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Government Intervention in Venture Capital in Canada: Toward Greater Transparency and Accountability

Canadian governments have created a plethora of agencies, programs and tax incentives for venture capital that have mushroomed over the years. Improving the quality of venture capital policy will provide a win-win outcome for the wider public, government and the venture capital industry itself.

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Daniel Schwanen
Vice President, Research

The Study In Brief

This study asesses government venture capital policy in Canada, providing for the first time an overview of policies and how they have evolved over time.

The purpose of the study is three-fold: (i) to demonstrate that governments at the federal and provincial levels are extensively involved in venture capital; (ii) to examine the reasons behind this activity and the consequences that flow from the plethora of agencies, programs and tax incentives that have mushroomed over the years; and (iii) to recommend ways in which government might better organize its approach to handling the venture capital file.

Undergirding the study is the conviction that getting venture capital policy right is a vital task for all governments that pursue a successful innovation agenda. Improving the quality of venture capital policy will provide a win-win outcome for the wider public, government and even the venture capital industry itself.

The breadth and depth of governments' venture capital initiatives are not fully appreciated by either the general public, the media or legislatures. This inattention stems from the very nature of governments' approaches to venture capital wherein policy is multi-faceted and relatively hidden from scrutiny, involving as it does, units within Crown corporations, programs managed by private-sector third parties and tax credits for retail investors.

The study provides a comprehensive suite of actionable recommendations that, if adopted, will better position Canada to take advantage of the technological revolution that is underway throughout the economy.

Those recommendations include:

- Taking the steps necessary to improve accountability, transparency and reporting of government activities in the venture capital arena, including a mandated 10-year policy and programs review. Venture capital policy in Canada displays two central characteristics that need to be addressed: there is a certain policy stickiness, with policy tools remaining in place for decades, coupled with policy experimentation, with governments trying various techniques to improve the flow of capital to innovative firms.
- Establishing a more robust analytical framework for understanding the dynamics of venture capital by forming a national public-private Venture Capital Research Institute.
- Ensuring a better handoff of investments by venture capital funds into the portfolios of private-equity or buyout funds.
- Improving the social contract with the venture capital industry by instituting measures to enhance professional development in the industry and by encouraging the industry to adopt international best practices standards for responsible investing.
- Developing a formal federal-provincial coordinating mechanism to ensure that governments across the country don't act at cross-purposes to one another.

Finally, the study looks ahead to the emerging public policy challenges facing government venture capital programs as a result of developing trends within and without the industry.

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Canada's venture capital industry is a lynchpin of financing for potentially fast-growing small and medium-sized enterprises (SMEs), which tend to be found in the fields of information and communications technologies, life sciences and clean tech.

Venture capital is a critical component of the risk capital ecosystem, which extends from self-financing mechanisms – including families and friends – through angel (or seed) investing and crowdfunding to the so-called buyout stage to listings on public stock exchanges. In the life of a high-growth company, venture capital occupies centre stage between angel investing and a buyout or public listing.

In Canada, venture capital is generally recognized, however, as having experienced a multiyear, multidimensional, mutually reinforcing set of challenges in the not-so-distant past. Combined, these challenges have constrained its ability to channel appropriate levels of capital and management support to potentially high-growth Canadian companies. As a result, despite indicators pointing to a recovery and despite the success of individual fund investments, policymakers have regarded the venture capital industry as a whole as requiring support to perform its enabling function adequately.

This perception has prompted a wide variety of federal and provincial policy responses in recent decades. The extent of government involvement in venture capital has not been fully appreciated by the public, given the different channels through which public monies have been committed and the various programs and policies in support of venture capital that have emerged gradually and in piecemeal fashion over the past decades, at both the federal and provincial levels.

In this *Commentary*, I first look at the factors that have led Canadian governments to become increasingly supportive of venture capital. I then highlight some possible problems that this involvement might create over time, and propose some changes to forestall these problems. The changes I propose are focused on the transparency of, and accountability for, government intervention, a clearer set of goals that should underlie such intervention, and a deeper understanding of this rapidly evolving industry.

Reasons for Government Involvement in Venture Capital

Fifty years ago, the state was not at all involved in venture capital because there was no venture capital industry in Canada. Since that time, and especially over the past 30 years, Canadian governments have become progressively active in the venture capital space. That activity now encompasses both provincial and federal governments and involves a wide range of policy instruments and objectives. In fact, one can detect both considerable policy experimentation and policy stickiness, by which new programs tend to get piled on top of older ones that stick around.

The author thanks Daniel Schwanen, Craig Alexander, Michael Horgan and several anonymous reviewers for comments on an earlier draft. He retains responsibility for any errors and the views expressed here.

The federal government alone has a broad range of venture capital vehicles and programs. In this regard, the Business Development Bank of Canada (BDC) has a venture capital portfolio of over $1 billion and is the single largest venture capital fund in the country. BDC also manages, on behalf of the government of Canada, the $1.35 billion Venture Capital Action Plan (VCAP), of which $400 million comes from the federal government and the governments of Ontario and Quebec. Export Development Canada (EDC) has an $800 million investment program that includes venture capital, while the Farm Credit Corporation (FCC) has provided over $194 million in funding since the inception of FCC Ventures. In the 2016 budget, the newly elected federal Liberal government re-established the tax credit for investments in labour-sponsored venture capital corporations (LSVCCs) – a tax credit that had been slated for abolition by the previous Conservative government – at an estimated tax expenditure of $815 million over five years.

Provincial governments have also been active in the venture capital space. For instance, in 2008 British Columbia established the $90 million BC Renaissance fund, and in 2016 went on to commit a further $100 million to the subsequent BC Tech Fund. Alberta set up the Alberta Enterprise Corporation in 2008, initially injecting $100 million into the fund, then topping it up with $50 million more in 2015. That same year, the Alberta government also directed AIMCo, the provincial pension plan investment entity, to set aside up to $540 million for investments in fast-growing Alberta companies.

