

# Entrepreneurship, Demographics, and Capital Gains Tax Reform

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## SUMMARY

- Business start-ups, and entrepreneurship more generally, drive productivity and economic growth.
- The rate of business start-ups in Canada is declining. Since it peaked in 2004, the rate of business start-ups as a share of existing firms has declined by 16.2%.
- The rate of decline in business start-ups increases as the size of the firm (measured by employment) increases. Over the last decade, from 2003 to 2012, the rate of business start-ups for firms with 5 to 20 employees declined 41.3%, compared to a drop of 8.0% for firms of all sizes over the same period.
- There is increasing evidence of a relationship between entrepreneurship and age. Specifically, younger people are less risk averse than older people and are more prone to question the status quo. These characteristics are key to the entrepreneurial process.
- Like all industrialized countries, Canada's population is aging; a greater and greater share of the population is over age 65. Statistics Canada expects the portion of those over age 65 as a share of the population to increase by 74.1% between 2008 and 2035.
- Can governments use policy levers to influence entrepreneurship so as to mitigate these demographic effects? This essay focuses on the benefits of capital gains tax relief since it both improves the incentives for entrepreneurs and assists those financing business start-ups.
- Currently, Canada has the 14th highest capital gains tax rate. Canada has an opportunity to supercharge its entrepreneurial environment by reducing the capital gains tax rate, creating a rollover as has been done in the United States, or simply eliminating the capital gains tax, as has been done in many OECD countries.

## Introduction

Over the past few years, a number of prominent Canadians have raised concerns about the state of business start-ups—and entrepreneurship more generally—in Canada.<sup>1</sup> Entrepreneurship is an important component of a well-functioning, prosperous economy. One explanation for the observed decline in business start-ups, which has been ignored thus far, is the aging of Canada's population. This Research Bulletin aims to fill that void by explaining how demographics influences entrepreneurship; it also offers at least one potential solution to mitigate these demographic effects.

## Entrepreneurship and the economy

There is often a romanticism attached to small businesses and entrepreneurs that sees such activities as a positive end in itself. The approach taken in this essay, however, is a more practical one, which is that entrepreneurship positively influences economic prosperity. In fact, entrepreneurs, and the innovation and dynamism attached to their activities, are a cornerstone of a prosperous economy.<sup>2</sup>

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<sup>1</sup> For example, in a House of Commons Standing Committee on Finance meeting on October 29, 2013, Bank of Canada Governor Stephen Poloz responded to a question from Scott Brison about youth employment by expressing his concerns that a slowdown in business creation (start-ups) was contributing to low youth employment levels. See: <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=6273225&Language=E&Mode=1&Parl=41&Ses=2>.

<sup>2</sup> For an excellent discussion of the role of innovation and entrepreneurship in explaining economic growth, see William J. Baumol, Robert E. Litan, and Carl J. Schramm (2007), *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity* (Yale University Press); and William J. Baumol (2004), *The Free-Market Innovation Machine: Analyzing the*

One aspect of the link between entrepreneurship and prosperity is its influence on productivity. Productivity refers to the ability of an economy to transform inputs into useable outputs. Ultimately the living standards of any jurisdiction are based on its productivity.

European scholars Hugo Erken, Piet Donselaar, and Roy Thurik examined the productivity<sup>3</sup> performance of 20 countries in the OECD<sup>4</sup> (Organisation for Economic Cooperation and Development) for the period 1971 to 2002 to determine the influence of entrepreneurship.<sup>5</sup> The study used business ownership rates<sup>6</sup> to measure entrepreneurship, which is a related measure to business start-ups. The authors tested a number of different models and concluded that “entrepreneurship is a fundamental driver of productivity: it has a stable and significant impact on the development of productivity levels.”<sup>7</sup> Other studies have found a similar

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*Growth Miracle of Capitalism* (Princeton University Press).

<sup>3</sup> They specifically examined total factor productivity rather than the narrower measure of labour productivity.

<sup>4</sup> See [www.oecd.org](http://www.oecd.org) for further information.

<sup>5</sup> Hugo Erken, Piet Donselaar, and Roy Thurik (2009), *Total Factor Productivity and the Role of Entrepreneurship* (Tinbergen Institute). Available at <http://ssrn.com/abstract=1398767>.

<sup>6</sup> Specifically the authors use deviations from estimates of “equilibrium” business ownership rates to measure entrepreneurship. They estimate the equilibrium level based on GDP per capita to correct for the fact that high business ownership rates are expected to be facilitated by economic activity. In summary, they measure entrepreneurship as business ownership rates above and beyond what is expected for observed levels of GDP per capita.

<sup>7</sup> Erken, Donselaar, and Thurik (2009), *Total Factor Productivity*: 36.

positive relationship between entrepreneurship and productivity growth.<sup>8</sup>

There is a broader but equally interesting question about the effect of entrepreneurship on economic growth. A number of studies have tested the influence of entrepreneurship on economic growth and found a strong, positive relationship. For example, David Audretsch and Max Keilbach (2006)<sup>9</sup> investigated the relationship between entrepreneurial activity and regional economic performance using 440 German counties.<sup>10</sup> The study differentiated between different types of start-up companies and different industries, particularly knowledge and “non-knowledge” industries. The authors concluded that “empirical evidence suggests that entrepreneurship capital exerts a significant and strongly positive impact on regional economic performance” and that “a region’s capacity to create new firms does have a positive impact on that region’s economic performance.”<sup>11</sup> This latter point is key given the

focus of this essay, which is that the ability of a jurisdiction to successfully encourage the creation of new firms influences the region’s overall economic performance.

