

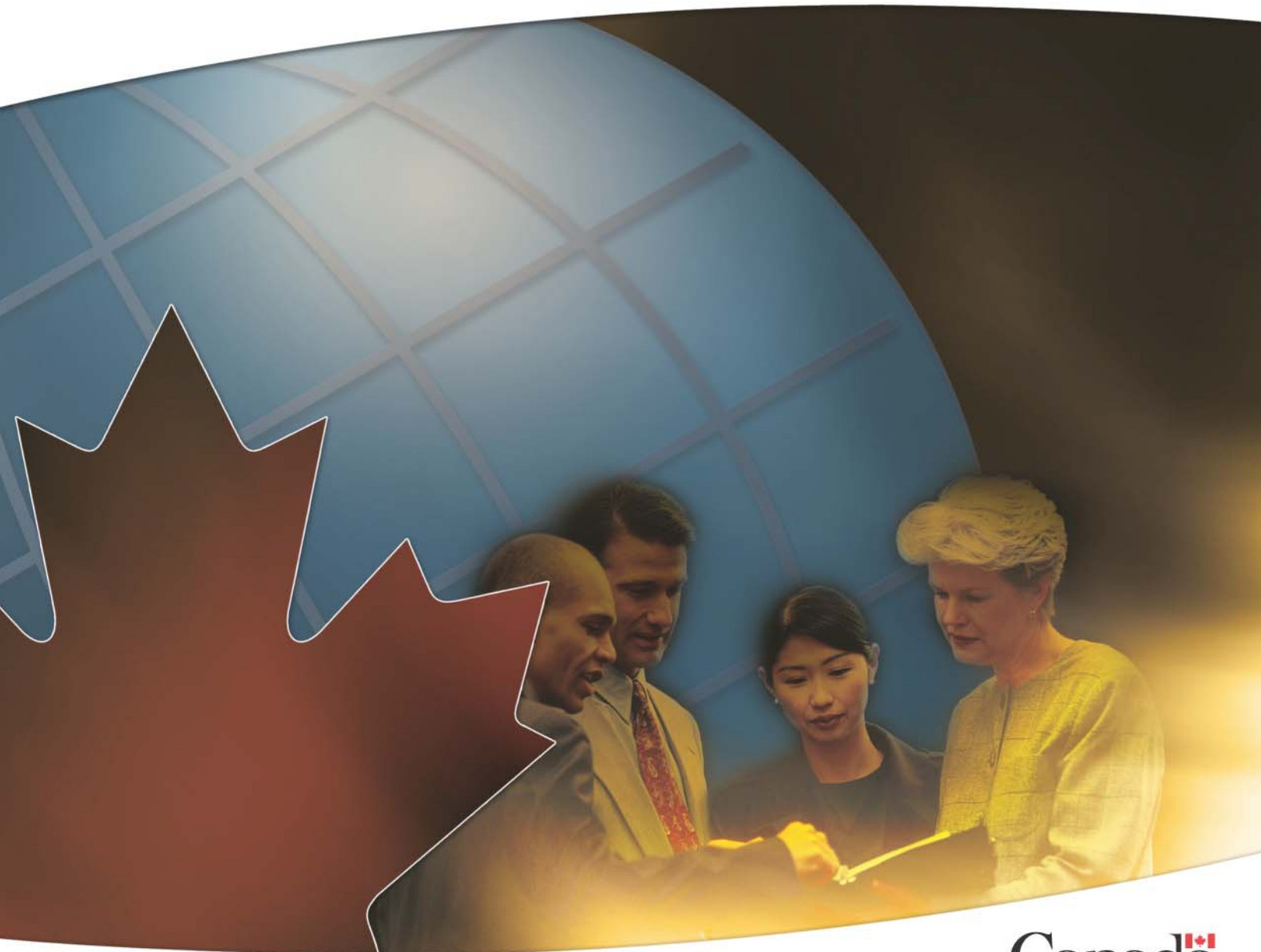


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***Canadian Venture Capital Activity:***  
*An Analysis of Trends and Gaps*

1996–2002



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Key to its realization has been Macdonald & Associates Limited, which is the source of information on the Canadian VC and private equity markets that serves as the basis for this report ([www.canadavc.com](http://www.canadavc.com)). In addition to its quarterly and annual reports on VC activity in Canada, Macdonald & Associates Limited also provide a Web-based analytical tool, the VC Analyst, which facilitated the necessary calculations over the 1996–2002 period. We would like to thank Macdonald & Associates Limited for their review and feedback on the analysis.

