor harder than the rich. Regressivity refers to real or alleged social effects, whereas degressivity is an objective description of the rate itself.

38. Paul A. Samuelson, "The Pure Theory of Capital Expenditure," *The Review of Economics and Statistics*, Vol. 36, No. 4, November 1954, pp. 387-389.

Figure 3-1



Source: Government of Canada, Home Taxes, Income tax, Personal income tax, Frequently asked questions for individuals, Canadian income tax rates for individuals – current and previous years.

black market work, no distortions in the trade-off between the use of labour and capital, etc. Moreover, the administrative cost of collecting this kind of tax would be extremely low.

This dream scenario of certain economists is, however, inapplicable for obvious political reasons: It would be like having to pay for admission into society.

The Progressivity of Taxation and Marginal Income Tax Rates

Another way of looking at progressive taxation is to consider only maximum marginal tax rates. Many discussions of taxation focus on this concept. Indeed, while relatively few taxpayers declare incomes that expose them to the maximum marginal rate, its effect on entrepreneurship is no less real.

By marginal rate, we mean the rate that is applied to an additional dollar of income. The marginal tax rate therefore helps to evaluate if it is worth it to work a few hours more or accept a promotion, for example. It is also an

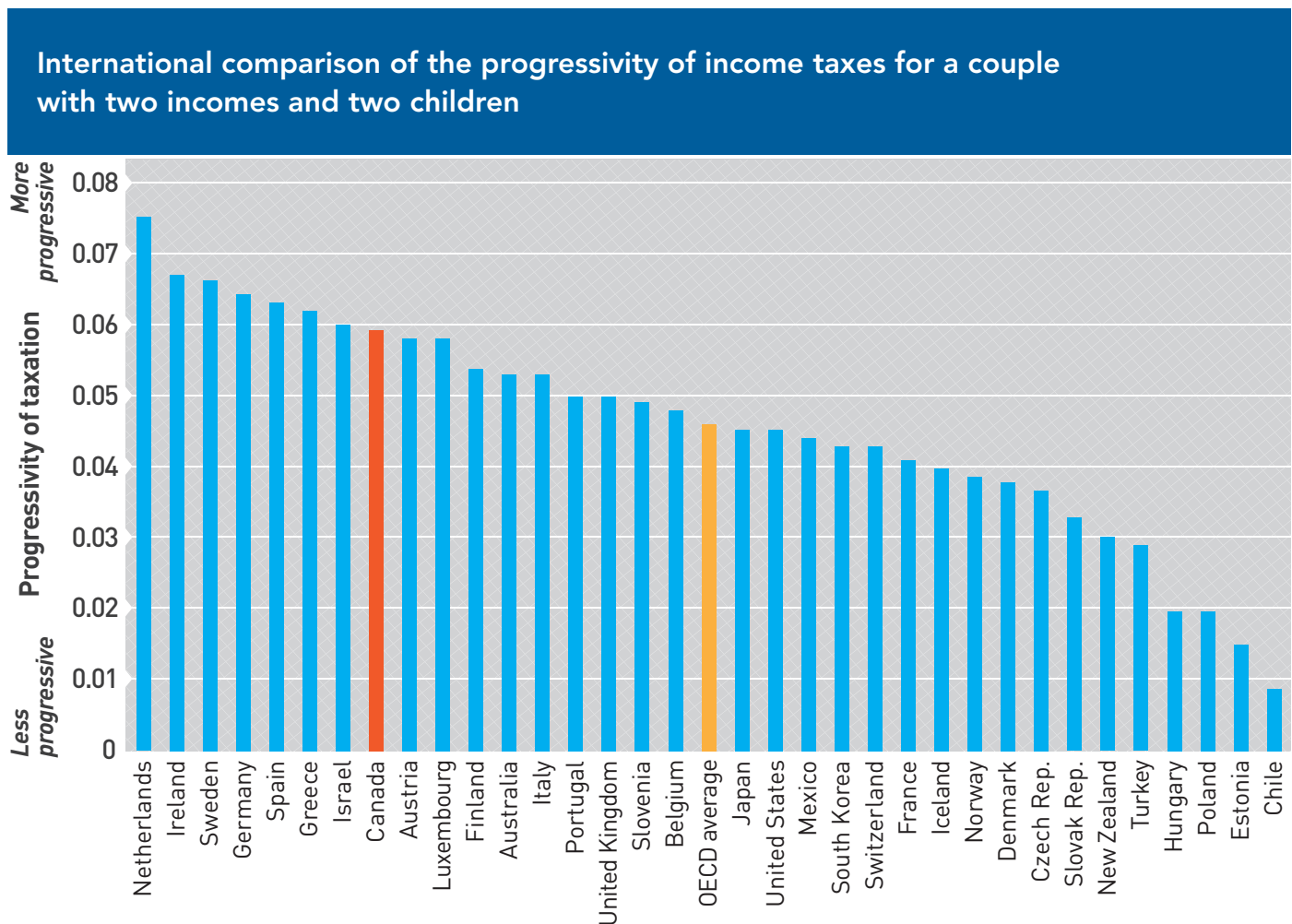
While relatively few taxpayers declare incomes that expose them to the maximum marginal rate, its effect on entrepreneurship is no less real.

important consideration in the decision to start a business since the decisions of entrepreneurs, like those of everyone else, are made “at the margin.”

Indeed, when it comes to income taxes, the question that applies at every moment, for all taxpayers, is how to adapt one’s behaviour to the tax rate that will apply to additional income. We cannot turn back the clock and change our decisions regarding income already earned. Averaging our tax rate on all of our income therefore would not make sense when thinking about the future.

Moreover, it would be possible for two countries, or two provinces, to have equivalent average tax rates, but very different maximum marginal tax rates. Let us imagine

Figure 3-2



Note: The overall picture remains the same for all the other kinds of households mentioned in the study cited.

Source: Tommy Gagné-Dubé and Luc Godbout, *La progressivité des impôts sur le revenu : comparaison avec l'OCDE et portrait de la situation actuelle au Québec*, document de travail 2016/10, Chaire en fiscalité et en finances publiques, Université de Sherbrooke, September 2016, p. 12.

three extreme fictional examples for a taxpayer earning an annual income of \$50,000, in order to properly grasp this nuance:³⁹

1. In one country, the income tax to be paid is a lump sum of \$10,000. A taxpayer whose annual income is \$50,000 will therefore face an average tax rate of 20% of income. All additional income will then be taxed at a marginal tax rate of 0%, since he or she will keep all of it.
2. In a second country, where the income tax rate is proportional, all income is taxed at 20%. A taxpayer whose annual income is \$50,000 will therefore pay

The question that applies at every moment, for all taxpayers, is how to adapt one's behaviour to the tax rate that will apply to additional income.

this rate for all income, which will also be his or her average rate. All additional income will also be taxed at 20%.

3. Finally, in a third country, where the income tax rate is progressive, as it is almost everywhere in the world, the tax paid on the first \$50,000 is 20%. This is also the average tax rate for a taxpayer declaring this amount. However, here, all income above \$50,000 will be taxed at 90%. Someone earning an additional

39. These examples are based on Dan Mitchell, "The Super Bowl and Marginal Tax Rates," *International Liberty*, February 7, 2016.

Table 3-1

Maximum marginal personal income tax rate established by law, 2018					
PROVINCE	FEDERAL		PROVINCIAL		MAXIMUM COMBINED RATE
	Rate	Income at which the rate applies	Rate	Income at which the rate applies	
Alberta	33%	\$205,842	15%	\$307,547	48%
British Columbia			16.80%	\$150,000	47.70%
Manitoba			17.40%	\$68,821	50.40%
New Brunswick			20.30%	\$154,382	53.30%
Newfoundland and Labrador			18.30%	\$184,590	51.30%
Nova Scotia			21%	\$150,000	54%
Ontario			13.16%	\$220,000	53.53%
Prince Edward Island			16.70%	\$63,969	51.37%
Quebec			25.75%	\$104,765	53.31%
Saskatchewan			14.50%	\$129,214	47.75%

Note: Because of the Quebec abatement, the maximum combined rate is lower than the sum of the maximum federal and provincial rates. For Ontario and Prince Edward Island, provincial surtaxes were applied.

Source: KPMG, *Tax Facts 2017-2018*, 2017, pp. 36-37; Government of Canada, Canadian income tax rates for individuals – current and previous years, Provincial and territorial tax rates for 2018.

income of \$10,000 will therefore have to give \$9,000 more to the taxman.

While the taxpayers in these three fictional examples are each subject to average tax rates of 20%, the economic incentives they face are not the same at all. In the third case, starting from a certain income level, additional effort is strongly discouraged, whereas in the first example, the tax system encourages people to work more since it does not tax the income stemming from this additional effort.

This is not to say that individuals who earn higher incomes should not pay more in taxes. However, we must be conscious of the economic incentives created by taxes if we want to put in place good public policies in order to avoid creating counterproductive adverse effects. This would be the case, for example, if the government deprived itself of additional revenue by setting tax rates too high, or at a level that discourages work. In other words, too high a tax rate reduces tax revenue.

Table 3-1 details the maximum rates that are applied on the last dollar of additional income in the Canadian provinces.

We must be conscious of the economic incentives created by taxes if we want to put in place good public policies.