Ontario has put $90 million toward the Ontario Venture Capital Fund, as well as $250 million into the Ontario Emerging Technologies Fund. In 2015, the province committed $25 million to the Scale UP Ventures fund. Quebec facilitated the formation of the $700 million Teralys Fund 1 with an injection of $200 million in capital via Investment Québec, an arm of the provincial government.

In Atlantic Canada, a $65 million Build Ventures fund was launched with commitments from Nova Scotia, New Brunswick, Prince Edward Island, BDC and EDC, while Newfoundland and Labrador committed in its 2014 budget to putting $10 million into its Build program and has also announced that it will set up a Venture Newfoundland and Labrador fund to which it will commit a further $10 million, with $2 million more from BDC.

This non-exhaustive list of government venture capital initiatives (see Table 1) has grown significantly over the past decade. Today, the sheer size of governments' financial exposure to venture capital surely crosses any materiality threshold.

The reason behind the variety of policy vehicles has to do with the lack of certainty surrounding the most effective approach to achieve the twin objectives of channelling more capital to high growth SMEs and building an autonomous venture capital industry. This uncertainty is largely a function of the very nature of venture capital, an asset class that typically has a lifespan of ten years or longer. Success tends to be back-end loaded and well past the attention span of even a majority government. Provincial and federal governments of all stripes are now using a broad mix of tax preferences and program measures, some of which do not involve capital resources but which include facilitation services, to grow venture capital investing volumes in Canada.

This phenomenal expansion of the breadth and depth of government involvement in venture capital is the result of multiple, mutually reinforcing factors. One is that investors, both institutional and individual, tend to judge venture capital as too risky, particularly when set against the returns performance of the asset class. Investment options for these investors have expanded at the same time as the financial crisis of 2008–09 has resulted in greater risk aversion and a premium on regularly recurring returns. Another factor is that governments see private-sector led venture capital funds as too small to support fully the capital

Table 1: Selected Federal and Provincial Government Venture Capital Initiatives

Initiative	Date Introduced	Amount Allocated
Venture Capital Action Plan	Announced in 2012 federal budget	\$300 million from federal government, \$50 million from Quebec, \$50 million from Ontario, \$50 million from federal government to four individual funds
Business Development Bank of Canada		\$1.178 billion as of March 2016
Export Development Canada		\$831 million as of September 2015; includes venture capital and other investment.
Sustainable Development Technologies Canada		\$915 million federal commitment to Sustainable Development Tech Fund
Tax Credits for Retail Investors into Labour-Sponsored Venture Capital Corporations	Introduced in Quebec in 1983, federally in 1988; progressively rolled out across most provinces	\$815 million estimated federal tax expenditure cost over fiscal years 2015/16 to 2020/21
Ontario Emerging Technologies Fund	2009	\$250 million, co-investment vehicle
Teralys1	2009	\$700 million, fund-of-funds and direct investments
Build Ventures	2014	\$65 million, direct investments
New Brunswick Innovation Foundation	2002	\$70 million
Alberta Enterprise Corporation	2008	\$150 million (\$100 million in 2008, \$50 million in 2015)
AVAC	1997	\$129 million, direct investments and into funds
Alberta Investment Management Corporation	2015	\$540 million for high-potential firms
Ontario Venture Capital Fund	2008	\$90 million, direct investments and into funds
Farm Credit Canada		\$194 million
BC Renaissance Fund	2008	\$90 million
BC Tech Fund	2016	\$100 million

Source: International Trade Centre (ITC, 2015); authors' calculations.

requirements of portfolio companies, particularly at the later stages of financing. Beyond this general perception that the market, left to its own devices, has not provided sufficient venture capital, the rationale for government involvement varies with the level of government. In addition, the calculus for a government's initially getting involved has not necessarily been what has continued to keep it active in the space. Finally, some governments rank particular reasons more highly than do others.

With these nuances in mind, governments have become involved in venture capital principally to improve the flow of capital to SMEs, to capture returns on investment in research and development (R&D), and because they have come to believe in the value-added of investing in venture capital. Other stimuli have also played a role, as outlined below.

Improving the Flow of Capital to SMEs

Governments have identified three challenges to financing high-technology firms that together have led them to believe that the high-tech industries have not been well served when it comes to meeting their financing needs.

First, governments have detected a mismatch between the needs of traditional deposit-taking lenders and those of early stage high-tech companies. The former are perceived to have been particularly reticent about providing financing to these firms because of their asset-light nature relative to more traditional industrial sectors. Loans to manufacturers, for example, can be secured against hard assets such as real estate, inventory or capital equipment. In contrast, the main asset of high-tech firms is often their intellectual property. In addition, early stage high-tech companies contain two risk features – namely, management risk and technology risk – which generally result in lenders moving cautiously. Untested management teams or individuals that, in many cases, are still in the process of developing new technologies are often outside the risk comfort zone of traditional lenders.

What is more, for nascent companies that might have negative cash flow for a year or two and simply lack the revenues to service interest payments, debt might not be the optimum form of capital. This particularly applies to fast-growing firms that need to recycle cash to fuel future growth, rather than to service debt. Lenders themselves have acknowledged these difficulties, and some have attempted to deal with them. For example, RBC has a Knowledge-Based Industries unit, and there are the examples of Silicon Valley Bank and Comerica Bank, both present in Canada via deals or limited staff presence.[1] Other alternative capital suppliers, such as high-tech factoring firms, have appeared on the scene, but have barely made a dent in the overall amount of financing available.

Second, with the demise of Nortel Networks, the travails of RIM Blackberry and a larger corporate distancing from high-tech involvement in the wake of the stock market's "tech wreck" of 2000–01, high-tech SMEs in Canada generally have not been able to turn to the large corporate sector to meet their capital needs, either directly or indirectly via in-house venture capital teams or corporate-funded external venture capital funds. It is telling that, to date, only three of Canadian non-financial corporations (Open Text, Knight Therapeutics and Torstar) have opted to participate in the VCAP, according to publicly available information. Governments have tended to contrast the Canadian corporate landscape with that in the United States, which has developed a robust, large, high-tech corporate sector that plays an active role in financing smaller companies for competitive reasons of its own. High-tech corporate America is replete

1 BDC also offers mezzanine, cash flow and quasi-equity financing for amounts ranging from $250,000 to $35 million.

with the likes of Intel Capital, which has made over $10 billion in investments since its inception in 1991, Microsoft Capital, Google Capital and others.[2] A trend toward corporate venture capital might have emerged steadily over the past few years in North America as a whole, but examples remain comparatively rare in Canada.