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Similarly, Zoltan J. Acs, David B. Audretsch, Pontus Braunerhjelm, and Bo Carlsson investigated the effects of entrepreneurship on economic growth across 18 countries.<sup>12</sup> The specific point of interest for their paper was the ability of entrepreneurs to transform ideas that might not otherwise be commercialized through spillover mechanisms into new firms in order to commercialize ideas. The authors concluded that such mechanisms had a clear and positive influence on economic growth.

While there is an extensive literature on this issue, it is sufficient for the purposes of this essay to acknowledge the presence of academic and applied research showing a positive relationship between entrepreneurship and both productivity and economic growth.

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<sup>8</sup> See, for example, Christian Bjørnskov and Nicolai J. Foss (2010), *Do Economic Freedom and Entrepreneurship Impact Total Factor Productivity?* SMG Working Paper No. 8/2010. Available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1683965](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1683965).

<sup>9</sup> David Audretsch and Max Keilbach (2006), *Entrepreneurship Capital—Determinants and Impact on Regional Economic Performance*. Available at [https://www.aeaweb.org/assa/2006/0107\\_1430\\_0301.pdf](https://www.aeaweb.org/assa/2006/0107_1430_0301.pdf).

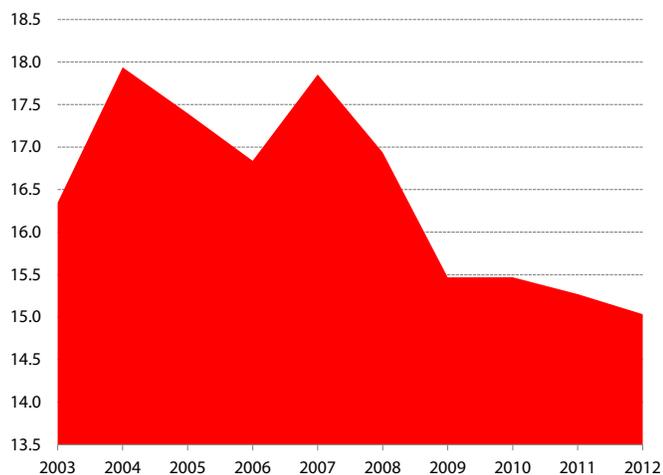
<sup>10</sup> The 2006 study is an extension of a 2004 study: David Audretsch and Max Keilbach (2004), *Entrepreneurship Capital and Economic Performance*, *Journal of Regional Studies* 38, 8 (November): 949–959. The 2004 study attempted to answer a similar question using a similar framework, but with more limited data.

<sup>11</sup> Audretsch and Keilbach (2006), *Entrepreneurship Capital*: 20 and 22.

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<sup>12</sup> Zoltan J. Acs, David B. Audretsch, Pontus Braunerhjelm, and Bo Carlsson (2005), *Growth and Entrepreneurship: An Empirical Assessment* (Max Planck Institute of Economics: Group Entrepreneurship, Growth and Public Policy). Available at <https://papers.econ.mpg.de/egp/discussionpapers/2005-32.pdf>.

**Figure 1: Start-ups in Canada, All Sizes, 2003-2012**



Source: Statistics Canada (2014), Table 527-0002: Employer businesses in the private sector, by employment dynamics and firm size. <<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=5270002&paSer=&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>>>, as of November 24, 2014.

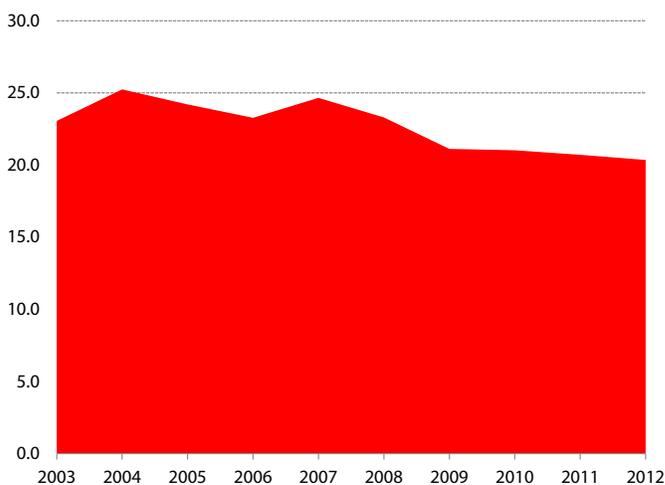
## Business start-ups and entrepreneurship

There are a number of metrics by which to measure entrepreneurial activity. One that reflects well the state of entrepreneurship is business start-ups.<sup>13</sup> As many observers<sup>14</sup> have noted, there is a worrying decline in the rate

<sup>13</sup> For a discussion of the measurement of entrepreneurship, see Keith Godin, Jason Clemens, and Niels Veldhuis (2008), *Measuring Entrepreneurship: Conceptual Frameworks and Empirical Indicators* (The Fraser Institute). Available at <http://www.fraserinstitute.org/research-news/display.aspx?id=13202>.