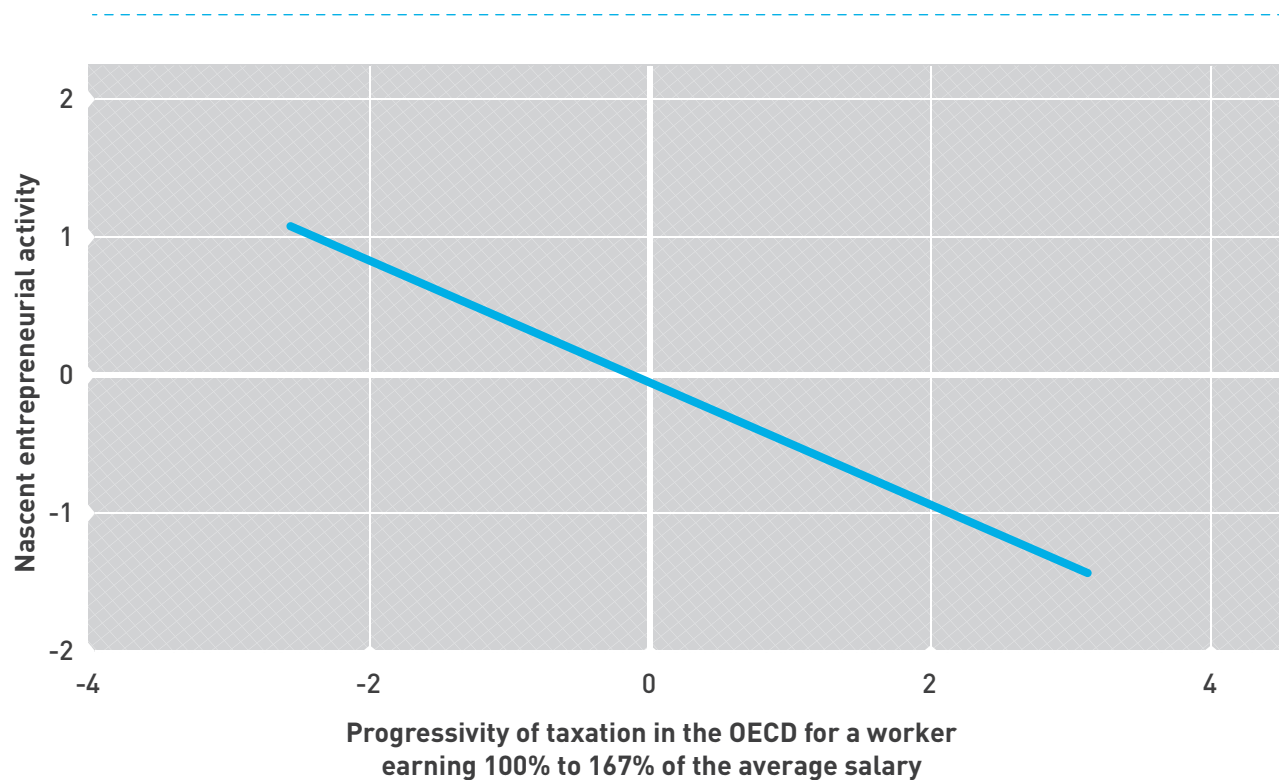
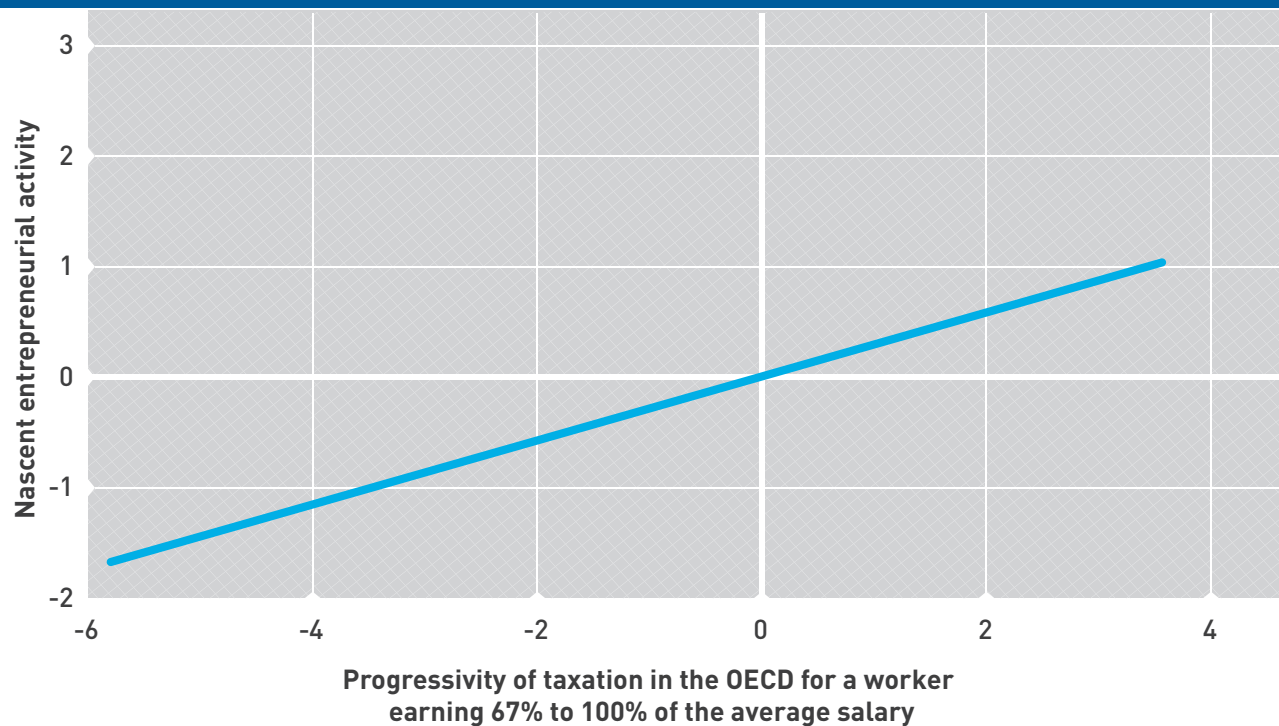
Whether we measure the progressivity of taxation with an index of the variation of the average rate or of the maximum marginal rate, the effect is the same. When these measures are high, they discourage additional effort, saving, and investment, and therefore ultimately entrepreneurship, since people generally do not become entrepreneurs in order to earn the equivalent of the average salary or less, even if they are passionate.

What Does the Data Say?

As discussed in the previous chapter, there is a certain ambiguity in the empirical research regarding the effect of taxation on entrepreneurship. This is particularly true for progressive taxation, as shown by research measuring its effect on self-employment, a kind of entrepreneurship.

Figure 3-3

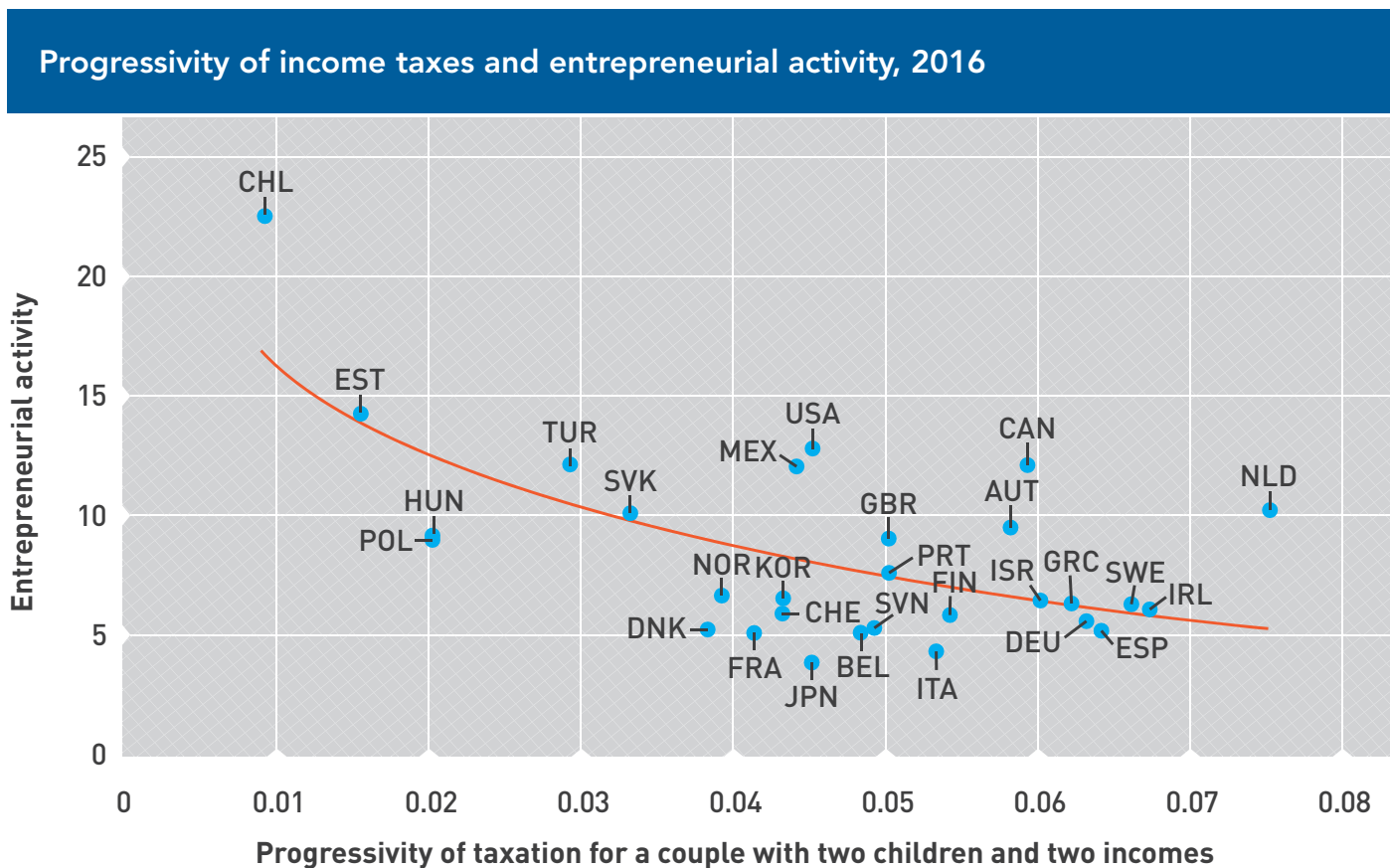
Entrepreneurship and progressive taxation, at different income levels



Note: The axes are in percentage points. When the difference between the average tax rates at the two levels of income varies by one percentage point (horizontal axis), nascent entrepreneurial activity varies by the number of percentage points indicated on the vertical axis.

Source: Mina Balamoune-Lutz and Pierre Garelo, "Tax Structure and Entrepreneurship," *Small Business Economics*, Vol. 42, No. 1, January 2014, p. 184.