Other key sources of information for this analysis included the Canada's Venture Capital and Private Equity Association ([www.cvca.ca](http://www.cvca.ca)), Réseau Capital in Quebec ([www.reseaucapital.com](http://www.reseaucapital.com)), Goodman and Carr LLP ([www.goodmancarr.com](http://www.goodmancarr.com)), McKinsey & Company ([www.mckinsey.com](http://www.mckinsey.com)), Venture Economics ([www.ventureeconomics.com](http://www.ventureeconomics.com)), the National Venture Capital Association ([www.nvca.org](http://www.nvca.org)) and PricewaterhouseCoopers ([www.pwcmoneytree.com](http://www.pwcmoneytree.com)).

The level of practical collaboration among the Industry Portfolio agencies has also been essential to this analysis. They have provided valuable input, including the information on regional and provincial perspectives and programs related to VC. A list of working group members appears in Appendix F.

Finally, we would like to acknowledge the participation of all individuals and venture capitalists from different organizations, who provided useful comments and feedback on this analysis.

We hope that this analysis will contribute to improving our common understanding of the Canadian VC market, and to the development of sound and efficient policies and programs aimed at ensuring a strong and efficient private sector VC industry that is able to support Canadian small and medium-sized enterprises in their quest for growth and innovation.

Thank you.

## NOTE TO READERS

**About Macdonald & Associates Limited** — Founded in 1985, Macdonald & Associates Limited has developed the most comprehensive database of venture capital (VC) and private equity activity in Canada. With more than 10 000 deals, 5500 companies, 350 funds and more than 8500 contacts fuelling the ever-growing pool of data, Macdonald & Associates Limited tracks and analyzes investment trends daily. With this extensive network of contacts, Macdonald & Associates Limited is the focal point for information on Canadian venture deals and dealmakers, and produced a data resource that covers virtually all of the players in Canada (and, increasingly, those from the United States that are now investing north of the border). Through Macdonald & Associates Limited's on-line product — the VC Reporter™ — subscribers are able to customize in-depth research and analysis from a platform of current and comprehensive VC data.

Industry leaders, government and members of the risk capital community depend on the accuracy and reliability of Macdonald & Associates Limited data and, as a result, it is widely quoted in the national business press. In addition, Macdonald & Associates Limited is the exclusive provider of data and industry analysis for the Canada's Venture Capital and Private Equity Association, and Réseau Capital in Quebec.

**Methodology** — To stay abreast of trends in Canada's VC industry, Macdonald & Associates Limited continually updates all its company financing information. For this reason, current and historical aggregate data are subject to change. In 2002, Macdonald & Associates Limited revised its methodology and data to better capture and report on the increasing inflows and outflows of VC investments in Canada, particularly since 1999. The new methodology, which is now more consistent with that used by Venture Economics in the U.S., separates the investments made in Canada (by Canadian and foreign venture capitalists) from the investments made by Canadian venture capitalists outside Canada. In other words, the aggregate VC investments now reported for Canada no longer include VC investments made by Canadian venture capitalists (likely in partnership with foreign VCs) in firms located outside Canada. These are now reported in a separate report and through the new VC Analyst III, which is exclusively for VC investments made outside Canada. As a result of these revisions, Web site users should be alert to amendments to quarterly and annual statistics, in total and across specific categories.

**Limits** — Due to shortcomings in research and voluntary industry reporting, the existing data for the period covered in this report may not be exhaustive. However, over the last several years, Macdonald & Associates Limited has regularly refined its methodology and, as a result, a more complete picture of Canadian VC transactions is now available.

**Terminology** — Note that most terminology used in this report was sourced from the Macdonald & Associates Limited Web site at [www.canadavc.com](http://www.canadavc.com). Specialized or technical terms are defined in the glossary of terms, Appendix A.

**Inquiries** — For any inquiries or questions about this report, please contact Christine Soucy, Economist, Industry Canada's Small Business Policy Branch, at [soucy.christine@ic.gc.ca](mailto:soucy.christine@ic.gc.ca)

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# EXECUTIVE SUMMARY

## Context

The 21st century presents a unique occasion for Canada to seize opportunities for growth and success in the global knowledge-based economy. Canada is well placed to lead the new economy — with a highly skilled work force, strong research and development (R&D) infrastructure and high levels of connectivity and entrepreneurship. However, Canada faces considerable challenges, including knowledge transfer and the commercialization of research and new innovative technologies and products.

In that context, policy-makers in a number of countries have become increasingly concerned with the financing of high-growth-potential small businesses, particularly risk capital financing. This interest has not been without substance — these firms are at the vanguard of economic growth, productivity and innovation; they encourage the development and commercialization of new technologies, particularly from universities and government labs.