<sup>14</sup> The *Globe and Mail* article cited, for example, contains the opinions of several Canadian business leaders about the state of entrepreneurship and innovation in Canada. See <http://www.theglobeandmail.com/report-on-business/careers/careers-leadership/caution-is-sapping-the-energy-from-canadian-innovation/article23270101/>.

**Figure 2: Number of New Entrants (Start-Ups) Per 100 Incumbents, Fewer Than 5 Employees, 2001-2012**



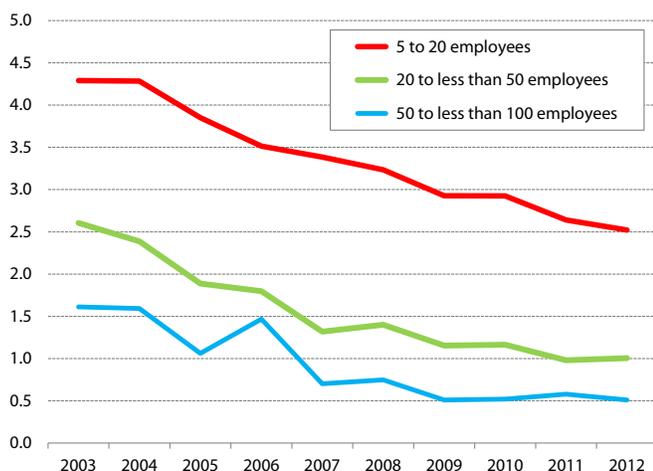
Source: Statistics Canada (2014), Table 527-0002 Employer businesses in the private sector, by employment dynamics and firm size. <<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=5270002&paSer=&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>>>, as of November 24, 2014.

of business creation in Canada, particularly with respect to smaller-sized businesses. Figure 1 illustrates the rate of business start-ups for firms<sup>15</sup> of all sizes (defined by the number of employees) for Canada between 2003 and 2012, the most recent year for which data are available.

The rate of business start-ups peaked in 2004 at 17.9 new firms per 100 existing firms. By 2012, the rate of new business start-ups (all firm

<sup>15</sup> Firms are defined here as incumbents (businesses with employees in both the current and previous years), while entrants (businesses with employees in the current year but none in the previous year) are new firms. The start-up rate is the ratio of “entrants” to “incumbents divided by 100.”

**Figure 3: Number of New Entrants (Start-Ups) Per 100 Incumbents, Various Size of Firms, 2001-2012**



Source: Statistics Canada (2014), Table 527-0002: Employer businesses in the private sector, by employment dynamics and firm size. <<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=5270002&paSer=&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>>, as of November 24, 2014.

sizes) was only 15.0 per 100 existing firms, a decline of 16.2% between 2004 and 2012.

While the decline from 2007 through 2009 is understandable given the global recession, there has not been a post-recession rebound. In fact, there is an observable decline in the trend of start-ups prior to the recession and after the recession. Over the entire 2003-2012 period, the rate of business start-ups as a share of existing firms declined by 8.0%.

Interestingly, the rate of decline in business start-ups increases as the size of the firms (as measured by the number of employees) increases. For instance, between 2003 and 2012, the rate of decline in Canada for business start-ups for firms with fewer than five employees (figure 2) was 11.7%, slightly more than the rate observed for all firms (8.0%).

However, as figure 3 illustrates, the decline in business start-ups for larger firms (measured by the number of employees), was markedly higher. Between 2003 and 2012, for example, the number of business start-ups with between 5 and 20 employees declined by 41.3%. The decline in business start-ups over the same period for firms with 20 to 50, and 50 to 100 employees was 61.4% and 68.3%, respectively.

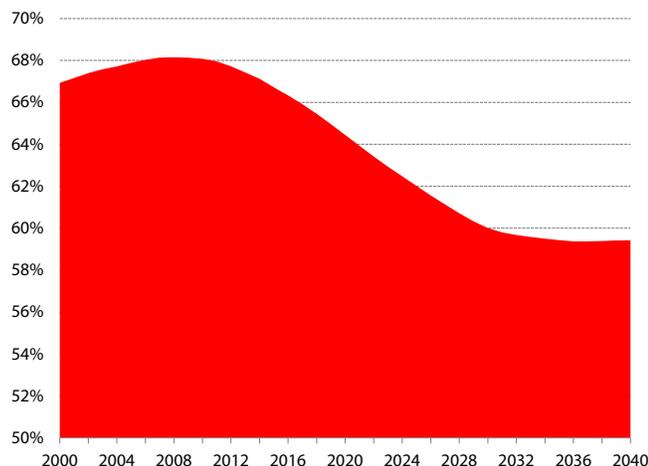
## Demographics

Canada is not the only country to experience declines in the rate of business start-ups. The United States also experienced an 8.0% decline<sup>16</sup> in the rate of business start-ups for all firms<sup>17</sup> between 2003 and 2012. One factor likely influencing the rate of business start-ups is the aging of the population, though thus far demographics have received almost no attention.