Third, governments have striven to act in a countercyclical fashion even as fewer and fewer market participants themselves have been able to or wanted to. Having said this, with respect to venture capital the perceived threat has been one of longer-term competitiveness facing the Canadian economy, part of a creeping response to a productivity problem that was only dimly perceived for many years. In this context, governments generally have looked at the venture capital industry not as a separate but integral part of the financial services industry, but rather as an adjunct of the high-technology sectors. As an indicator of this mindset, governments have tended to house internal responsibility for venture capital within industry, economic development and scientific research departments and agencies and even, as with British Columbia, in international trade departments. In this regard, Canada is no different from its international comparators; for instance, Israel's Office of Chief Scientist was the designer behind that country's venture capital industry creation plan (see Senor and Singer 2009).

Capturing Returns from Government Investment in R&D

Quite apart from the perceived deficiencies of the venture capital industry in particular and of the Canadian financial services industry as a whole in adequately meeting the rising demand for capital, a key aspect behind governments' interest in venture capital has been their desire to capture a return on their own investment in R&D, including investment through tax preferences – for example, Ottawa's Scientific Research and Experimental Development Tax program. As a report prepared for National Research Council Canada put it, "The innovation system of the United States has been, and continues to be, very successful of translating scientific research into innovations and economic impact. Canada is generally considered to have had middling success."[3] Indeed, governments have also indirectly assisted the venture capital industry through an expanding number of support mechanisms designed to increase the likelihood of new technologies being commercialized. These mechanisms include the extensive network of incubators and accelerators that now stretches across the country.

The Promise of Venture Capital

A vital element underlying governments' involvement in the venture capital industry has been their belief in the value-added of venture capital investing. A 2013 study by Industry Canada, Statistics Canada and the CVCA provided substantial statistical validation for the benefits that venture capital investment can bring to portfolio companies compared with non-venture-backed companies (CVCA and Industry Canada 2013). Governments have also sought to assimilate lessons from proximity to the US venture capital industry, the world's largest and most successful

2 The website of the National Capital Venture Association in the United States lists close to 80 firms in its corporate venture group, compared with less than a handful listed in Canada by the Canadian Venture Capital and Private Equity Association (CVCA), notably Telus.

3 Return on Investment in Large-Scale Research Infrastructure, page 20., May 21, 2013. www.triumf.ca/sites/default/files/HAL-Return On Investment Study-May-2013.pdf.

such industry. The stellar growth of Silicon Valley and the very large, very successful companies that have spun out from that tight geography have led governments to conclude that what has worked in that one small sliver of California could be replicated elsewhere.

In this regard, Canadian governments have not been alone, as governments in other parts of the United States and across the globe have sought to recreate the conditions underlying Silicon Valley's successes. As Lerner and Tag put it, "[d]uring recent years, we have seen an increase in incentives by governments around the world toward encouraging entrepreneurship to spur growth and job creation. Part of these efforts has been oriented toward trying to generate an active venture capital market either through direct participation in the form of venture capital programs or through indirect efforts aimed at creating the right institutional environment" (Lerner and Tag 2013, 153).

Other Stimuli to Government Involvement

Government activity in venture capital can also be understood as following more broadly a traditional financial derisking role for government. From deposit and mortgage insurance to the web of corporate regulations, rules and guidelines, governments today constantly act to reduce or eliminate individual and institutional risk in order to facilitate socially desired outcomes. In the case of venture capital, governments act to reduce the cost of investment risk to private investors, both individual and institutional, through the system of tax and program preferences. Gilles Duruflé has commented that "[i]ndependently managed funds-of-funds triggered by a government allocation appear increasingly as one of the best ways to attract private sector Limited Partners into the asset class and to support a more diversified ecosystem which is not dominated by one government funded source of capital" (Duruflé 2010, 16).

Other factors are also likely at play, such as the prestige attached to having a vibrant domestic Canadian or provincial venture capital industry. As venture capital's role in support of an economic growth agenda is increasingly recognized, governments might have wanted to keep tabs on the industry, not unlike the approach taken in the past to build a "window" overlooking a particular industry that has come to be regarded as strategic, as in broadcasting (the Canadian Broadcasting Corporation), oil (Petro-Canada) or railways (Canadian National). This "state airline" syndrome has taken hold particularly in recent years with all the media and public attention around the innovation economy and the high-tech superstars that have burst forth onto the scene.

Consequences of Government Intervention for the Industry and Growth Ecosystem

Although the rationale for governments' deepening interest in venture capital stands to reason, their substantial financial involvement also raises a number of potential concerns.

A Potential Lack of Discipline

A principal danger of government activity in venture capital is that it might prop up weaker funds longer than would be the case under a strictly market-driven system. Under a more market-centric system, poorer-performing funds tend to get weeded out more quickly by natural selection as investors vote with their feet and either head for the exits or stampede toward better performers. A related question is whether government intervention, particularly at the provincial level, risks supporting too many funds that are too small. Indeed, in the past, there have been few "performing" funds in Canada, while some US research suggests that there might be as few as ten funds in that country that are worth investing in (Mulcahy, Weeks, and Bradley 2012, 48). This raises the question of whether government intervention is properly geared to strengthening funds' performance, rather than prolonging the existence of non-performing ones.