Venture capital (VC), which is only one element of the risk capital spectrum, is crucial to bringing innovation to market, particularly for the knowledge and skills venture capitalists bring to their investee firms. From that perspective, the federal government must ensure that the Canadian VC market is efficient and meets the needs of Canadian high-growth-potential small and medium-sized enterprises (SMEs). Therefore, policy-makers in Canada must address perceived and real gaps or weaknesses in the VC market through appropriate actions that target the relevant players in the VC industry. These include: suppliers of capital (e.g. individual, institutions, corporations, governments, etc.), investors [e.g. private independent funds, labour-sponsored venture capital corporations (LSVCCs), governments and others], entrepreneurs, universities, governments and others.

In this context, this analysis aims to build a common understanding of the Canadian VC market, and foster private and public stakeholder coordination and collaboration to develop sound policies that will address key outstanding issues and gaps in the market.

## Goal

The specific goal of this report is to provide a realistic assessment of the state of the Canadian VC market through a review of the following questions:

- 1. What is the state of VC activity in Canada? What key trends, strengths and weaknesses characterize the VC industry?**
- 2. What is the state of government action — federal and provincial — with respect to VC?**
- 3. Where are the gaps or outstanding issues related to the VC market (e.g. structure, supply and demand)? How do bottlenecks in the VC industry dampen the development, innovation and growth of Canadian SMEs?**

***4. How can the policy environment ensure the continued growth of the Canadian VC industry and encourage the development of Canadian SMEs from small to medium-sized businesses? How can this environment improve Canada's innovation performance, create jobs and wealth, and encourage these firms to remain Canadian?***

**Summary of report and key findings**

To ensure common understanding and a coherent approach to VC, the report begins with a detailed explanation of the nature and function of VC financing; the characteristics of the firms usually funded by VC; the financing context for VC; and the importance and impacts of VC financing on Canadian firms and on the economy. This analysis reveals that, while VC financing is crucial to the innovation system, it is only one financing option for Canadian SMEs — an option that only fits a small number of very high-growth-potential companies. In Canada, there were 677 firms funded by VC in 2002 (over more than 1.8 million SMEs), compared to 2495 firms in the United States (over more than 16 million SMEs). In general, the literature suggests that less than 1 percent of business proposals reviewed by venture capitalists will get funded. In fact, as a general rule, venture capitalists only invest in firms that show: a high commitment from the owner (who has invested his/her own money); a strong and experienced management team; high returns potentials (in the range of 30–40 percent annual returns over a five-year period); a willingness to share ownership (providing about 30 percent of ownership holdings to initial and subsequent venture capitalists); and a strong R&D, technological and international orientation (see Part I).

Within the context of the nature and importance of VC financing, Part II presents a detailed review of the Canadian VC market's evolution and key investment trends over the 1996–2002 period, with a specific focus on investment trends by size of deals, stage of development, sector, region, and investor type. This review leads to an analysis and discussion of key strengths, weaknesses and policy issues related to the Canadian VC market (see Appendix H for a complete summary of findings).

Overall, and contrary to general perceptions, this analysis shows that the Canadian VC industry has been relatively dynamic and has experienced solid growth since 1996, with increases of:

- 88 percent of new capital raised (to reach \$3.2 billion in 2002);
- 117 percent of number of VC funds (for a total of 282 in 2002);
- 217 percent of total capital under management (total of \$22.5 billion in 2002); and
- 139 percent of total amount invested (to reach \$2.5 billion in 2002).

The key drivers of this growth were the emergence of information technology firms (increase of 1063 percent of investments over the 1996–2002 period) and the increased participation of foreign investors in the Canadian market (increase of 2021 percent over the same period).

Moreover, while the analysis recognizes that the Canadian VC industry has not experienced the astounding growth observed in the U.S. in 1999 and 2000, over the 1990–2002 period, the performance of both markets in terms of VC investments as percentage of gross domestic

product (GDP) is comparable, and the Canadian VC market has been relatively less volatile over the 12-year period. Furthermore, the Canadian VC market ranks among leading Organisation for Economic Co-operation and Development countries in terms of VC investments as a percentage of GDP.