<sup>16</sup> There are potential problems with the data for start-ups in the US for 2012 that could be anomalous. The rate of business start-ups in that country (all firm sizes) increased from 14.8 per 100 firms in 2011 to 17.0 per 100 in 2012. It is possible that some, or even most, of this marked increase could be due to firms re-organizing themselves because of legislation in the US that treats smaller firms differently than medium- and large-sized firms. For example, the Affordable Care Act, also known as Obamacare, treats firms with fewer than 50 employees quite differently than firms with 50 or more employees. Tellingly, the rate of business start-ups in the US declined 25.0% between 2002 (its peak) and 2011; the rate of decline decreases to 8.0% when the period is shifted to 2003 to 2012.

<sup>17</sup> US Census Bureau (2014), *Business Dynamics Statistics, Establishment Characteristics Data Tables*. Available at [http://www.census.gov/ces/dataproducts/bds/data\\_estab.html](http://www.census.gov/ces/dataproducts/bds/data_estab.html), as of January 13, 2015; calculations by the authors make the US data comparable with the Canadian data.

**Figure 4: Working Age People (Aged 16-64) as a Share of the Population**



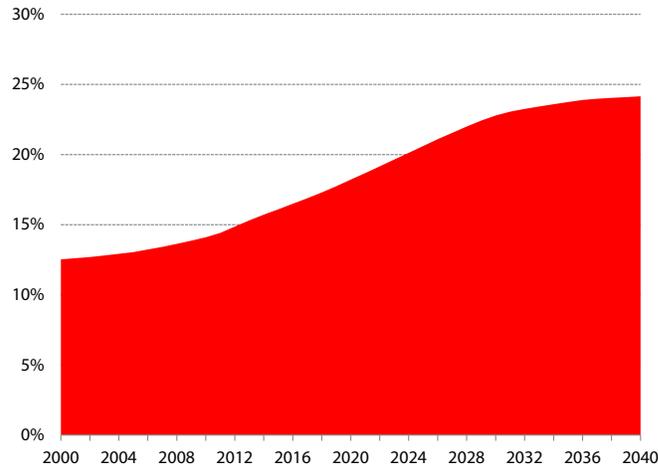
Sources: Statistics Canada, CANSIM Table 051-0001; CANSIM Table 052-0005; calculations by authors.

Most Canadians understand that our population is aging. The baby-boom generation is getting older and the generations that followed have lower birth rates. These factors, coupled with longer life expectancy, have resulted in a marked aging of the population. This phenomenon is not unique to Canada; it is occurring in every industrialized country.<sup>18</sup>

Figure 4 illustrates the working age population (people aged 16 to 64) as a share of the total population between 2000 and 2040. The future estimates in the figure are based on Statistics Canada's population projection, medium-

<sup>18</sup> See for example, United Nations (2013), *World Population Prospects: The 2012 Revision, Volume II: Demographic Profiles*. (United Nations). Available at [http://esa.un.org/wpp/Documentation/pdf/WPP2012\\_Volume-II-Demographic-Profiles.pdf](http://esa.un.org/wpp/Documentation/pdf/WPP2012_Volume-II-Demographic-Profiles.pdf), as of March 12, 2015.

**Figure 5: People Over Age 65 as a Share of the Population**



Sources: Statistics Canada, CANSIM Table 051-0001; CANSIM Table 052-0005; calculations by authors.

growth scenario.<sup>19</sup> From 2000 to 2008, the ratio of working-age Canadians in the population either increased or was stable—from 66.9% in 2000 to a peak of 68.2% in 2008. The ratio fell to 67.1% in 2014. Statistics Canada projects the ratio will fall to 59.4% by 2035, and stabilize thereafter. In other words, between 2008 and 2035, the proportion of Canadians of working age in the population is expected to fall by 12.8%.

Figure 5 shows the same effect but examines the share of the population over age 65, which increased from 12.5% in 2000 to 15.7% in 2014. Statistics Canada projects the proportion over

<sup>19</sup> Statistics Canada (2015), Table 052-0005: Projected population, by projection scenario, age and sex, as of July 1, Canada, provinces and territories, annual. Available at <http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=0520005&paSer=&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>, as of February, 2015.

age 65 will reach 23.7% in 2035 (roughly one in four Canadians). Put another way, the share of the Canadian population over the age of 65 is expected to increase by 74.1% between 2008 and 2035. So the proportion of Canadians over age 65 will continue to grow while the proportion of younger, working age people will continue to shrink.

There is a fair understanding of this demographic effect, but there is less general understanding of how this demographic effect will influence society. For example, much has been written on how the aging of the population will affect government budgets through higher health care spending, the potential for lower revenues, etc. There is less understanding about how the aging of the population might affect non-governmental institutions. One area of demographics that is almost entirely ignored is how aging might affect business start-ups.