Figure 3-4



Note: The data on entrepreneurial activity is from 2013 for Canada.

Sources: Luc Godbout and Tommy Gagné-Dubé, "La progressivité des impôts sur le revenu : comparaison avec l'OCDE et portrait de la situation actuelle au Québec," Université de Sherbrooke, 2016; Global Entrepreneurship Monitor, Data, Entrepreneurial Behaviour and Attitudes, 2001-2016.

Certain authors have concluded that the progressivity of taxation can act as a kind of "success tax," thus discouraging entrepreneurship and reducing the entrepreneur's gain.⁴⁰ Others have found on the contrary that a more progressive income tax can act as a form of insurance against failure, and thus encourage entrepreneurship.⁴¹ One of the arguments of these authors is that higher tax rates are sometimes synonymous with greater redistribution, or with a more generous social safety net. Yet there is no link, and certainly no causal link, between higher taxes and better public services; there is not even a link

Workers who earn above-average salaries are also those who are more likely to start a business.

between the level of public spending and the quality of services.⁴²

Recent research on taxation in certain European countries can reconcile these seemingly contradictory effects by calculating the effect for different individuals with different incomes. For someone whose income is between 67% and 100% of the average salary, the insurance effect of high taxes predominates, whereas for an individual whose income is from 100% to 167% of average

40. William M. Gentry and R. Glenn Hubbard, "Tax Policy and Entrepreneurial Entry," *American Economic Review*, Vol. 90, No. 2, 2000, pp. 283-287; William M. Gentry and R. Glenn Hubbard, *Tax Policy and Entry into Entrepreneurship*, Williams College and Columbia University, 2004; William M. Gentry and R. Glenn Hubbard, "'Success Taxes', Entrepreneurial Entry and Innovation," in J. B. Adam, J. Lerner, and S. Stern (eds.), *Innovation Policy and the Economy*, Vol. 5, 2005, NBER and MIT Press.

41. Donald Bruce and John Deskins, "Can State Tax Policies Be Used to Promote Entrepreneurial Activity?" *Small Business Economics*, Vol. 38, 2012, pp. 375-397.

42. Germain Belzile and Patrick Déry, "Health and Education: Spending Has Continued to Grow," *Viewpoint*, MEI, February 7, 2018.

income, the progressivity of taxation discourages self-employment, as shown in Figure 3-3.⁴³

As the authors of this study point out, and as we also saw in a previous chapter, workers who earn above-average salaries are also those who are more likely to start a business. Seen from this angle, there is little doubt that progressive taxation has the effect of discouraging entrepreneurship.

Figure 3-4 shows that even without separating workers who earn high incomes from those whose incomes are below average, the progressivity of taxation also discourages the kind of entrepreneurship that constitutes self-employment in the OECD. Countries like Chile and Estonia, whose tax systems are among the least progressive in the world, have more entrepreneurial activity than the OECD countries with more progressive income tax systems.

Entrepreneurs respond to economic incentives, just like everybody else.

Another notable consequence of progressive taxation is that it slows down business creation as well as the expansion of innovative industries.⁴⁴

It was mentioned above that higher income tax rates sometimes increase entrepreneurship. Among other things, it happens that there are cases of substitution when income tax rates go up, for example between work and leisure: For a given remuneration, salaried employees can decide that they would be better off working less and devoting a greater portion of their time to leisure, or working more if this increases their remuneration.

The substitution that is of interest here is that between salaried work and self-employment. In Canada, a study looked at the case of a tax reform that imposed certain taxes on salaried employees but not on the self-employed, namely Ontario's employer health tax over the 1990-1996 period.⁴⁵ Basically, this reform had the effect of increasing marginal rates. Unsurprisingly, this tax hike led to an increase in self-employment.

This does not mean that tax increases for wage earners are a good thing; in this case, an increase in entrepreneurial activity occurs at least partially for fiscal reasons rather than to seize a profit opportunity. The gain for society, namely the entrepreneur's solution to a problem, is thus negligible or nonexistent. This prompted one of the most influential modern economists on the topic of entrepreneurship to qualify those who respond to purely fiscal inducements as "wholly superfluous."⁴⁶

Conclusion

Taxation has an effect on the decision to become an entrepreneur, as this chapter has shown by looking at the case of the self-employed worker, who is a kind of entrepreneur. Of course, tax rules are complex. In certain cases, taxes discourage entrepreneurship because they reduce the reward associated with creating a business. In other very specific cases, taxes increase entrepreneurship by creating certain tax advantages in favour of self-employment, for example. However, it is important to note that in both cases, taxation has an effect on entrepreneurship. Entrepreneurs respond to economic incentives, just like everybody else.

43. Mina Balamoune-Lutz and Pierre Garelo, "Tax Structure and Entrepreneurship," *Small Business Economics*, Vol. 42, No. 1, January 2014, pp. 165-190.

44. Christian Keuschnigg and Soren Bo Nielsen, "Tax Policy, Venture Capital, and Entrepreneurship," *Journal of Public Economics*, Vol. 87, No. 1, January 2003, pp. 175-203.

45. Mark Stabile, "Payroll Taxes and the Decision to Be Self-Employed," *International Tax and Public Finance*, Vol. 11, No. 1, January 2004, pp. 31-53.

46. Israel M. Kirzner, *Discovery and the Capitalist Process*, University of Chicago Press, 1985.

CHAPTER 4

The Effect of the Capital Gains Tax

A capital gain is an increase in the value of an investment, calculated as the difference between the sale price of an asset and its initial purchase price. When an investor sells anything at a higher price than the price he or she paid, a capital gain is realized.

Many entrepreneurs remunerate themselves through capital gains. Since nascent businesses often do not have the revenues needed to pay large salaries, entrepreneurs pay themselves when the business takes on value by selling a portion or all of the business. This makes up for the years when their remuneration was not as high as their expectations, compared to what they would have earned as employees, for example.

In Canada, one half of such a gain is taxed as income (with a few exceptions, like the sale of one's main residence). Table 4-1 details the marginal combined rates applicable to capital gains in the different provinces.

Another way of measuring the tax burden and its evolution in time is to look at the average effective tax rate, which allows for the comparison of the net effect of several fiscal measures having an effect on capital.⁴⁷ As we can see in Figure 4-1, over the past 30 years, this rate has increased for labour and decreased slightly for capital.

The fact that capital is less taxed than labour can be explained and justified from an economic point of view. Indeed, the economic cost of taxation in terms of distorting behaviour is not uniform, with certain taxes creating more arbitrage opportunities between different kinds of revenues. This cost is therefore higher for types of taxes that can be easily avoided, and the capital gains tax is one of those: One need only decide not to cash in one's gain. And since capital gains are very sensitive to taxation, taxes on capital erode the tax base more than taxes on salaries. In sum, tax bases with different sensitivities to taxation will not react the same way to a given rate.

Figure 4-2 compares the taxation of capital gains in Canada and elsewhere in the world. We can see that

several countries around the world do not tax capital gains.

Just as sin taxes reduce the behaviour that is being targeted, the capital gains tax hinders capital formation, which is one of the basic foundations of all economic growth and a necessary precondition to most entrepreneurial projects. In fact, many government policies that intend to boost economic growth are geared toward increasing the supply of capital. Less capital available to businesses means that its cost will increase.⁴⁸

A Harmful Tax from Several Points of View

Taxing away capital is not the only detrimental effect of this tax. Capital gains taxation also encourages people to lock in their investments. Unlike most types of income, realizing capital gains is largely a matter of choice, and its timing can easily be modified by simply selling later. This makes capital gains much more sensitive than ordinary income to variations in the rate of taxation.

Just as sin taxes reduce the behaviour that is being targeted, the capital gains tax hinders capital formation.

When tax (and inclusion) rates are high, individuals who own businesses become more reluctant to sell them, since they require greater benefits to outweigh the tax burden they will incur. For them, the simple existence of a capital gains tax thus reduces the probability that a given stock will be sold.⁴⁹

This hurts economic growth by discouraging the reallocation of capital to its most productive uses. Research pursued in the United States indicates that for every 1% drop in the tax rate, capital gains realizations—and hence the flow of capital—increase by 1%.⁵⁰ One study focusing on the supply of venture capital found that a one-point increase in this tax reduced the supply of

47. Among these are a portion of personal income taxes, a portion of corporate income taxes, corporate taxes other than on profit, licences, rights and permits, property taxes, various natural resource taxes, various taxes on factors of production, and business taxes. The latter metric excludes the capital gains tax, however.

48. For a longer analysis of the cost of using capital, see Robert Chirinko, Steven Fazzari, and Andrew Meyer, "How Responsive Is Business Capital Formation to Its User Cost?" *Journal of Public Economics*, Vol. 74, No. 1, 1999, pp. 53-80.

49. Martin Feldstein, Joel Slemrod, and Shlomo Yitzhaki, "The Effects of Taxation on the Selling of Corporate Stock and the Realization of Capital Gains," *Quarterly Journal of Economics*, Vol. 94, No. 4, 1980, pp. 777-791.

50. James D. Gwartney and Randall G. Holcombe, "Optimal Capital Gains Tax Policy: Lessons from the 1970s, 1980s, and 1990s," Joint Economic Committee, June 1997, pp. 5-7.

Table 4-1

Combined (federal and provincial) individual marginal tax rates for capital gains by income bracket, 2017					
Province	\$0 to \$45,916	\$45,917 to \$91,831	\$91,832 to \$142,353	\$142,354 to \$202,800	\$202,801 and more
British Columbia	10.03%	14.10%	20.35%	21.85%	23.85%
Alberta	12.50%	15.25%	18.00%	21.00%	23.50%/24.00%
Saskatchewan	12.88%	16.63%	19.38%	21.88%	23.88%
Manitoba	12.90%	18.95%	21.70%	23.20%	25.20%
Ontario	10.03%	14.83%	21.70%	23.98%	25.98%/26.76%
Quebec	14.26%	18.56%	23.73%	24.98%	26.65%
New Brunswick	12.34%	17.66%	21.26%	24.65%	26.65%
Nova Scotia	11.90%	18.59%	21.75%	25.00%	27.00%
Prince Edward Island	12.40%	18.60%	22.19%	23.69%	25.69%
Newfoundland and Labrador	11.85%	17.50%	20.90%	23.15%	25.65%

Note: The rates presented take into account all income taxes and surtaxes that apply to capital gains as well as their inclusion rate, but do not include tax credits, low-income tax reductions, or provincial health premiums.