However, despite this solid growth and the increasing size and specialization of Canadian VC funds, this analysis reveals a relatively “infant” VC industry (by U.S. standards) that faces a number of specific challenges that can be summarized by four interrelated and mutually reinforcing issues:

- **Shortage of investor-ready firms**, particularly in terms of the management and marketing skills required to lead to rapid growth, drive high returns, and attract new sources of capital and VC investment.
- **Size and experience gap** (compared to the U.S.) in terms of: 1) capital under management by the Canadian VC industry; 2) size of Canadian VC funds; 3) average financing size; and 4) experience and expertise of Canadian VC funds. Indeed, improving the skills and expertise of Canadian VC funds would likely result in better investment decisions and higher returns, and lead to increased fundraising and investments.
- **Low participation of institutional investors**, and the related lack of funding and participation of Canadian private independent funds, restricts the size of the Canadian VC market, and, thus, limits its ability to fund firms that require large capital injections for continued growth and expansion.
- **Lower returns of Canadian VC funds, compared to the U.S.**, and the need to improve awareness and confidence about the performance of the Canadian VC market. This issue, likely linked to the shortage of a critical mass of quality investment opportunities, represents a significant barrier to the participation of domestic and foreign investors, particularly institutional investors. Lower returns potentially reduce the level of fundraising activity and the size of Canadian VC funds, which limits the VC industry’s ability to provide adequate funding to high-growth-potential firms.

To complement this analysis of VC investment trends, the third part of the report examines the state of government actions related to VC. Part III shows that the provincial and federal governments have recently made significant progress in addressing some of these issues and improving SMEs’ access to risk capital through: indirect initiatives aimed at supporting and encouraging suppliers of capital; direct quasi-equity and equity investment programs designed to increase the amounts invested in Canadian SMEs; and other programs targeted at supporting demand for VC through assistance and services to Canadian entrepreneurs. While most of these programs have likely helped the Canadian VC industry’s development, governments’ potential contributions pale in comparison to the private sector’s potential. Nonetheless, several government interventions have had a significant impact on the VC industry in Canada:

- **Provincial and federal tax credits for LSVCCs** — through government tax incentives to individuals, LSVCCs have become the most active fundraisers and investors in the Canadian VC market, with an average of 46 percent of total new capital raised and 27 percent of total VC investments between 1996 and 2002 (see Part II and Part III).
- **Continued improvements to the Canadian tax system**, particularly in federal budgets 2000, 2001 and 2003 (see Appendix E).
- **Continued investments in the Business Development Bank of Canada (BDC)** for the creation of specialized and seed VC funds and direct VC investments (and other financing instruments) in early-stage and knowledge-based industry firms (\$190 million in Budget 2002). As a result, the BDC subordinate financing and venture capital groups accounted for 29 percent (or \$107 million) of total quasi-equity investment in Canadian SMEs in 2002 and 4 percent (\$89 million) of total VC investments in Canada in 2002 (see Section 3).
- **Other programs and services** offered through Industry Portfolio agencies and organizations and provincial organizations that have played a significant role in R&D and the commercialization of new products, particularly the R&D grants and quasi-equity financing programs offered through the Natural Sciences and Engineering Research Council of Canada, the National Research Council Canada, Genome Canada and Technology Partnerships Canada (see Part III).

While these programs confirm that the Canadian government has played a significant role in broadening Canadian firms' access to VC, the level of government involvement is lower than is commonly believed. In total, investments made by provincial and federal government-owned funds accounted for an average of 7 percent of total VC investments between 1996–2002 period (and 13 percent in 2002). In comparison, the U.S. government has adopted a number of policies and programs, such as changes to the *Employee Retirement Income Security Act* “prudent man” rule and the Small Business Investment Companies (SBIC) program. Indeed, the SBIC program played a major role in the expansion of the U.S. market — accounting for 8 percent of total VC investments over the 1994–2002 period. However, as explained above and in Part III, the major difference between the U.S. and Canada relates to LSVCC tax credits.

While government has played (and continues to play) an important role in the development and support of the Canadian VC market, the nature of the challenges facing the Canadian VC industry do not call for significant public sector intervention. In fact, it may not be desirable or appropriate for government to have a growing presence in the direct investment market. Indeed, the analysis shows that in the growth of the U.S. VC industry can be largely attributed to the heavy participation of pension funds (rather than to government investments), and that government interventions may not be efficient or desirable from the long-term perspective of developing a strong and efficient private sector VC industry. However, while these challenges cannot be met by government or any other group alone, they will need to be addressed collaboratively with the VC industry, institutional and other investors, and the educational and research communities.

## **Conclusion**

Given this analysis, and consistent with the government's role as catalyst, this report concludes with a number of key policy questions (see Part IV) to stimulate discussion among key private and public sector stakeholders and to develop a coordinated and collaborative approach to address outstanding issues. As an ultimate outcome, it is hoped that this analysis will clarify how the policy environment can ensure the continued growth of the Canadian VC industry and encourage the development and expansion of Canadian SMEs from small to medium-sized businesses — essential components of Canada's 21st-century economy.