## Research on demographics and business start-ups

A very recent study on demographics and its potential effects on entrepreneurship is from the National Bureau of Economic Research.<sup>20</sup> The authors develop a model showing how the age structure of a jurisdiction can influence entrepreneurship based on previous research, and then test the model using data from the Global Entrepreneurship Monitor. The basic assumption underpinning the model is that a link exists between age and entrepreneurial or start-up activity. Specifically, the authors

assume that an entrepreneur needs two qualities: creativity and business acumen.

For an entrepreneur, creativity is the ability to think beyond current products and methods of production, to recognize opportunities in the market, and have the ability to take advantage of them. Liang, Wang, and Lazear cite evidence that this trait is more pronounced and observable in younger people. Business acumen refers to the skills and training individuals gain through their work experiences. This assumption is derived from Nobel laureate Gary Becker's early work on human capital formation.<sup>21</sup> Liang, Wang, and Lazear (2014) extend Becker's work on human capital accumulation, showing that such capital accumulation increases as individuals advance in a firm, which is key to understanding potential age effects.

The experience that people obtain at higher levels in a firm is critical to their ability to start and succeed in a business. The probability of being in a higher position, however, is dependent on the age structure of an economy. In older workforces, younger workers will be less likely to be given an opportunity to occupy higher level positions since these positions will be filled by more senior workers. Indeed, the authors conclude that a young society will provide the opportunities necessary for the young to achieve the critical early career development essential for entrepreneurial endeavors later in life. This insight in part has led the authors to conclude that older societies will have lower rates of entrepreneurship across all age levels as well as in aggregate.

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<sup>20</sup> James Liang, Hui Wang, and Edward P. Lazear (2014), *Demographics and Entrepreneurship*, NBER Working Paper No. 20506 (National Bureau of Economic Research). Available at <http://www.nber.org/papers/w20506>.

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<sup>21</sup> See Gary S. Becker (1962), Investment in Human Capital: A Theoretical Analysis, *Journal of Political Economy* 70, 5 (October): 9-49.

The paper's empirical analysis confirms their theoretical approach to demographics and entrepreneurship. Specifically, they conclude that the relationship between age and entrepreneurship is an inverted U-shape. Empirically, they found that a one standard deviation decrease in the median age (equal to 3.5 years) results in a 2.5 percentage point increase in the entrepreneurship rate. The peak of the inverted U occurs at 32 years of age.<sup>22</sup> Strikingly, the authors also showed empirically that in older countries, even the young are less entrepreneurial.

Other research has generated similar conclusions. For example, in 2011 Lévesque and Minniti found a relationship between entrepreneurship and age, concluding that at the individual level the opportunity costs of entrepreneurship are higher when people are young and old.<sup>23</sup> Their specific argument is that “[y]ounger individuals possess lower accumulated resources with which to reduce the uncertainty associated with new ventures, whereas older individuals have much more to lose by forgoing seniority wages in favor of uncertain

returns.”<sup>24</sup> This conclusion is similar to Liang, Wang, and Lazear (2014), in that Lévesque and Minniti (2011) find the relationship between age and entrepreneurial activity to be an inverted U-shape. In addition, Lévesque and Minniti found that their conclusions about the relationship between age and entrepreneurship at the individual level are also present at the aggregate level, where countries whose populations are skewed towards being younger or older are likely to have lower levels of entrepreneurial activity.<sup>25</sup>

Another important aspect of the age-entrepreneurship relationship is risk tolerance. Entrepreneurial activities are inherently risky. Individual entrepreneurs must often choose to forego the security of current employment to take a risk and start a new venture. The link between one's age and their propensity for risk has been well established. Vroom and Pahl (1971), for example, assessed the relationship between age and risk taking among managers and found that as managers aged, they had a diminished tolerance for risk.<sup>26</sup>

Wang and Poutzuouris (2010) also found a negative relationship between age and risk taking, stating that “the younger the entrepreneurs, the more likely they will demonstrate a tendency and willingness in risk taking through investing in new emerging technologies, enter-

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<sup>22</sup> This empirical result is in line with previous work such as that by Stangler, which found that entrepreneurship tends to be concentrated among individuals between the ages of 35 and 44. (See Dane Strangler with Daniel F. Spulber (2013), *The Age of the Entrepreneur: Demographics and Entrepreneurship*. Unpublished speech, given at i4j-The International Summit on Innovation for Jobs, Menlo Park, CA, March 18-19, 2013. Available at <http://iiij.org/wp-content/uploads/2013/05/i4jDaneStranglerDemographicsandEntrepreneurship-1.pdf>, as of March 6, 2015.

<sup>23</sup> Moren Lévesque and Maria Minniti (2011), Age Matters: How Demographics Influence Aggregate Entrepreneurship, *Strategic Entrepreneurship Journal* 5: 269-284.

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<sup>24</sup> Lévesque and Minniti (2011), Age Matters: 278.

<sup>25</sup> Similarly, Lamotte and Colovic (2013) used data for 53 developed and developing economies and found that aging reduced entrepreneurial activity. (See Oliver Lamotte and Ana Colovic (2013), Do Demographics Influence Aggregate Entrepreneurship? *Applied Economics Letters* 20, 13: 1206-1210.)