Given that more than one rate can apply to a particular bracket due to a difference in the federal and provincial bracket thresholds, the rates indicated in the table are for the midpoints of the federal income brackets.

For Alberta and Ontario, which have tax brackets above the top federal bracket of \$202,800, additional rates have been included in the table.

Source: KPMG, *Tax Facts 2017-2018*, 2017, p. 39.

funding by 3.8%.⁵¹ Another study found that a one-percentage-point increase in this tax in an American state reduced venture capital investment in that same state by between 5.4% and 14.6%.⁵²

The capital gains tax does not just reduce overall investments; it also affects which businesses capitalists invest in. Venture capital tends to go to firms that offer unproven but potentially revolutionary technologies, servi-

The capital gains tax affects which businesses capitalists invest in.

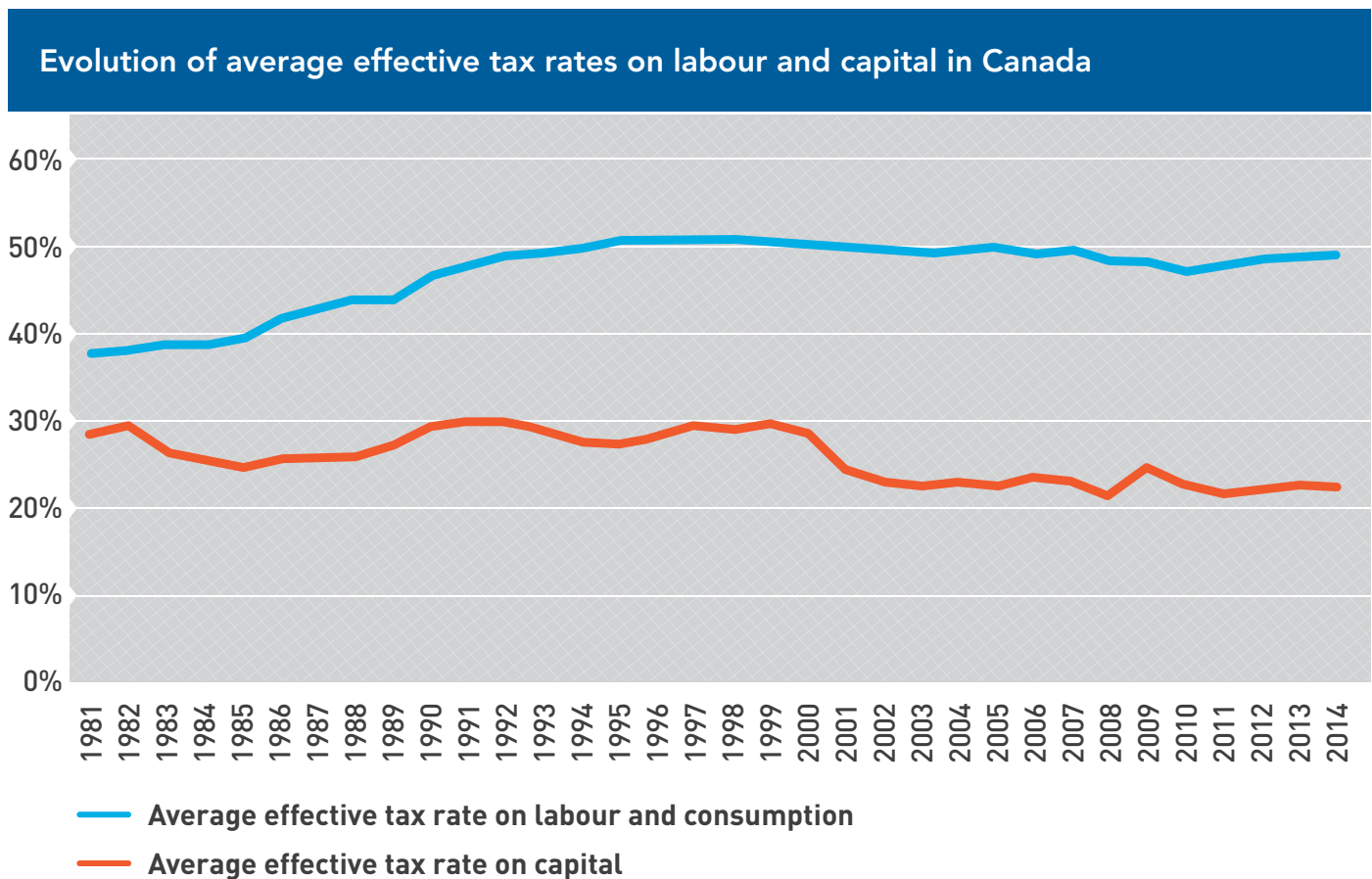
ces, or products. This greater degree of uncertainty has a positive aspect: When they succeed, these firms act as potent stimulants to economic growth, as well as productivity growth.⁵³ The capital gains tax, however, reduces

51. Paul A. Gompers and Josh Lerner, "What Drives Venture Capital Fundraising?" *Brookings Papers: Microeconomics*, Brookings Institute, 1998, pp. 149-204.

52. William M. Gentry, "Capital Gains Taxation and Entrepreneurship," *Tax Law Review*, Vol. 69, 2016, pp. 321-356.

53. Sampsa Samila and Olva Sorenson, "Venture Capital, Entrepreneurship, and Economic Growth," *Review of Economics and Statistics*, Vol. 93, No. 1, 2011, pp. 338-349.

Figure 4-1



Source: Mario Fortin and Alain Paquet, *Portrait de l'évolution du revenu et de l'imposition du travail et du capital dans les provinces canadiennes*, Cahier de recherche, Chaire en fiscalité et en finances publiques, Université de Sherbrooke, May 2018.

Capital gains taxation encourages people to lock in their investments, which discourages the reallocation of capital to its most productive uses.

the willingness of investors to finance these riskier business start-ups. As a result of this deterrent effect, investors prefer less innovative forms of entrepreneurship.⁵⁴

This will affect not only the kind of business started, but also the entrepreneur's reward, if he or she succeeds.⁵⁵

54. Christian Keuschnigg and Soren Bo Nielsen, "Start-Ups, Venture Capitalists, and the Capital Gains Tax," *Journal of Public Economics*, Vol. 88, No. 5, 2004, pp. 1011-1042.

55. Daniel J. Mitchell et al., "Spurring Entrepreneurship through Capital Gains Tax Reform," in Steven Globerman and Jason Clemens (eds.), *Demographics and Entrepreneurship: Mitigating the Effects of an Aging Population*, Fraser Institute, 2017.

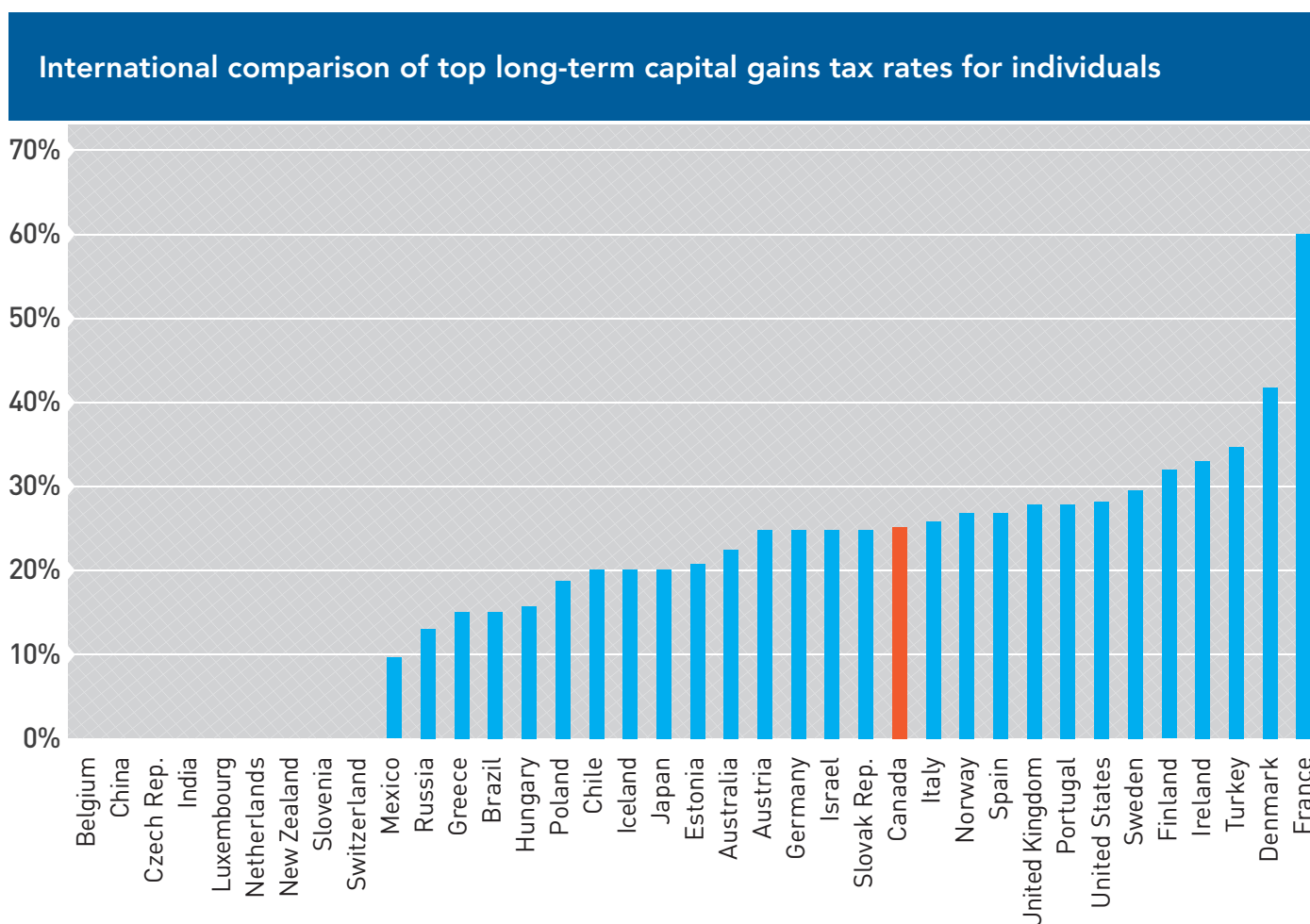
This means that the capital gains tax affects the decision to become an entrepreneur because an entrepreneur's remuneration is very often largely made up of capital gains. When this tax is high compared to the taxation of salaries, whether because of a high inclusion rate, a high base rate, or some other factor, it can act as a disincentive to starting a business.