## INTRODUCTION

### Background

The financing of high-growth-potential small businesses has become an issue of great public policy interest in Canada and abroad. This interest has not been without substance — these firms are at the vanguard of economic growth, productivity and innovation. These enterprises encourage the development and commercialization of new technologies, particularly from universities and government labs. Homegrown small businesses can rapidly become leading economic actors and can play a key role in driving regional economic development and technological innovation. Research in Motion, Sierra Wireless, Ballard Power Systems and Newbridge Networks are just a few examples of Canadian start-up companies that have made a rapid transition from small-scale regional operations to major international players, and exerted a major influence on the economic landscape in their communities.

Ontario provincial government research<sup>1</sup> indicates that high-growth firms have had a disproportionate and positive impact on that province's economy. Increasingly, evidence suggests that the long-term performance of an economy is directly related to the level of development of its financial system. Specifically, studies point to a direct relationship between economic growth and the ready availability of innovation financing.<sup>2, 3, 4</sup> By facilitating the development of new and innovative businesses, access to risk capital helps to promote new technologies, stimulate economic growth and create jobs.

Recent surveys point to the unique financing challenges faced by knowledge-based industry (KBI) companies and other high-growth-potential firms. These firms report that the inability to secure timely and appropriate financing is among their major impediments to growth. Most high-growth-potential firms operate in knowledge-based industries, and their financing challenges are both significant and different from those of the majority of small and medium-sized enterprises (SMEs).

Traditional models of financing include borrowing against collateral assets — debt that is usually inflexible, hard-asset-based and requires prompt repayment. Since high-growth-potential firms tend not to rely on tangible assets, they must look to other financing options. Furthermore, because properly financed high-growth-potential KBI firms often require extended periods of research, development and commercialization, they depend on more patient forms of capital than other types of businesses. These companies are subject to significant risks with respect to market acceptance of their products, the inherent uncertainty surrounding new technologies and products, and the long incubation period required for returns on investments. All of these factors

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1. Government of Ontario, Ministry of Economic Development and Trade, *The Universe of Ontario's Leading Growth Firms* (Toronto: Queen's Printer, 1999).
  2. W. Carlin and C. Mayer, "How do financial systems affect economic performance?", X. Vives, ed., *Corporate Governance: Theoretical and Empirical Perspectives* (New York: CUP, 2000): 137–168.
  3. Federal Reserve Bank of Atlanta, *Economic Review*, 87, 4 (2002).
  4. Business Development Bank of Canada, *Economic Impact of Venture Capital: Eighth Annual Survey* (2001).

push against the use of debt as an appropriate financing instrument for high-growth-potential and high technology companies.<sup>5</sup>

The potential significance of these firms and the financing challenges they face lead to a number of policy questions:

- What policies will ensure the continued development and vitality of these firms in all regions and sectors?
- What legislative, regulatory or institutional changes can the government make to encourage a climate where risk capital and SME financing will continue to flourish?

Several Industry Portfolio organizations, along with other federal and provincial departments and agencies, are examining these questions from a variety of perspectives.

Risk capital is not limited to venture capital (VC) — love money, angel investment, mezzanine investment and other forms of private equity are also components of the risk capital market, and can play an important role in the development of firms. However, differences in the markets, policy issues and available information on these various forms of financing make a combined analysis of the risk capital industry unwieldy. Other projects are underway to assess the nature and function of these markets in Canada, and to judge whether the current public policy infrastructure encourages their continued vitality and expansion.<sup>6,7</sup>

This work examines one element of the risk capital spectrum — VC — within the context of the Government of Canada's Innovation Agenda. To ensure a common understanding of and a coherent approach to these issues, this paper will focus on four general research questions:

- 1. What is the state of VC activity in Canada? What key trends, strengths and weaknesses characterize the VC industry?**
- 2. What is the state of government action — federal and provincial — with respect to VC?**
- 3. Where are the gaps or outstanding issues related to the VC market (e.g. structure, supply and demand)? How do bottlenecks in the VC industry dampen the development, innovation and growth of Canadian SMEs?**
- 4. How can the policy environment ensure the continued growth of the Canadian VC industry and encourage the development of Canadian SMEs from small to medium-sized businesses? How can this environment improve Canada's innovation performance, create jobs and wealth, and encourage these firms to remain Canadian?**

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5. Paul Gompers, *A Note on the Venture Capital Industry* (Boston: Harvard Business School, 2001).

6. Industry Canada, in partnership with Statistics Canada, the Department of Finance Canada and the research community, is currently developing a research methodology to measure current and potential angel investments in Canada.