<sup>26</sup> Victor H. Vroom and Bernd Pahl (1971), Relationship between Age and Risk Taking Among Managers, *Journal of Applied Psychology* 55, 5: 399-405.

ing new markets, developing new material for manufacturing/services, and forming strategic alliances.”<sup>27</sup>

This brief survey of existing research on the linkages between demographics and entrepreneurship suggests that younger populations will benefit from higher levels of entrepreneurship and their accordant associated benefits. Conversely, older populations will experience lower levels of entrepreneurship and the costs associated with it. The observed declines in business start-ups in Canada and other industrial countries, which inevitably are partly influenced by the recent recession, are likely also being affected by the aging of industrialized countries.

## Supercharging entrepreneurship

Thus far we have identified a worrying trend between the benefits provided to an economy by entrepreneurs and the headwinds pushing against entrepreneurs from an aging society. The question then, given the limited ability to influence demographics, is whether policy options exist that can encourage potential entrepreneurs and improve the performance of existing entrepreneurs. Can we supercharge entrepreneurship?

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<sup>27</sup> Wang and Poutziouris (2010): 380. (See Yong Wang and Panikkos Poutziouris (2010), *Entrepreneurial Risk Taking: Empirical Evidence from UK Family Firms*, *International Journal of Entrepreneurial Behaviour and Research* 16, 5: 370-388.) Similarly, Jianakoplos and Bernasek (2006) found that older individuals are likely to take fewer risks than younger people, in terms of both their observed and stated propensity for risk. (See Jianakoplos, Nancy Ammon, and Alexandra Bernasek (2006). *Financial Risk Taking By Age and Birth Cohort*. *Southern Economic Journal* 72, 4 (April): 981-1001.)

There are a number of policy levers available that can improve the environment for, and target incentives to entrepreneurs in Canada. This essay explores the capital gains tax reform option, as it has the potential to both improve the incentives for entrepreneurs and assist the financiers who support them.

A capital gain (or loss) refers to the price of an asset when it is sold compared to its original purchase price. A capital gain occurs if the value of the asset at the time of sale is greater than the initial purchase price. A capital loss occurs if the value of the asset at the time of sale is less than the purchase price. A capital gains tax is applied to a perceived or calculated gain in the value of an asset when it is sold.<sup>28</sup>

It is important to understand, however, that assets are generally purchased with after-tax income. This is why most economists consider the capital gains tax to be a form of double taxation that contributes to a bias in favour of consumption and against saving and investment.

From a different perspective, an asset rises in value when investors have reason to believe that it will generate a larger stream of income in the future. But that income, assuming it materializes, will be subject to tax. So a tax on capital gains is a levy on future income that will be subject to yet another layer of tax.

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<sup>28</sup> Jason Clemens, Charles Lammam, and Matthew Lo (2015), *The Economic Costs of Capital Gains Taxes in Canada*, in Charles Lammam and Jason Clemens (eds.), *Capital Gains Tax Reform in Canada: Lessons from Abroad* (The Fraser Institute). Available at [http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/Capital-Gains-in-Canada-Lessons-from-Abroad\\_final.pdf](http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/Capital-Gains-in-Canada-Lessons-from-Abroad_final.pdf).

This issue has important economic implications since a bias against saving and investment reduces incentives for capital formation. And a smaller capital stock has negative implications for productivity, which translates into lower wages.

The following provides a brief overview of how capital gains taxes influence entrepreneurship.<sup>29</sup> Entrepreneurs risk their time and the capital of investors, with the expectation that they will profit from creating a new product or service, changing the method by which current goods and services are produced or delivered, or reforming managerial processes. In all of these endeavors, the entrepreneur ventures into the unknown in order to create something new, from which both they and those using the resultant goods and services will benefit.

Typically, entrepreneurs accept relatively low levels of current compensation in order to protect the cash flow of their start-up firm and in the hope of substantial future returns from the appreciation in their firm's value. A similar dynamic exists for those financing entrepreneurs. They either forego consumption or give up regular dividend or interest payments in the expectation of larger gains in the future from the appreciation of their equity interests. In other words, entrepreneurs and financiers agree to low, and sometimes nonexistent, payouts early in the venture in order to increase the value of their company in the future through the reinvestment of earnings.

Capital gains taxes therefore necessarily reduce the return that entrepreneurs and investors

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<sup>29</sup> This section is based on, and in some cases extracted from, the work of Niels Veldhuis, Keith Godin, and Jason Clemens (2007), *The Economic Costs of Capital Gains Taxes* (The Fraser Institute). Available at <http://www.fraserinstitute.org/research-news/display.aspx?id=13498>.

receive from the sale of a business, which is the return to them for risk-taking, innovation, hard work, and low early stage compensation. The reduced return from these activities resulting from capital gains taxes mean the number of such risk-takers (i.e. entrepreneurs) and their financiers (and the amount of money they are willing to invest) decreases.

There is a large and growing body of research investigating the impact of capital gains taxes on entrepreneurship.<sup>30</sup> James Poterba (1989), for instance, provided a framework for examining the impact of capital gains taxes on entrepreneurship.<sup>31</sup> Poterba explained the link between this form of double taxation and the demand for venture capital funding: potential entrepreneurs compared the compensation obtained from employment at an established firm with the expected payoff from a start-up where a larger share of their compensation would consist of a capital gain. Poterba concluded that by changing the relative tax burdens, a reduction in capital gains taxes attracts more managers of higher quality who become entrepreneurs and require venture capital.