The Expanded Role of Foreign Funds

In light of the perceived deficiencies of Canadian venture capital, governments have actively sought to import expertise and know-how from abroad, principally from the United States. Silicon Valley is generally taken as a proxy for the US venture capital industry as a whole and, as mentioned, is generally looked upon with envy as the model for the entire industry. Industry data reveal that foreign venture capital investment, principally from the United States, has been hovering at around roughly 40 percent of all venture capital investment dollars in Canada.[4]

From a public policy perspective, each individual foreign fund that finances a portfolio company poses no particular worries, although, at the 40 percent level, concerns have been expressed about the potential migration of portfolio companies to foreign shores, particularly to the United States, and the emergence of a two-tiered venture capital market in Canada – with the Canadian funds congregating more around early-stage investments and the foreign funds tending to cluster around later-stage deals.[5]

The Difficulty of Raising Capital without Government

Government involvement in venture capital also sends out key signalling messages to venture capital funds and to potential investors in those funds. To most Canadian venture capital funds today, securing funding from a government or government-backed entity has increasingly become imperative. *Innovation Canada: A Call to Action* (Canada 2011, chap. 7; hereafter, the Jenkins report) estimates that government-sponsored funds made up half of all available LP capital in 2011, while Industry Canada noted in 2014 that, "[a]s in past years, government-backed sources accounted for the majority of capital raised by Canadian venture capital funds in 2014, accounting for $832 million or more than two-thirds of total commitments."[6] Government-backed investors include retail funds supported by government tax credits, funds-of-funds, many of them backed by government, and direct investments by government sources into private independent funds. A typical view of this situation can be seen from one venture capital fund manager's perspective: "We have had tremendous early support from organizations such as Farm Credit Canada and Export Development Corporation in growing the firm….We are extremely grateful for their backing, without which Avrio could not have achieved success."[7] With the predominance of government funding, the remaining domestic and many potential foreign investors look to evidence of lead commitments from those public sources. In short, government funding does not guarantee success in raising capital, but the lack of government funding is potentially a red flag for investors. The observation by Gilles Duruflé in 2010 remains pertinent today; if anything, it has been reinforced by developments in Canada: "[F]or the

4 In 2014, 40.1 percent of disclosed venture capital investment in Canada was made by US and foreign funds; see *Venture Capital Monitor*, 4th quarter 2014.

5 See "US VC Investors Make Largest Investments, " Canada's Venture Capital Market in Q 3, 2014, page 12 .Prepared by Thomson Reuters for CVCA. https://www.cvca.ca/wp-content/uploads/2014/07/Canada_VC_Overview_Q3_2014_English.pdf; and Yaletown Capital Partners (2016). The Canadian venture capital scene has parallels with that in Israel, where the foreign funds' share of the local market has been increasing and where concerns are beginning to be expressed about the potential negative impacts on the country's high- tech industries.

6 *Venture Capital Monitor*, 4th quarter 2014, 1.

7 Aki Georgacacos, quoted in *Canadian Business Journal* 7 (4). 2014.

last couple of years, there are very few management teams outside the U.S. that have been able to successfully raise a new fund without substantial government support" (Duruflé 2010, 17).

Potential Insufficient Attention to Buyouts

A final consequence of the close attention paid by governments to venture capital, particularly early-stage venture capital, is the relative lack of attention (except perhaps in Quebec) to another key component of the SME financing ecosystem – namely, the buyout part of private equity.

In Canada, buyout funds are investment funds that are active in mainly private, established companies' space across a broad range of industries. The Canadian funds tend to be mid-market ones that invest in companies that have reached a certain threshold and that find it attractive to secure further financing from private as opposed to public sources. Buyout funds are usually larger than their venture capital counterparts and provide the same active management in portfolio companies as do venture capital funds.

The buyout part of the private capital market has proven to be a popular destination for capital providers – so much so that some of these providers, notably the larger public pension funds, have established their own direct investing buyout operations. The past travails of venture capital, together with the strong returns from buyouts, have led governments to focus their attention on venture capital instead of on buyout funds, according to the maxim that, "if it ain't broke, don't fix it."[8]

It is worth examining whether government inattention to buyout means an insufficient focus on developing the potential transmission function, whereby later-stage venture capital funds' portfolio companies could better be integrated into the portfolios of buyout funds. As it stands today, high-tech (including life sciences and advanced manufacturing) portfolio companies are only a small percentage of the dollars and deals in buyout funds, suggesting issues with the handoff of later-stage venture-capital-funded companies to the portfolios of private equity funds.[9] Having said this, there are indications that US buyout funds are becoming increasingly active in venture, both in terms of making direct venture investments themselves and in purchasing portfolio companies from venture capital funds;[10] a similar trend could take hold in Canada.

Issues for Governments and the Public

Insufficient Critical Scrutiny

Governments' key role in venture capital means that public criticism of that role from the venture capital industry risks being muted – under the age-old principle of not biting the hand that feeds you. Even the federal Conservative government's proposed elimination of the federal portion of

8 As capital follows performance, the continuing strong performance of the buyout part of the private equity industry can be intuited from the considerable funding inflows to buyout funds, which tallied $11.5 billion in 2015 and which contrast strongly with capital flows into venture of $2.01 billion. The venture capital numbers include $351 million from retail (tax-credit assisted) and $183 million from government or quasi-government sources – which are simply not present in the buyout sphere.

9 CVCA data to the end of 2015:Q3 reveal that, of $16.3 billion in year-to-date private equity deal volume, a scant $1.022 billion was directed into clean-tech firms ($550 million), information and telecommunications firms ($456 million) and life sciences companies ($16 million).

10 "KKR Raises $688 million for Growth Deals as Small is the New Big." Melissa Mittelman, November 14, 2016 in Bloomberg News. https://Bloomberg.com/.

LSVCC tax credits, which supported a substantial portion of the industry and put further stress on future prospects for LSVCCs, generated only a mild critique from the industry as a whole, and was more in sorrow and puzzlement than in anger. Such strenuous criticism as appeared was largely confined to Quebec, where LSVCCs play a considerably more influential role than elsewhere in the country.