7. Other research projects will examine the public market (securities regulations reform and initial public offerings).

## Goal

This report provides a realistic assessment of the state of VC in Canada, its current role and its potential impacts on Canada's economic policy goals. The emphasis on "realistic" is important, because VC is not a panacea for the range of financing issues and economic development problems that affect all SMEs. There are definite, inherent limitations to VC's role in the overall financing environment (see Part I for further explanation). From the investor's perspective, VC investments carry high risks and are generally only appropriate as a small segment of a diversified portfolio. Moreover, the risks associated with VC investments generally fall outside the risk appetites of traditional financial institutions. VC is only appropriate for a small number of firms with innovative ideas, high growth potential and strong management teams. The limited supply of VC and the specific criteria of venture capitalists ensure that this market will remain limited to a few high-growth-potential firms. As a result, companies will likely always perceive that a shortage of VC exists, and venture capitalists will probably always perceive that firms seeking investment have unrealistic expectations. This report aims to shed light on VC's potential and limitations in contributing to Canada's economic development and innovation performance.

## Public policy environment

Venture capitalists can play a crucial role in helping a few firms achieve the dramatic growth that can support a dynamic and innovative economy. Industry Portfolio members, other federal departments, and provincial governments focus on various aspects of economic development, and their interest in VC is directly related to this larger issue. However, most of the public policy levers that govern the development of VC investment rest with departments of finance (federal and provincial) and provincial and territorial securities commissions. The Industry Portfolio and Industry Canada can use their practical experience to guide solid research that will lead to policy recommendations and sound policies and programs that support the VC industry and Canadian SMEs.

The rapid growth of the Canadian VC market in recent years, along with its potential impact on economic development and job creation, make it an especially important public policy issue. However, public policy has the potential both to support and to hinder the VC market. Through the careful analysis of gaps in the function of the private market, government can design interventions that assist the long-term development of the Canadian VC industry into a significant component of the financial services community. Public policy has played a prominent role in that development in Canada, the U.S. and other countries. In Canada, major interventions have included the labour-sponsored venture capital corporations program; changes to the *Income Tax Act*, such as revisions to qualified limited partnership rules; provincial tax measures; the activities of the Business Development Bank of Canada; and federal and provincial investment programs, such as those promoted by Investment Partnerships Canada and Innovatech. Financial regulations, such as those of the Office of the Superintendent of Financial Institutions and provincial equivalents, have also had a significant impact on institutional investors' willingness to enter the VC market, and will likely continue to do so in the context of securities regulations reform.

Ultimately, the success of the VC industry in Canada will depend on its ability to attract private sector funding, on its success in making good investments in promising companies, and on its provision of healthy returns to investors. Government's role should be to assist the industry in achieving this goal on a sustainable basis — that is, to ensure that the industry will not depend on an ongoing public subsidy. In this respect, governments need to recognize that interventions that push the industry too far or too fast will likely result in negative outcomes. Consequently, it will be critical to find a balance that allows the industry to grow to its potential within the context of the economy's ability to provide opportunities for that investment.

The crux of the matter, from a public policy perspective, concerns the proper or optimal amount of VC for an economy. Addressing this issue is problematic. There has been little research on the demand side of the VC market and, consequently, there are no objective criteria against which to compare Canada's performance. Since there are no precise measures of the optimal or appropriate amount of VC investment for an economy (or a particular region), most countries have used benchmarks against the U.S. as a proxy. Unfortunately, basing performance on the U.S. experience is not necessarily appropriate in all situations or for all regions.

Given the importance of establishing and supporting an environment that is conducive to the health of the VC industry, it is essential that the development of policy be founded on solid research and accurate analysis. This paper will serve as a starting point for the encouragement of a sustainable, independent Canadian VC industry that can finance a range of promising, high-growth-potential firms across the country. Based on data and analysis published by Macdonald & Associates Limited, this report is presented in four key parts:

- Part I: Venture Capital in the Overall Small and Medium-Sized Enterprise Financing Context** — This section explains the role and importance of VC in the overall SME financing context.
- Part II: Analysis of Venture Capital Activity and Trends 1996–2002** — This section reviews the current state of VC activity in Canada, and analyzes the industry's evolution, key trends, strengths and weaknesses since 1996 (with comparisons to the U.S. and other Organisation for Economic Co-operation and Development countries when possible) (response to question 1).
- Part III: State of Current Government Actions Related to Venture Capital** — This section describes current federal and provincial government actions and programs to improve SMEs' access to capital (especially VC), and identifies potential gaps and priorities for future actions (response to question 2).
- Part IV: Analysis of Gaps/Outstanding Issues and Policy Questions** — This section assesses current strengths and weaknesses, and identifies key gaps or outstanding issues that may require government or private industry action, as well as fundamental principles for future government action, and policy questions for discussion (response to question 3).