In 1998, Paul Gompers and Josh Lerner applied Poterba's findings to venture capital funding.<sup>32</sup> Specifically, they analyzed the stock of venture capital and tax rates on capital gains from 1972 to 1994. Gompers and Lerner concluded that a one percentage-point increase in the capi-

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<sup>30</sup> For a broad review of this research, see Veldhuis, Godin, and Clemens (2007), *The Economic Costs of Capital Gains Taxes*.

<sup>31</sup> Poterba, James (1989), Capital Gains Tax Policy toward Entrepreneurship, *National Tax Journal* 42: 375–89.

<sup>32</sup> Paul Gompers and Josh Lerner (1998), What Drives Venture Capital Fundraising? Brookings Papers on Economic Activity, *Microeconomics*: 149–92.

tal gains tax rate was associated with a 3.8% reduction in venture capital funding, which is a critical source of financing for early stage and emerging start-ups.<sup>33</sup> Put simply, an increase in capital gains taxes resulted in a proportionately larger reduction in the availability of venture capital funding.

A relatively recent paper published by the University of Toronto's Martin Prosperity Institute provided further evidence of the importance of venture capital for business start-ups.<sup>34</sup> In 2009, Samila and Sorenson studied a panel of US metropolitan areas for the period 1993 to 2002 and found that an increase in the supply of venture capital positively influenced the number of start-up firms in the area. Such an increase in venture capital was also linked with improvements in employment and total income.

Finally, Da Rin and his colleagues (2006) examined the impact of a number of government policies on start-up businesses in European

countries between 1988 and 2001.<sup>35</sup> The authors found that three policies worked well to increase the proportion of high-tech and early-stage ventures: 1) opening a new venture stock market, 2) reducing the capital gains tax and, 3) reducing labour regulation.

In sum, there is evidence that capital gains taxes have a negative effect on both the number of entrepreneurs and those who finance entrepreneurs, such as venture capitalists, by reducing the reward (benefits) available to both for undertaking entrepreneurial activities. Such effects impose real costs on the economy and society more broadly through a smaller capital stock, slower rates of economic growth, lower levels of job creation, and generally lower levels of dynamism.

## The state of capital gains taxes in Canada and options for reform

While the structure and rates of capital gains taxes vary by country, it is worthwhile to understand the current level of competitiveness of Canada's capital gains tax regime. Figure 6 depicts the top capital gains tax rates for 34 Organisation for Economic Cooperation and Development (OECD) countries.<sup>36</sup> Eleven of the 34 OECD countries seek neutrality between income that is consumed and income that is saved and invested, and therefore do not impose a capital gains tax. Overall, Canada has the 14<sup>th</sup> highest capital gains tax rate among these countries at 22.25%. Despite improve-

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<sup>33</sup> Daniel Sandler (2004) found that much of the research stemming from Poterba (1989) did not include the informal venture-capital market. He explained that Poterba ignored the 38.0% of firms launched without outside investors and financed by "love capital" (funding from friends and family) or debt financing. While there is currently little empirical research on how much individuals across Canada are contributing informally to entrepreneurship, estimates of the impact of capital gains tax on entrepreneurs and their demand for venture capital is likely understated.

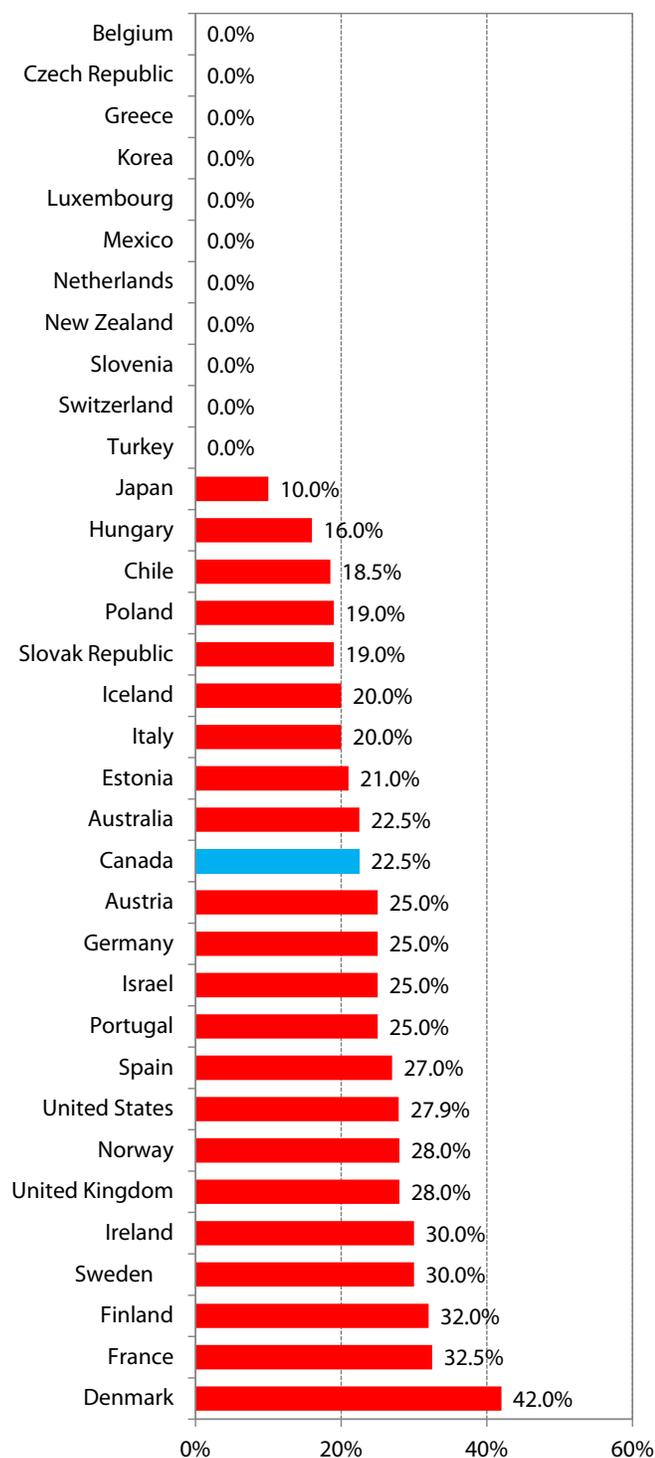
<sup>34</sup> Sampsa Samila and Olav Sorenson (2009), *Venture Capital, Entrepreneurship, and Economic Growth* (Martin Prosperity Institute). Available at <http://martinprosperity.org/media/agrawal/3SorensonSamila.pdf>.