In this environment of quiet support by the industry, scrutiny of government support by the public and media can be challenging. Indeed, the complexity of the support architecture has provided governments with a substantial measure of insulation from critical review. Targeted tax credits and the associated tax expenditures are not readily visible except to those who benefit from their existence, and they have led to the creation of political constituencies in favour of their ongoing maintenance. Housing venture capital inside larger, arm's-length organizations whose main business lines are not mainly venture capital has provided another layer of insulation from public scrutiny. Finally, delegating management responsibility to private-sector third parties and adopting a formal "hands-off" approach has also had the effect of further sheltering from view the state's actions in this domain, independently of the rationales that exist for distributing venture capital support in that way.

So, despite significant intervention by the federal government, few questions have been raised in Parliament or in committees and there has been only episodic media coverage at best. This began to change with the auditor general's May 2016 report on the VCAP, which raised several questions, notably regarding management fees (estimated at $250 million) and shortcomings with respect to fairness, openness and transparency in the process for selecting the fund of funds managers. The report also noted that "the government succeeded in reaching its identified short-term goals…but the manner in which it conducted the process might not have helped the Action Plan to achieve its objective of establishing a self-sustaining, privately led venture capital ecosystem in Canada" (Canada 2016, 15). Finally, the report called on the government to enhance the VCAP's performance measurement framework. Some of the recommendations in the next section of this *Commentary* reflect and build on the spirit of this report.

Policy Experimentation Meets Policy Stickiness

The entire field of government intervention in venture capital demonstrates a considerable amount of policy inventiveness, experimentation and stickiness.

As we have seen, the range of policy tools employed is quite long and continues to grow: tax credits, direct investing programs, funds-of-funds operations conducted either through Crown corporations or delegated via private sector entities, funding provided out of general revenues or from immigrant investors, solo operations of one level and joint activities between the federal and provincial governments, and on and on. Nonetheless, ideas about further policy tools continue to surface, both from within and outside government. In this regard, the Canadian experience reflects that of other jurisdictions where there are yet more variants on how governments can and do get involved in the industry (see Duruflé 2014).

The reasons behind these numerous policy vehicles have to do with the lack of policy certainty about what makes for the most effective approach. Importantly, the very nature of the industry itself militates against policy certainty, since, as noted, venture capital funds typically have lifespans of ten years or more. Indeed, there might be greater certainty around what does not work ("governments picking winners and losers") than around what does. At the same time and, in part, due to the same long life of traditional venture capital investments, "policy stickiness" has tended to set in. The prime example is the federal LSVCC program, which has been in place since 1989 – in other words, across at least two full industry business cycles. The constant experimentation and time lags in figuring out what works should not, however, discourage governments from more open and consistent reporting on the extent and impact of their intervention, as I discuss below.

Lack of Clarity on Where Venture Capital Really Fits

An important trait of government involvement in venture capital is that responsibility for it within government tends to be split among various departments and agencies.[11] That is, unlike banking or insurance, venture capital is a policy area that often ends up looking for a stable home. Across the country, there has not been one single lead department responsible for providing oversight on an ongoing basis. At the federal level, responsibility tends to alternate between the Innovation, Science and Economic Development (ISED) and Finance departments, with International Trade and Immigration also playing a role, to say nothing of Crown corporations and agencies.

The reasons behind this situation can be ascribed to tax and budgetary expense matters being handled by finance departments and industrial assistance programs by industry and commerce departments. For example, when the VCAP was progressively rolled out across the country, the lead was taken by the federal Finance department, but when the final fund-of-funds contracts were concluded, Finance appears to have handed over the day-to-day overview of the federal government's interest in the program to BDC, which reports to the minister of ISED. Similarly, the proposed Immigrant Investment venture capital fund has been driven by two separate departments.

Here again, however, the complexity, whatever its rationale, should in fact encourage governments to seek a unified framework allowing transparent reporting and accountability for their entire efforts in the venture capital space to keep better track of the extent and impact of their efforts as a whole.

Improving Transparency and Public Accountability

Given some of the potential issues described above and the considerable underwriting of risk and expenditures of money, state involvement in venture capital in Canada merits a more comprehensive assessment than it has received to date from governments and public alike. This assessment would help answer policy questions that are sure to arise regarding (i) whether the ultimate objectives of intervention are being met, (ii) the extent and efficacy of various types of government support for the industry and (iii) the timing, if any, of reduced support, or support taking different forms, as the industry takes off on its own. In turn, such an assessment would buttress the quality of government decision-making regarding venture capital, and strengthen this vital component of the SME financing ecosystem. To that effect, I propose that Canadian governments take actions based on the following principles:

- clarity around the objectives of government action and measures of success, and regular review of the entire panoply of support measures to determine what is working well and what is not;
- transparency in the public mechanisms and monies involved in supporting venture capital, and consistency in reporting across these mechanisms;
- decisions grounded on data and research; and
- a strengthened social contract justifying support for the industry.

11 For example, the announcement by the Nova Scotia government that it would be setting up a new venture capital fund was made by the province's rural development minister.

A central challenge here has to do with the very nature of venture capital as an asset class requiring considerable upfront financial commitment and whose time horizon for success or failure is considerably longer than that of the lifespan of most governments – the VCAP being the latest case in point. As BDC's 2013 Annual Report put it, "the road to a robust venture capital industry will remain difficult. Success will take time, patience and perseverance" (BDC 2013, 23). Therefore, from a good governance standpoint, the key challenge at the moment is to bring a measure of clarity, consistency and oversight to government forays into venture capital, so that successes can be reinforced and any looming policy failure(s) more speedily identified and managed. As noted in the Jenkins report, "[g]overnment intervention [in risk capital markets] should be undertaken in a cautious and carefully structured manner to yield positive outcomes for the industry and avoid unintended harm" (Canada 2011, 7-13).