This analysis will help to develop a coordinated and collaborative approach to VC among key private stakeholders and government (response to question 4).

In addition, the following appendixes are included in support of this analysis, to provide additional details and statistics on government programs and on VC activity in Canada since 1996:

- Appendix A: Glossary of Terms** — This appendix defines the key terms used throughout the analysis.
- Appendix B: Summary of Federal Government Programs** — This appendix describes current and proposed federal government direct quasi-equity and equity programs, including their goals, focus, and status.
- Appendix C: Summary of Provincial Government and Territorial Government Programs** — This appendix provides a brief description of current provincial government quasi-equity and equity programs.
- Appendix D: Contacts for Government Programs** — This appendix provides the contact persons and Web site addresses for the federal and provincial government programs presented in appendixes B and C.
- Appendix E: Summary of Recent Tax Measures and Outstanding Tax Issues** — This appendix provides a summary of the measures announced in recent federal budgets and additional issues raised by the Canada's Venture Capital and Private Equity Association.
- Appendix F: Industry Portfolio Working Group on Venture Capital** — This appendix provides the contact persons for participants in the Industry Portfolio Working Group on Venture Capital.
- Appendix G: References** — This appendix provides a list of reference material used in the preparation of this report.
- Appendix H: Summary of Report Findings** — This appendix summarizes trends and gaps related to Canada's venture capital activity.

## **PART I: VENTURE CAPITAL IN THE OVERALL SMALL AND MEDIUM-SIZED ENTERPRISE FINANCING CONTEXT**

Explaining the structure of the risk capital market is a critical first step on the road to reviewing and analyzing the trends and gaps in the Canadian venture capital (VC) industry. To that end, this section discusses the following:

- the nature of VC and investment processes;
- the characteristics of firms that attract VC;
- the importance and role of VC within the spectrum of risk capital financing options available to small and medium-sized enterprises (SMEs); and
- VC's impact on the Canadian economy, its significance to various industrial sectors and its limitations in financing SMEs.

### **1. What is Venture Capital? How Does it Work?**

#### ***Definition of Venture Capital***

VC is long-term, hands-on equity investment in privately held, high-growth-potential companies, initiated and managed by professional investors.<sup>8,9</sup> Each element of this definition is important, and these features are examined below. VC investors organize VC firms (through private partnerships or closely-held corporations) (see Part II, Section 7) that establish VC funds to raise capital from individual and institutional investors. Subsequently, VC funds invest in equity-type instruments (such as shares) issued by SMEs.

According to the National Venture Capital Association in the United States, VC is usually invested in young, rapidly growing companies that have the potential to develop into important players in their industry. Venture capitalists evaluate several hundred investment opportunities each year, but only invest in a few companies that can offer high returns within five to seven years.

#### ***Different Players — Different Perspectives***

There are a number of players in the VC industry, each with different perspectives and interests:

- **Suppliers of capital** have a fiduciary mandate or personal objective to optimize returns. They use VC to the extent that it contributes to profit maximization and portfolio diversification, but are not necessarily concerned about the societal or economic impacts of their investments. The suppliers of capital are almost always passive investors — they do not take an active role in the management of the VC fund or the firms in which they invest

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8. National Venture Capital Association (NVCA) ([www.nvca.com](http://www.nvca.com)).

9. Josh Lerner, *Venture Capital, Technological Innovation, and Growth* (Boston: Harvard Business School, 2001).

(see further in this section for a more detailed review of the suppliers of VC funds and their interests).

- **Entrepreneurs** seek to secure capital under the most favourable terms, with a minimum reduction of ownership or managerial control. They are not only highly optimistic about their business ventures, but also have a vested interest in their success — most, if not all, of their personal assets are at stake. The reality is that very few of the firms that attract VC (which represents a small minority of the firms that seek venture financing) will achieve significant returns for both entrepreneur and investor. Based on the entrepreneurs' assessment of their business, they tend to perceive that VC comes at too high a price, and they often resist surrendering a share of managerial control. Generally, they prefer to use forms of financing that do not include a share in the management or future growth of the firm. Nonetheless, many entrepreneurs in knowledge-based and high-growth industries recognize that VC meets their financing requirements.
  