The Burden of Inflation

Inflation is one of these factors. While it is often likened to a tax because of how it chips away at the value of money, the capital gains tax does not take inflation into account. This augments its effect, especially for long-term projects.⁵⁶ An investment whose nominal value has increased 5%, but whose real value has only increased 3%, the rest being due to inflation, will still be taxed on the full, partly illusory 5%.

56. Jack Mintz and Thomas Wilson, *Capitalizing on Cuts to Capital Gains Taxes*, C.D. Howe Institute, 2000, pp. 5-9.

Figure 4-2



Note: Data is for 2014, except for Canada, which is 2017.

Sources: EY, *Corporate Dividend and Capital Gains Taxation: A Comparison of the United States to Other Developed Nations*, April 2015, p. 13; KPMG, "Personal Tax Rates: Combined Top Marginal Tax Rates for Individuals—2017," June 30, 2017.

This is because the capital gains tax applies to the nominal return on capital, without adjusting for the fact that inflation may have substantially reduced its real value. Long-term projects that have made no real capital gains, or worse, that have incurred losses in real terms despite the illusion of a higher nominal value, can be made to lose money (or lose even more money) through this tax alone.

Suppose, for example, that someone invested \$1 million in a business in 1980. While this investment performed well for more than 25 years, the financial crisis of 2008-2009 hit the value of the project and it never fully recovered. As a result, suppose this investment has a nominal value of \$2.92 million in 2016.

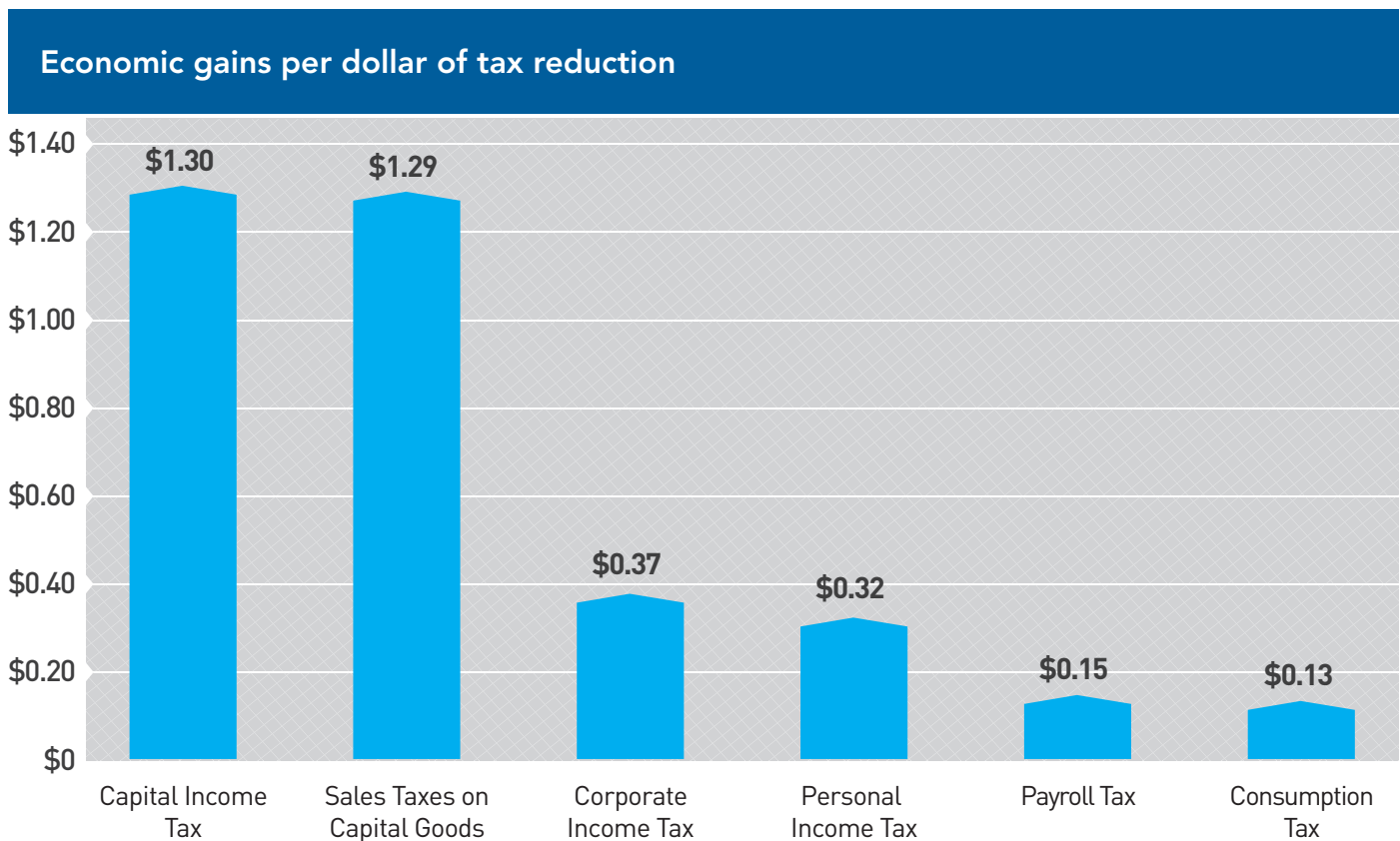
In real terms, however, since the cumulative inflation has been of 192% throughout this period, this investment

The capital gains tax applies to the nominal return on capital, without adjusting for the fact that inflation may have substantially reduced its real value.

has not increased in value. It is worth exactly as much as it was in 1980. Yet, if this same investment were sold, assuming the investor is in the top marginal tax bracket in Quebec, he or she would have to pay approximately \$508,800 in capital gains taxes. In real terms, not only did this entrepreneur make no capital gain, but in fact the tax made him realize a capital loss of 17%.

Now, let's suppose that the same investment had been less affected by the financial crisis, and made a 38%

Figure 4-3



Source: Maximilian Baylor and Lous Beauséjour, *Taxation and Economic Efficiency: Results from a Canadian CGE Model*, Department of Finance of Canada, November 2004, p.16.

capital gain in real terms, and that its nominal value was approximately \$4 million in 2016. The capital gains tax on this investment would amount to almost \$800,000. The remaining gain, in real terms, would have been reduced to 10% since 1980, or less than 0.3% per year.

In other words, in this latter scenario, our entrepreneur would have made mediocre gains, far inferior to what can be expected from an investment in a mutual fund, for instance. This poor return would have been further diminished by the capital gains tax, down to almost nothing, despite the fact that being an entrepreneur often involves taking big personal risks, with no job security and no guarantee of success.

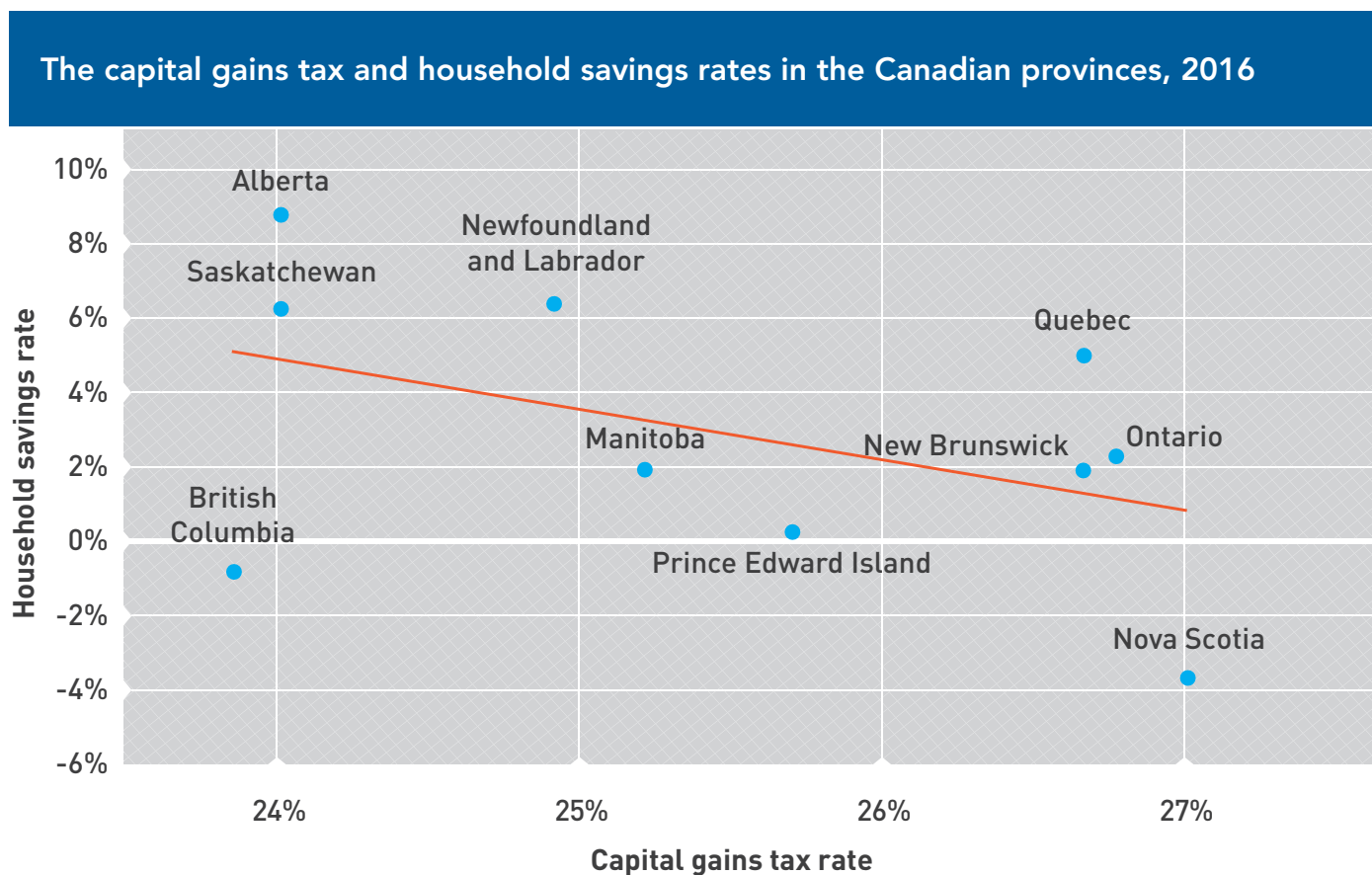
These effects of the capital gains tax represent one of the biggest burdens on economic performance in Canada. In a study of the effects of the different taxes that governments can use to raise revenues, the federal Department of Finance found that taxes that affect capital goods are the most detrimental to economic activity. As Figure 4-3 shows, each dollar of reduction of taxes