Clarity around the Objectives of Government Action and Measures of Success or Failure

Establishing policy objectives is, of course, the prerogative of governments, but clearer objectives and attendant measures of success are required to assess whether or not policies are having the desired effect. In that vein, I suggest that, in setting policy objectives and measures of success regarding their intervention in venture capital, governments make known:

- an outline of the conditions for exiting or for continuing their involvement in the industry; for instance, when does a government consider that the venture capital industry becomes self-sustaining – that is, able to raise capital on its own without government assistance, at which point government can reduce its role;
- a view of the extent to which they seek to close the "gap" with the United States, whereby the volume of Canadian capital investment remains stubbornly stuck at half the level or less, on a proportionate basis, as its US counterpart;
- their assessment of the regional development aspect of venture capital;[12]
- the role of policy in attracting top-tier general partners to Canada.;[13] and
- clarification of whether their own venture capital operations should be freed from any constraints that would impede their ability to maximize returns, as long as the "social contracts" objectives described below are also reached.

The auditor general of Canada has recently commented (Canada 2016) that there should be clearly articulated success metrics for the VCAP specifically. According to the 2012 federal budget and subsequent announcements, VCAP monies will be directed to "high-performing" funds, and preference will be accorded early-stage funds. These measures, however, are not success metrics. It is understood that ultimate success will come, at some point, in the form of the program's renewal not being required to further bolster the industry.

Accordingly, I suggest that governments disclose the investment mandates of the four funds-of-funds supported by the VCAP, including the target number of venture capital funds in which the funds will invest and the maximum and minimum

12 For example, as communication and transportation costs decline, how is the need for province-specific venture capital operations articulated? Are firms not able to find the financing they need simply by tapping external sources from the main centres in Toronto, Montreal and Vancouver, to say nothing of foreign sources?

13 Indeed, BDC has invested in foreign funds with operations in Canada. This policy objective is also evident in the VCAP process, which BDC is currently managing on behalf of the federal government, whereby one of the funds-of-funds selected – namely, Harbourvest – is US-based and the funds-of-funds have already made investments in foreign-based general partners such as Versant and Walden.

amounts per investment; the sorts of venture capital funds, by high-tech area of expertise, investment stage preference and fund size, in which they will invest on behalf of the federal government and its private sector limited partners; the requirements Canada imposes on foreign funds established here; and general partners' requirements to invest in Canadian companies. The federal government should also make available to Parliament a template of the limited partners agreements that have been signed with private sector funds-of-funds managers.

In addition, there should be a "milestones" annual report on this signature initiative of government, which should contain details on:

- the number of venture capital funds in which the funds-of-funds have invested, and the number, stage and sector of enterprises in which they, in turn, have invested;
- the maximum and minimum dollar amounts that each fund-of-funds will put into each general partner, as well as any rules around "stacking" – the process whereby general partners may be allowed to accept funding commitments from other government-related entities, such as the remaining funds-of-funds, BDC, EDC and the various provincial organizations;
- the direct investments, if any, of all the funds-of-funds (Northleaf, Teralys and Kensington already provide this information); and
- the policy rationale behind allowing funds-of-funds to invest directly in companies seemingly in competition with the general partners they are charged with supporting.

More broadly, I recommend a mandated ten-year public review of all venture capital support initiatives along the lines of the regular review of the *Bank Act*, and that would mirror the life cycle of venture capital, to determine if objectives are being met. The review should include the various Crown corporations and the VCAP, as the main policy instruments of the federal government, as well as entities active at the provincial level, with the onus being on the relevant managers to justify the continuation of these initiatives. The review should also assess carefully where Canada stands in light of the inevitable cycles in the industry, to ensure that public policy designed to mitigate the effects of a "bust" does not unwittingly contribute to building the next "bubble." There should also be a formal federal-provincial coordination mechanism for comparing notes, sharing best practices and minimizing competitive bidding to attract venture capital to local jurisdictions.

With exposure distributed across a variety of agencies, departments and Crown corporations, it would be less difficult for Canadians to assess the appropriateness of the overall level of financial commitment undertaken. In addition, determining the magnitude of financial support to venture capital would make it easier for Canadian governments to gauge their overall commitment to venture capital over time, as well as relative to one another.

Improving Public Reporting and Transparency

Public reporting of the performance of governments' various venture capital activities needs to be enhanced across the board and put on a readily comparable basis so as to enable an informed public discourse to take place. In addition, various public bodies, mechanisms and agencies engaged in providing venture capital need to spell out their venture capital thesis, in light of their overall mandates. This would help public decision-makers and the public at large understand why intervention in support of venture capital is housed in different agencies (BDC, EDC and FCC), as well as the different performance of each. This reporting should also break out the performance of each of its direct venture capital investing operations from those of its indirect, or funds-of-funds, operations, and supply ten-year returns numbers for its venture capital operations to more fully mirror the long-term horizon of venture capital funds and industry performance-reporting standards, and stacked up against performance indicators of the industry as a whole in both Canada and the United States.

I do not wish here to minimize the difficulty of interpreting the performance of venture capital funds. Industry analysts usually link fund performance to several factors, including:

- the investing track record of existing and emerging fund managers; here the evidence is mixed, and the debate, much as in the mutual fund industry, revolves around the replicability of past returns;
- the nature and depth of fund ties to successful "serial entrepreneurs" who themselves can be expected to repeat their own previous successes;
- optimum fund size, which might vary by investment theme – for example, regional development, strategic initiatives – sector focus and preferred investment stage;
- fund concentration, whether single (early or late) or multistage and specific (such as clean tech) versus a broad, cross-industry sector approach;
- the fund's vintage year – that is, when the fund was formed; and
- the incentive or remuneration structure of a fund, including the commitment of fund managers' own capital and the alignment between the interests of fund managers and their limited partners.

Nevertheless, information on performance, combined with clarity on the part of the government entities regarding the aforesaid elements that their funds-of-funds activities consider when allocating capital to individual funds, would help clarify the impact of public support for venture capital overall.

A federal-provincial committee should be struck to ensure comparability of statistics and other reporting across federal and provincial initiatives. The various provincial government or partially government-funded entities that are active in venture capital – such as AVAC, BC Renaissance, Teralys, Investment Québec and Build Atlantic – should also provide comparable levels of granularity regarding their investments and performance. Harmonization of reporting standards of public and public-private venture capital vehicles across the country would contribute to greater public awareness and institutional accountability, and help elucidate questions such as why we have regional funds and what kind of specific performance metrics should be applicable to them.