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<sup>35</sup> Marco Da Rin, Giovanna Nicodano, and Alessandro Sembenelli (2006), Public Policy and the Creation of Active Venture Capital Markets, *Journal of Public Economics* 90: 1699–723.

<sup>36</sup> The data and analysis for this section are taken from Clemens, Lammam, and Lo (2015).

**Figure 6: OECD Top Capital Gains Tax Rates for 2013**



Source: <http://taxfoundation.org/article/top-capital-gains-tax-rate-oecd-2011-2014>

ments made in the 1990s<sup>37</sup> to reform and reduce our nation's capital gains taxes, we still have a relatively high rate and are certainly not in the elite group of OECD countries that have eliminated capital gains taxes altogether.

There are varying degrees of general acceptance of the component parts of this essay, namely, 1) the importance of entrepreneurs and business start-ups in promoting economic growth and prosperity, 2) an observed decline in the rate of business start-ups beginning in the early 2000s, and 3) the linkages between capital gains taxes and entrepreneurship. However, little work has been done thus far to connect these components and offer a potential policy to mitigate the deleterious effects of declining entrepreneurship.

Reducing capital gains taxes either through a rollover provision<sup>38</sup> as has been implemented in the United States, or by eliminating capi-

<sup>37</sup> Two Fraser Institute conferences during the 1990s and their subsequent research publications were critical to establish the basis and foundation for capital gains tax relief. See Herbert Grubel, ed. (2001), *International Evidence on the Effects of Having No Capital Gains Taxes* (The Fraser Institute). Available at <http://www.fraserinstitute.org/research-news/display.aspx?id=13117>; and Herbert Grubel, ed. (2000), *Unlocking Canadian Capital: The Case for Capital Gains Tax Reform* (The Fraser Institute). Available at <http://www.fraserinstitute.org/research-news/display.aspx?id=13570>.

<sup>38</sup> Steve J. Entin (2015), *Economic and Tax Administration Issues Relating to Differential Tax Rates on Capital Gains*, in Charles Lammam and Jason Clemens (eds.), *Capital Gains Tax Reform in Canada: Lessons from Abroad* (The Fraser Institute). Available at [http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/Capital-Gains-in-Canada-Lessons-from-Abroad\\_final.pdf](http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/Capital-Gains-in-Canada-Lessons-from-Abroad_final.pdf).

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tal gains taxes outright<sup>39</sup> as a number of OECD countries have done, offers Canada—or any interested country—a real opportunity to strengthen the incentives for entrepreneurship and the financing of entrepreneurs. By doing so, these countries can improve the environments for entrepreneurship and potentially mitigate some of the demographics effects noted in this essay.

<sup>39</sup> For specific examples of other countries that do not impose a capital gains tax, see the following chapters from Charles Lammam and Jason Clemens, eds. (2015), *Capital Gains Tax Reform in Canada: Lessons from Abroad* (The Fraser Institute), available at [http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/Capital-Gains-in-Canada-Lessons-from-Abroad\\_final.pdf](http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/Capital-Gains-in-Canada-Lessons-from-Abroad_final.pdf): Stephen Kirchner, Taxing Consumption, Not Saving: New Zealand's Rejection of a Comprehensive Capital Gains Tax; Bill Stacey, Zero Capital Gains Taxes in Hong Kong: Preserving Simplicity and Reducing Cyclicity; and Christoph A. Schaltegger and Marc M. Winistoerfer, Capital Gains Taxation in Switzerland.



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