These effects of the capital gains tax represent one of the biggest burdens on economic performance in Canada.

on capital income would lead to economic gains of approximately \$1.30. It is the kind of tax whose elimination would bring the most gains.

The capital gains tax also has an impact on household savings. Figure 4-4 shows that the more capital gains are taxed, the lower the household savings rate. In terms of the differences between the Canadian provinces, those where the capital gains tax is lower, like Alberta, Saskatchewan, and Newfoundland and Labrador, tend to have some of the highest household savings rates in the country. Conversely, high taxes and low or even negative household savings rates also tend to go together, as in Nova Scotia and Prince Edward Island.

Figure 4-4



Sources: KPMG, *Tax facts : 2016-2017*, 2016, p. 32; Statistics Canada, Table 36-10-0224-01: Household sector, current accounts, provincial and territorial, annual, 2016.

As we saw in the second chapter, prior saving is an important condition in the creation of new businesses, and the capital gains tax reduces saving. As illustrated in Figure 4-5, another broader measure of the taxation of capital shows that the proportion of capital revenues collected in taxes in one year is inversely correlated with business creation. Indeed, the higher a province's tax rate, the fewer new businesses are created there. On average, over the period, a one-percentage-point increase in the tax rate of capital lowers the entry rate of employer businesses by 0.2 percentage points.

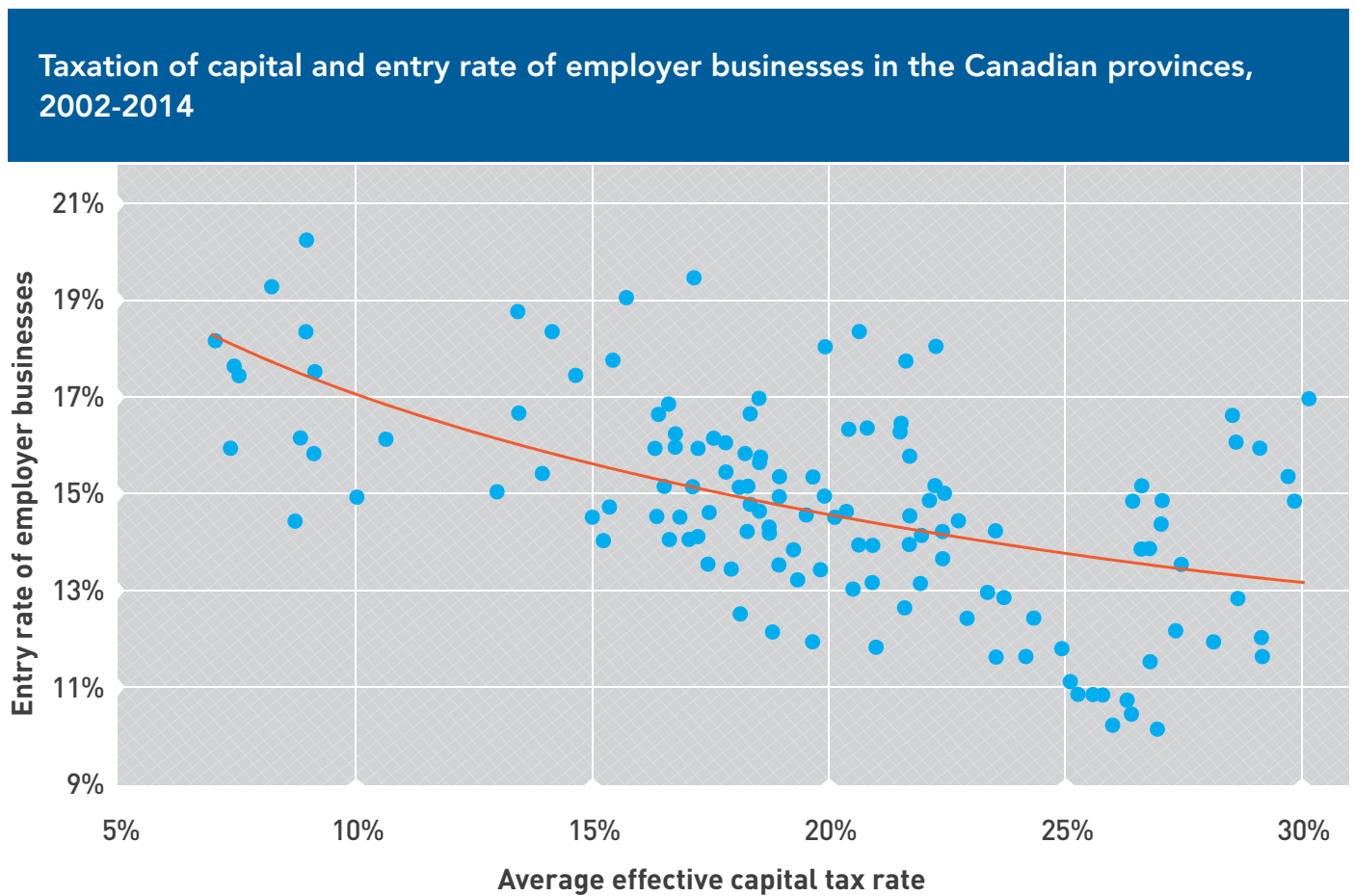
Conclusion

The effect of the capital gains tax on entrepreneurs is significant, and in more ways than one. It is a tax that, by its very nature, is detrimental to entrepreneurship: through its effect on the stock of capital available for

Reducing the capital gains tax substantially, or even abolishing it, could only encourage entrepreneurship.

entrepreneurs to be able start their businesses; through its effect on the type of investment that is made; and finally, through the fact that it locks in investments by discouraging the sale of certain assets. Reducing it substantially, or even abolishing it, could only encourage entrepreneurship.

Figure 4-5



Note: The employer business entry rate is a measure of the number of businesses with employees in the current year but none in the previous year, divided by the average number of active businesses in the previous and current years.

Sources: Mario Fortin and Alain Paquet, "Portrait de l'évolution du revenu et de l'imposition du travail et du capital dans les provinces canadiennes," Rapport de la Chaire en fiscalité et en finances publiques de l'Université de Sherbrooke, May 2018, p. 41; Statistics Canada, CANSIM Table 527-0007: Business Dynamics measures, according to the North American Industry Classification System (NAICS), per province or territory, annual, 2018.

CHAPTER 5

The Corporate Income Tax and Entrepreneurship

In Canada, the corporate income tax is in the spotlight at the moment for reasons of competitiveness with the United States. The American federal government recently lowered the rate of this tax from 35% to 21%. This means that the average combined American rate is now 25.8%, which is slightly lower than the average combined Canadian rate of 26.8%.

Even if the gap is small, this represents a very substantial change, as the combined Canadian rate had been lower than the American one since 2002.⁵⁷ This loss of competitiveness means that, for two equivalent projects, investors will prefer the United States, given its lower tax rate.

But the corporate income tax is not only an aspect of competitiveness. It also influences entrepreneurship.

The Corporate Income Tax in Canada

In Canada, the corporate income tax is collected based on companies' revenues, from which are deducted their expenses. It is therefore profits that are taxed. The federal tax rate is 15%. The provinces also collect a tax on companies' revenues, as shown in Table 5-1.

Small companies, which means those with less than \$500,000 of revenues, are taxed at the reduced rate of 10%.⁵⁸ Most provinces also collect income taxes on the revenues of these companies, but this rate is lower than the federal rate, as shown in Table 5-2.

The fact that there is more than one rate creates a similar threshold effect to the one described in Chapter 3 regarding the progressivity of personal income taxation. In this case, certain companies split their activities in order to reduce their tax burden. For example, they can separate production from administration, one company becoming from a legal standpoint the other's subcontractor. The time and energy thus lost to bureaucracy could be devoted to more productive activities.⁵⁹ In economic jargon, we speak in such cases of the dead-

weight loss to society: the portion of a loss related to a tax that is not collected by the government, but that is nonetheless borne by companies.

In 2000, when the federal rate was much higher (28%),⁶⁰ 15% of companies filing as a "small business" limited their incomes to under \$200,000 in order to be able to remain in this tax category. In 2009, after the federal rate had been reduced and the income threshold raised to \$500,000, only 8.5% of companies limited their growth in this way or decided to split their activities.⁶¹ This once again constitutes an example of the "superfluous" entrepreneurship described in the third chapter, which happens for purely fiscal reasons.

When they choose to limit their growth, entrepreneurs renounce profit opportunities.