Deepening Understanding of the Industry

Sound policy is derived from reliable data and statistics. In addition to a better understanding of the drivers of funds' performance that would result from the above recommendations, key areas about which our understanding needs to improve include: the entire demand side of the venture capital supply-and-demand equation with respect to both early- and later-stage financing requirements of potential portfolio companies; the role of foreign venture capital investment in Canada and of new competitors in that field; determining whether and how to expand the role of private equity in providing financing for firms that "graduate" from being financed with venture capital; and assessing the future of retail venture capital funds.

Venture Capital Demand

Several obstacles exist to capturing present and near-future demand for venture capital. For one, those seeking to tap into venture capital do not report to any agency, and generally approach multiple potential providers concurrently. As well, there are methodological challenges, as company applications to access venture capital funds can range all the way from informal and casual to structured, detailed presentations. In short, capturing a true picture of demand is challenging.

These obstacles must be overcome if the chances of government venture capital policy succeeding are to be improved. To this end, governments should strike a limited-life data construction group, with participation by Statistics Canada, federal and provincial finance and economic development departments and the venture capital and high-tech industries, which would be tasked with devising an accurate gauge of venture capital demand and a methodologically sound mechanism for tracking that demand. The precedent for just such a group resulted in the landmark CVCA and Industry Canada (2013) venture capital impacts study.

Governments could pay particular attention to measuring the venture capital supply-and-demand equation as it pertains to the main focuses of investment – namely, information and communication technologies (ICT), life sciences and clean tech. It is noteworthy that venture capital investing volumes flowing into ICT continue to dwarf those directed to life sciences and clean tech. In addition, there are indications that the capital required to grow, and the time required to exit, nascent life sciences and clean-tech firms can be significantly greater than in the ICT sector. So there might be a role for governments to refocus their venture capital support activities on filling in the likely greater funding gaps that exist with respect to life sciences and clean tech in order to help bring about a greater balance in overall venture capital investing than currently occurs.

The Effect of Foreign Funds and New Competitors

With foreign venture capital investment at the 40 percent level and as venture capital is critical to Canada's long-term competitiveness, governments need to examine periodically their implicit assumption that foreign investment is beneficial. Accordingly, one area for data collection would be to discern whether there is a difference between the performance in Canada of purely domestically funded companies and that of companies partially or fully funded by foreign venture capital funds, or, alternatively, whether foreign capital funds have raised the entire industry's performance in that respect.

To better gauge the effectiveness of their intervention, governments today need to have a broader vision of the suppliers of early-stage, high-tech risk capital. It appears that traditional venture capital funds are facing growing challenges from non-traditional players. So-called angel syndicates and angel networks, crowdfunding entities, Family Offices (which manage investments and trusts for families), incubators and the like are among the newer players that compete with early-stage funds. Later-stage funds are now dealing not just with deep-pocket foreign funds, but also with cash-laden corporate venture funds, financial institutions, public pension funds and potentially even buyout funds. Consequently, domestic venture capital funds might be squeezed from above by entities with greater financial resources – such as banks, pension funds and corporate venture capital funds – while also being compressed from below by angels, incubators and crowd funders. It is important for governments to understand and calibrate their policies to these trends.

The Role of Buyout

Governments, together with the industry, need to figure out how to expand the role that buyout funds play in the financing of Canada's medium-sized high-tech firms. Can buyout funds become more of a transmission belt than they have been in the past? To move forward on this score will require research into the opportunities and obstacles on both the venture capital side and the buyout side. As noted in the Jenkins report, "[w]hile financing by US funds is preferable to no financing, overcoming barriers to full participation by Canadian private equity [buyout] funds would result in greater benefits for Canada" (Canada 2011, 7-16). Those barriers presumably include buyout fund managers' perceptions of the risk/reward matrix of earlier-stage technology investing, as well as buyout funds' own views of the merits of investing in syndicates and of generally mixing debt and equity into the capital structures of portfolio companies, something venture capital funds do not usually employ to the same extent.

The Future of Retail Venture Capital Funds

As to the future of retail venture capital funds, the situation remains somewhat clouded. Seven provinces still provide individual investors in LSVCCs with tax credits for those investments; Ontario, Alberta and Prince Edward Island do not. The federal Conservative government under Stephen Harper had begun the process of winding down Ottawa's portion of the tax credits, with full phase out scheduled for 2017. The 15 percent tax credit, however, was restored in the Liberals' 2016 budget.

Clearly, two competing governmental paradigms are contesting each other for support in the wider public and investment community. On the one hand are governments that have never had recourse to the LSVCC mechanism (Alberta and Prince Edward Island) and those that have abandoned the vehicle (Ottawa, for a period of time, and Ontario). On the other hand are those that have shown themselves to be supporters (the other seven provinces and the new federal Liberal government) by continuing to permit the tax credits to operate and, in some cases, even enhancing their attractiveness to investors.

Without prejudging the outcome of that process and recognizing the not-insignificant fund and funds-of-funds activities of some LSVCCs, particularly those in Quebec, it might be worthwhile to consider a thoroughly new public policy vehicle for retail investors. For instance, a Canadian innovation exchange could be created, with qualifying companies those with a certain minimum R&D capital spend. Listing fees could be waived, investment dealers encouraged to cover listed companies and individual investors incented to allocate capital to those firms. Over time, indices and sub-indices could be created that could then develop into attractive vehicles for both retail and institutional investors.

To better assess and understand all of the above and to produce sound basic information metrics – to the extent they are not provided by the industry itself – I recommend the creation of a public-private venture capital research institute. The work of such an institute would help us understand the reach and assess the performance of the industry, especially insofar as it and its portfolio companies are supported by governments. These statistics could include, for example, the total number of domestic venture capital funds and the proportion of these that could be considered "active" – that is, having made at least $1 million in investments over the preceding 12 months – and be based on agreed-upon ways to calculate industry investment, fundraising and performance numbers.

Strengthening the Social Contract with the Venture Capital Industry

Governments should require a greater level of reporting by private venture capital funds that access public monies. This reporting could include:

- the time elapsed between receiving and investing government funding;
- the number of business plans reviewed for investing purposes;
- the number of investments made;
- the principal reasons behind the applications that were turned down, not on an individually named basis, but one that would point to, for instance, firm management or technology deficiencies, lack of intellectual property protection or a business space that is already replete with strong competitors; and
- whether or not the fund has signed on to the United Nations Principles for Responsible Investing, which outline the social, environmental and corporate governance best practices that are increasingly becoming the norm in international private and public capital investing.

Governments should also explore with the venture capital industry ways to reduce the risk of their own investments by promoting professional standards in the industry – for example, by working with post-secondary institutions to devise a venture-capital-specific program for industry practitioners. Here again, venture capital (and private equity) stands out from many parts of the financial services industry in Canada that have various institution-specific, as well as industry-wide, accreditation programs, such as are provided by the Institute of Canadian Bankers and comparable entities in the securities, mutual fund and insurance fields.

A supplementary approach would be to require all new funds to be licensed or certified – much as Ottawa licenses prospective new banks. Licensing or certification could be contingent upon the meeting of various criteria, including:

- a minimum fund size threshold – the venture capital version of "capital adequacy" – to ensure there is sufficient capital for anticipated follow-on investments;
- qualifications in terms of, for example, years of investing experience and the professional training of partners;
- those relating to corporate governance, such as qualifications of fund advisory boards, with board members needing to have successfully passed through a program such as that offered by the Institute for Corporate Directors;[14] and
- a business plan, including the projected approach to diversification, anticipated portfolio company hold period(s) and so on.

The principal rationale for adopting these measures would be to instill a greater degree of confidence in the minds of prospective investors in venture capital funds – just as a bank licence instills confidence and trust in depositors. There would certainly be an attendant danger of limiting the entrepreneurial spirit of those who did not meet the qualifications. It would be up to governments and the industry to determine the overall benefits and costs of this approach, but at a minimum they should be discussed.

Conclusion: The Emerging Public Policy Challenge

A strict cost-benefit analysis of the full panoply of government venture capital activities might not be possible for some decades. Given increased government engagement and the long time lags inherent in gauging industry performance, however, it is now time to set the tools in place to better understand the involvement of Canadian governments in venture capital and its impact. This is the case even as – and perhaps especially as – there are signs that the nuclear winter that began in March 2000 has finally come to a close and that the venture capital business cycle has entered a new, more positive phase. Formerly absent investors are edging back into the space, while there is evidence of improved performance stemming from higher net unrealized gains and growing cash distributions to limited partners. Importantly, strong demand is finally beginning to generate a commensurate supply response.

At the same time, traditional venture capital funds are increasingly at risk from a variety of non-traditional players, ranging from the "fintech" space to major corporations that are committing resources to back earlier-stage technology companies now taking bites out of the venture capital pie. It might also be that, as private placement markets begin to develop, aided by securities commissions easing the rules for accredited investors and Offering Memoranda, threats to later-stage venture capital financings will also begin to appear.

This could pose a novel challenge for public policy as the pool of potential providers of risk capital expands to include widely diverse entities with their own priorities and objectives; a one-size-fits-all policy approach thus might be less relevant than in the past. At the same time, apart from traditional venture capital funds, which are likely to remain in need of public support for the foreseeable future, there might be less need for overt public policy support mechanisms overall, as risk capital supply from a variety of non-traditional providers

14 For an article that covers related ground on boards in venture capital, see "Six Ideas for Commercializing Innovation in Canada," Mike Brown, *Globe and Mail*. October 20, 2015.

begins to ramp up and as the risk capital industry enters a new, more vibrant phase of the business cycle.

Thus, since there is likely no turning away from large-scale government intervention in venture capital today, it is crucial to assess its impact more carefully. The recommendations in this *Commentary* – namely, regarding clarity around the objectives of government action and measures of success and regular review of support measures, transparency and consistency in reporting mechanisms, concerted efforts to better understand key trends affecting the industry, the enabling of data- and research-grounded decisions and a strengthened social contract justifying support for the industry – should help decision-makers and the public at large assess the need for, and the extent and form of, continuing support of this crucial part of Canada's financing and entrepreneurial ecosystem.

Glossary

This glossary has been drawn largely from a glossary of industry terminology found on the Ontario Venture Capital Fund website (http://www.ovcf.com) and ascribed to the CVCA.

Buyout capital: a specialized form of private equity, characterized chiefly by risk investment in established private or publicly listed firms that are undergoing a fundamental change in operations or strategy. Buyout is often used interchangeably with private equity.

Crowdfunding: the process of raising money to fund what is typically a project or business venture through many donors using an online platform.

CVCA: Canadian Venture Capital and Private Equity Association

Fund-of-funds: an intermediary vehicle where individual and institutional investors allocate or pool assets for subsequent commitment to venture capital, buyout and/or mezzanine funds.

Labour-sponsored venture capital corporation (LSVCC): a fund that raises capital on a retail basis from individual Canadians, with the assistance of federal and provincial tax credits.

Limited partnership: a legal fund structure most frequently used by private-independent funds to raise capital from external sources. The primary relationship in this structure is the general partner, or GP (the fund manager) and the limited partner, or LP (the capital source).

Mezzanine capital: a specialized form of private equity, characterized chiefly by the use of subordinated debt, or preferred stock with an equity kicker, to invest largely in the same realm of companies and deals as buyout funds.

Private equity: generic term for the private market, reflecting all forms of equity or quasi-equity investment. The private market generally has three distinct segments: buyout, mezzanine and venture capital.

Private independent fund: a private equity fund that raises capital from external sources of supply such as institutional investors.

Venture capital: a specialized form of private equity, characterized chiefly by high-risk investment in new or young companies following a growth path in technology and other value-added sectors.

Vintage year: the year in which a fund is first created.

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