When they choose to limit their growth, entrepreneurs renounce profit opportunities. Society is thus deprived of a beneficial phenomenon, namely individuals who propose solutions to problems they have observed, all while exploiting the resulting profit opportunities.

A solution to this problem would be to keep just one single corporate income tax rate, specifically the one that currently applies to small companies since it is lower and, consequently, has less of a dissuasive effect on entrepreneurship. To help understand this, the next section will explain the ways in which the corporate income tax discourages entrepreneurship.

Reducing Reward and Savings

The first effect of the corporate income tax is to reduce the reward associated with entrepreneurship by making companies less profitable, since profits are taxed. Fewer dividends are therefore paid to entrepreneurs and other shareholders.

57. OECD, Table II.1. Statutory corporate income tax rate, 2002 to 2018, April 2018 update.

58. This rate will fall to 9% on January 1st, 2019.

59. Benjamin Dachis and John Lester, *Small Business Preferences as a Barrier to Growth: Not So Tall After All*, Commentary No. 426, C.D. Howe Institute, May 2015, pp. 12-13.

60. Brett Stuckey and Adriane Yong, "A Primer on Federal Corporate Taxes," Library of Parliament Research Publications, International Affairs, Trade and Finance Division, June 16, 2011, pp. 1-9.

61. Benjamin Dachis and John Lester, *op. cit.*, footnote 59; Kenneth Hendricks, Raphael Amit, and Diana Whistler, *Business Taxation of Small and Medium-Sized Enterprises in Canada*, Technical Committee on Business Taxation, Working Paper No. 97-11, October 1997; Ajay Agrawal, Carlos Rosell, and Timothy S. Simcoe, *Do Tax Credits Affect R&D Expenditures by Small Firms? Evidence from Canada*, NBER, Working Paper No. 20615, October 2014.

Table 5-1

General corporate income tax rates, federal, provincial, and combined, 2018			
Province	Federal rate	Provincial rate	Combined rate
Alberta	15%	12%	27%
British Columbia		11%	26%
Prince Edward Island		16%	31%
Manitoba		12%	27%
New Brunswick		14%	29%
Nova Scotia		16%	31%
Ontario		11.5%	26.5%
Quebec		11.7%	26.7%
Saskatchewan		12%	27%
Newfoundland and Labrador		15%	30%

Source: KPMG, Corporate Tax Rates, Income Tax Rates for General Corporations, March 31, 2018.

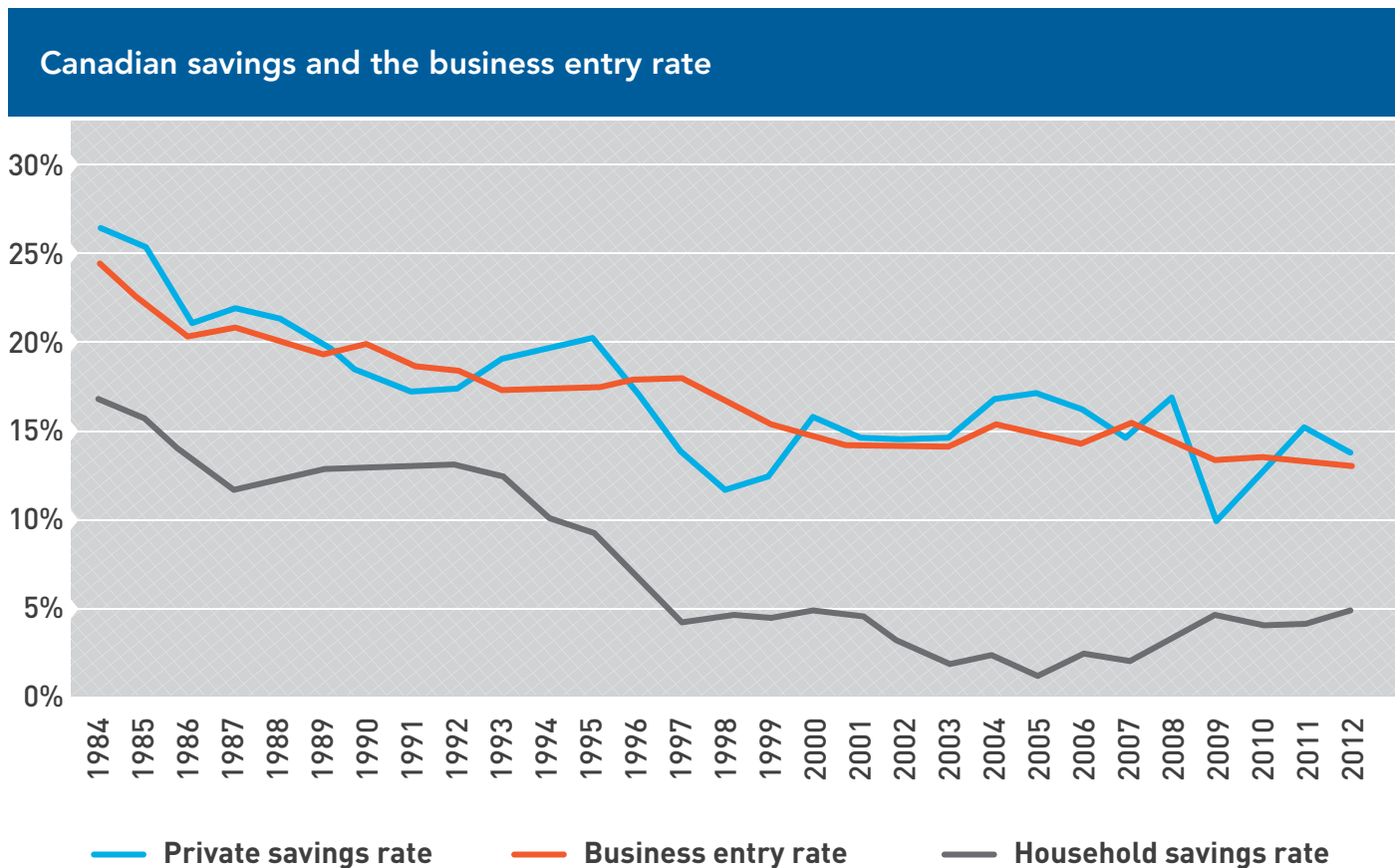
Table 5-2

General corporate income tax rates for small companies, federal, provincial, and combined, 2018			
Province	Federal rate	Provincial rate	Combined rate
Alberta	10%	2%	12%
British Columbia		2%	12%
Prince Edward Island		4.5%	14.5%
Manitoba		0%	10%
New Brunswick		2.5%	12.5%
Nova Scotia		3%	13%
Ontario		3.5%	13.5%
Quebec		7%	17%
Saskatchewan		2%	12%
Newfoundland and Labrador		3%	13%

Note: The provincial threshold in Manitoba is \$450,000, whereas in Saskatchewan it is \$600,000. In Quebec, the 7% rate has been in effect since March 28, 2018; prior to this, it was 8%. In New Brunswick, the 2.5% rate has been in effect since April 1st, 2018; prior to this, it was 3%.

Source: KPMG, Corporate Tax Rates, Income Tax Rates for CCPCs, March 31, 2018.

Figure 5-1



Note: The private savings rate is the sum of net household savings and undistributed corporate profits, divided by the sum of their disposable income and undistributed corporate profits.

Sources: Statistics Canada, CANSIM Table 380-0078: Undistributed corporation profits; Statistics Canada, CANSIM Table 380-0072: Current and capital accounts – Households; Statistics Canada, CANSIM Table 384-0040: Current accounts - Households, provincial and territorial; Statistics Canada, CANSIM Table 380-0080: Revenue, expenditure and budgetary balance – General governments; Statistics Canada, CANSIM Table 326-0021: Consumer Price Index; Ryan Macdonald, “Business Entry and Exit Rates in Canada: A 30-year Perspective,” *Economic Insights*, Statistics Canada, No. 038, August 2014.

Secondly, this effect also tends to reduce the savings available for capital accumulation, since the non-distributed profits of companies are a form of savings. Indeed, it is important to remember that entrepreneurship does not just happen when businesses are created, even though in current usage, entrepreneurship has become a synonym for business creation. Established firms are also entrepreneurial, for example, when they launch innovative products, explore new markets, or simply offer their services to new clienteles they had not been serving. They therefore also need savings to feed their investments, even if they are no longer start-ups.

One possible measure of this saving is the private savings rate, which includes household savings, seen in Figure 5-1. Note that this measure of savings varies quite a bit from year to year, and tracks the strength of the economy. For example, in 2009, the effect of the financial crisis can be clearly seen. Since private savings

The first effect of the corporate income tax is to reduce the reward associated with entrepreneurship.

include household savings, it is also influenced by factors like the aging of the population, which explains a large portion of the slope of this curve.

As we can also see in this same Figure, it seems that the business entry rate evolves in the same direction as savings, and in similar proportions. It must be noted, however, that while available savings have a role to play, other important factors can explain the falling business entry rate, for example, consolidation in certain industries, which reduces the number of businesses and increases their size. One must therefore avoid suggesting

that the falling business entry rate is necessarily bad news, since it can reflect other phenomena and is not by itself an indication of the strength of the Canadian economy.

More Tax, Fewer Businesses

A European study looked specifically at the corporate income tax and at the entry rate for new businesses, which is to say their incorporation. It examined the effect of this tax in 17 European countries between 1997 and 2004. According to this analysis, when the tax rate goes from around 30% to 27.5%, the entry rate increases by 0.88 percentage points.⁶² A surprising aspect of these results is that a decrease in the tax rate has a more positive effect on entrepreneurship when this rate is already relatively low before the decrease than when it is relatively high.⁶³

A 10-percentage-point increase in the corporate tax rate reduces the number of businesses per 100 people by 1.9.

Another study used an interesting methodology to determine if the corporate income tax has an effect on entrepreneurship. It looked at 85 countries and established a fictitious company in each of these countries, using the same parameters: This business produces and sells ceramic flower pots, is located in the country's largest city, pays all of its municipal, regional, and federal taxes, employs 60 people, etc. The details are not important; what is important is that the same kind of business was simulated in each country.

The authors of this study found that the corporate tax rate has a large and significant effect on entrepreneurship: A 10-percentage-point increase in this rate reduces the number of businesses per 100 people by 1.9, and the business entry rate by 1.4 percentage points.⁶⁴

Without recreating this complex study in its entirety, a simple look at the raw data gives a good idea of the results. Figure 5-2, covering the period from 2001 to 2016, shows that the corporate income tax rate is inversely correlated with entrepreneurial activity: One additional point of income tax is associated with a 0.15% reduction in entrepreneurial activity.

An American study looked at another measure sometimes used to quantify innovative entrepreneurship: the number of patents filed. It compared figures for the 1990-2006 period with variations in the corporate income taxes of US states. Their conclusion is that two thirds of companies affected by a tax increase filed around one fewer patent in the two years following the hike, representing around a 5% drop, compared to companies exposed to similar economic conditions but not affected by fiscal changes. The researchers also observed a 4.3% reduction in R&D spending.⁶⁵

Finally, one more measure of entrepreneurship, while indirect and imperfect, is economic growth. The two are after all intimately connected, and increased economic activity is very often an indication that there has been more entrepreneurial activity, whether in the form of business creation or of investment in already established businesses. A Canadian study looked at variations in provincial corporate income tax rates from 1977 to 2006. It found that a reduction of this tax by one percentage point increases economic growth by 0.1 to 0.2 percentage points.⁶⁶ A reduction in corporate income taxes therefore stimulates economic growth, and by deduction, entrepreneurial activity as well.

Conclusion

The corporate income tax, like the personal income tax, has an effect on entrepreneurship. Whether this effect is direct or whether it follows the reduction in prior savings necessary to the pursuit of opportunities is not important: The fact remains that there is less entrepreneurship when taxes are higher.

Should this be surprising? This is not a rhetorical question. The general population has properly integrated the principle that taxes on certain categories of goods reduce their consumption. But it seems that a certain romanticism with regard to entrepreneurship keeps many

62. This study uses the effective average corporate income tax rate. Marco Da Rin, Marina Di Giacomo, and Alessandro Sembenelli, "Entrepreneurship, Firm Entry, and the Taxation of Corporate Income: Evidence from Europe," *Journal of Public Economics*, Vol. 95, Nos. 9-10, October 2011, pp. 1048-1066.

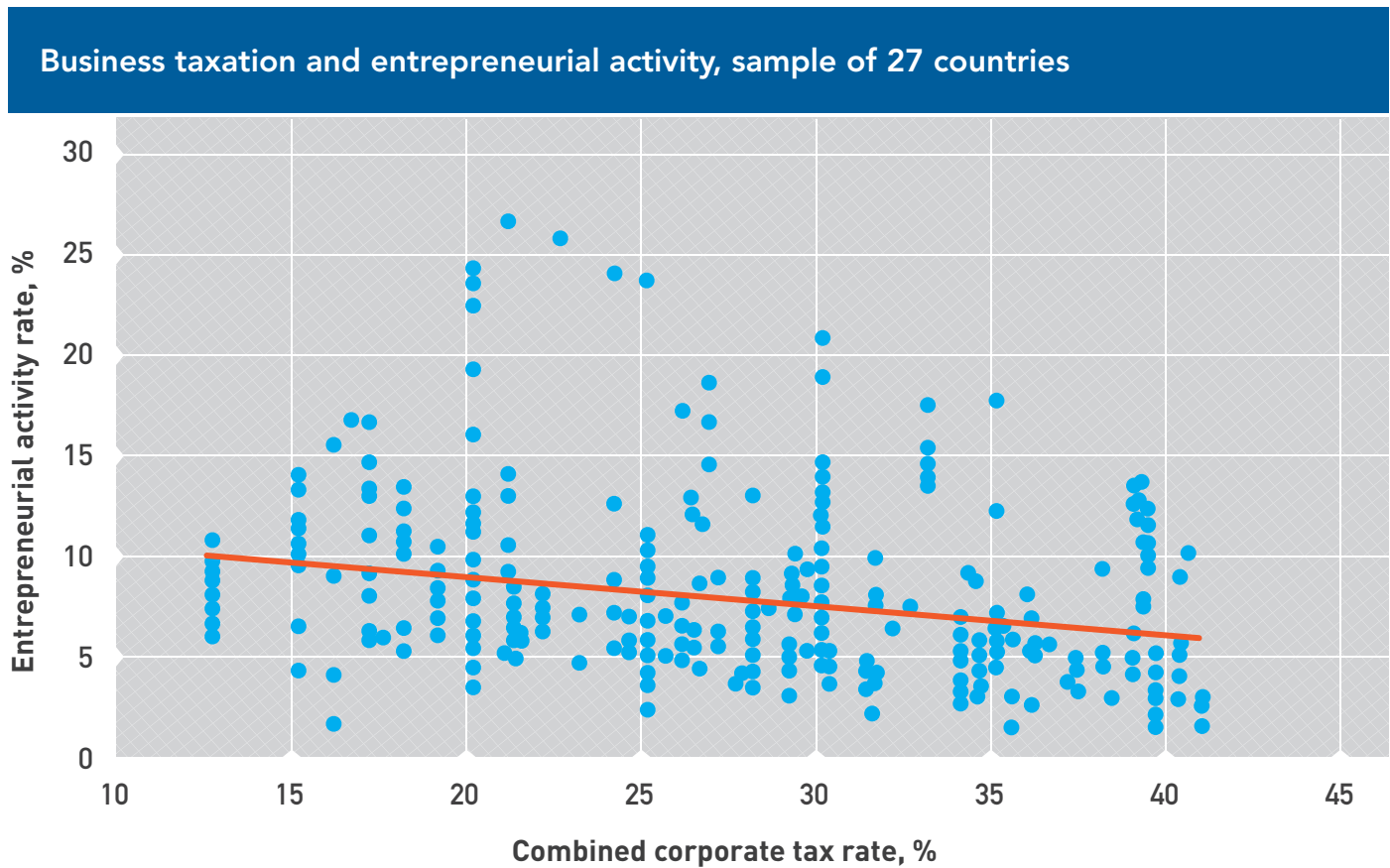
63. This result is due to the attitude of entrepreneurs in the face of risk. For high tax rates, researchers take it for granted that deductible losses create a situation in which the risk is shared between the company and the government. In this context, a tax increase can encourage risk-taking, since the company is thus responsible for a smaller portion of the total risk. On this topic, see Evsey D. Domar and Richard A. Musgrave, "Proportional Income Taxation and Risk-Taking," *The Quarterly Journal of Economics*, Vol. 58, No. 3, May 1944, pp. 410-411.

64. Simeon Djankov et al., "The Effect of Corporate Taxes on Investment and Entrepreneurship," *American Economic Journal: Macroeconomics*, Vol. 2, No. 3, July 2010, pp. 31-64.

65. Abhiroop Mukherjee, Manpreet Singh, and Alminas Žaldokas, "Do Corporate Taxes Hinder Innovation?" *Journal of Financial Economics*, Vol. 124, No. 1, April 2017, pp. 195-221.

66. Ergete Ferede and Bev Dahlby, "The Impact of Tax Cuts on Economic Growth: Evidence from the Canadian Provinces," *National Tax Journal*, Vol. 45, No. 3, September 2012, pp. 563-594.

Figure 5-2



Sources: OECD, "Tax database," Table II.1 – Corporate income tax rates, 2018; Global Entrepreneurship Monitor, data, entrepreneurial behaviour and attitudes, 2001-2016.

people, including political decision-makers, from applying this reasoning to business creation. Yet the evidence is overwhelming: the more that entrepreneurship is taxed, the less of it there is.

A reduction in corporate income taxes stimulates economic growth, and by deduction, entrepreneurial activity as well.

CONCLUSION

Entrepreneurship is definitely influenced by taxation. There is simply no doubt about it. If we take into account what was written in each chapter of this paper, we can even draw certain additional conclusions.

Given that subsidies to entrepreneurship are ineffective, as shown in Chapter 1, such public policies are difficult to defend. Moreover, they have several kinds of costs. There is of course their financial cost: The money must come from somewhere, and as subsequent chapters showed, taxes are a burden for the economy when they are higher than absolutely necessary. There is also a cost in terms of distortions: Entrepreneurs adapt their projects to conform to the objectives of aid programs, whereas their initial plan might have been better for society and created more wealth and jobs.

It is possible to be much more effective when it comes to encouraging entrepreneurship simply by intervening less.

Another additional conclusion is that it would be better to replace all forms of subsidies to entrepreneurs with reductions in the taxes they pay when they start a business, but also beforehand, when they are still accumulating capital with a view to starting a business.

Finally, one last element that must be taken into account is the fact that having better public policies for supporting entrepreneurship—essentially, less financial assistance and lower taxes—can actually lead to more revenue for the government. Such policies favour economic growth, and reducing tax rates therefore sometimes leads to higher tax receipts. At any rate, it is not the case that tax receipts will necessarily shrink.

This was confirmed in Canada in recent history: Revenues from the federal corporate income tax remained relatively stable between 2001 and 2012, while the corporate tax rate was nearly cut in half.⁶⁷ Economic activity therefore quite logically increased during this period, thus creating more wealth.

Some will want to calculate with precision the economic spinoffs of the policies suggested here before considering putting them in place. Besides the fact that this would constitute a tremendously complex exercise and produce very uncertain results, it would miss the point entirely: Incentives, good or bad, always have their effect, as shown by the examples from around the world at the end of this paper. As all kinds of taxes have the effect of reducing the consumption of this or that good or service, the same kind of thing holds true for entrepreneurship.

In sum, what we are left with is the need to rethink the approach that Canada's various governments have adopted over the years. It is possible to be much more effective when it comes to encouraging entrepreneurship simply by intervening less. Such a proposal should, on its face, be easy to implement.

67. For the American experience and the origin of this concept, see Don Fullerton, "Laffer Curve," in Steven N. Durlauf and Lawrence E. Blume (eds.), *The New Palgrave Dictionary of Economics*, 2008; Martin Feldstein, "The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act," *Journal of Political Economy*, Vol. 103, No. 3, June 1995, pp. 551-572.

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