- **Venture capitalists** maximize profits, usually through their share in ownership, managerial participation, or control as active investors (see further in this section for more discussion of the VC investment process). Venture capitalists invest in teams, not businesses, and are not motivated by national economic development, altruism or other considerations.<sup>10</sup> VC is not just an investment; it is a partnership between the entrepreneur and the venture capitalist, a relationship that involves competing and sometimes conflicting interests. For the venture capitalist, the competence of the entrepreneur's team is likely to be the main factor in the investment decision. Most entrepreneurs have absolute confidence in their own abilities and believe that their greatest asset is their technology, idea or business acumen. The transitional nature of VC also leads to misunderstandings. Entrepreneurs want stable, patient investors. Venture capitalists invest in companies based on select criteria, usually for three to seven years, and then seek to free their assets to invest in new early-stage opportunities. For all these reasons, negotiating VC deals and navigating the relationships between venture capitalists and entrepreneurs can be complex and painstaking (see Part II, Section 7).

### ***Venture Capital Financing Process***

The VC financing process involves two distinct, sequential steps: fundraising and investment.

#### **1. Venture Capital Fundraising Process**

The sources of capital for VC funds usually establish investment criteria for each fund. These criteria can be either general or specialized, and tend to reflect the investment strategies and risk appetites of the providers of capital. In Canada, the main sources of capital are:

- **Small individual investors**, attracted by federal and provincial tax incentives provided through labour-sponsored venture capital corporations (LSVCCs), which continue to play a significant role in the Canadian VC industry;

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10. David Gladstone and Laura Gladstone, *Venture Capital Handbook: An Entrepreneur's Guide to Raising Venture Capital* (2002).

- **Wealthy individual investors, trust and endowments**, diversifying their investment portfolios by funding private independent VC firms;
- **Chartered banks**, which extend their SME financing activities by funding subsidiary VC firms;
- **Industrial corporations** that fund subsidiary VC firms to attract and develop new technologies in their sectors;
- **Pension funds** looking for investments to match their long-term liabilities, either by funding private-independent VC firms or by making direct investments through their own VC firms;
- **Insurance companies, mutual funds and other money managers** that invest modestly in VC to diversify their portfolios; and
- **Federal and provincial governments**, which invest mostly through Crown corporations such as the Business Development Bank of Canada (BDC) and Farm Credit Canada, and other public agencies, such as the Atlantic Canada Opportunities Agency, Canada Economic Development for Quebec Regions, the Federal Economic Development Initiative for Northern Ontario (FedNor), and Innovatech.

A more detailed discussion of the role and evolution of these sources of funds is presented in Part II. Part III and appendixes B and C present details on government programs related to VC.

Generally, VC firms invest in companies after concluding their fundraising activities. VC firms' capacity to finance SMEs depends almost entirely on their ability to raise funds from investors, which, in turn, often depends on the returns provided to earlier investors. Ultimately, the VC market's growth depends on its ability to make substantial returns for investors. If these returns fall short of expectations, the flow of funds to the VC market will dry up.

According to a 2001 study by Paul Gompers of the Harvard Business School, a strong relationship has emerged in the U.S. between fundraising and investment performance.<sup>11</sup> Periods of accelerated fundraising activity often precede precipitous declines in returns, resulting in cyclical patterns of boom and bust.<sup>12</sup> For example, when the supply of investment capital in the U.S. swelled during the technology bubble, both the number of venture capitalists and the number of companies financed increased dramatically. This "gold rush" mentality resulted in relatively inexperienced venture capitalists pursuing investment opportunities in too many projects. As the demand for solid investments increased, investors loosened their criteria for financing and invested in less promising companies. Gompers argues that each boom in fundraising sparks uncontrollable growth that overheats the market and eventually leads to diminishing returns and concomitant reductions in VC investment. This cyclical tendency has also been observed in the Canadian VC market in recent years, with the drastic increase in fundraising in 1999 followed by lower investment returns in 2001.

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11. Paul Gompers, *A Note on the Venture Capital Industry* (Boston: Harvard Business School, 2001).

12. Ibid.



## 2. Venture Capital Investment Process

After raising money, VC funds generally go through three developmental stages in the investment process:<sup>13</sup>

- 1. Identification of deals** — During this phase, venture capitalists screen the technical and business merits of the proposed company. This screening process includes reviewing business plans and performing due diligence. Venture capitalists only invest in a small percentage of the businesses they review, and tend to adopt a long-term perspective. According to Gompers, U.S. venture capitalists finance only one out of a hundred prospective projects.<sup>14</sup> Investors generally base their decisions on the quality of the business plan, the networking and management team, and the skill and personal ability of the entrepreneur.
- 2. Structuring of deal** — This phase involves extensive investor-entrepreneur negotiations on the contractual elements of financing, including the amount of investment, the timing of capital injections, the form of investment (e.g. common or convertible preferred stocks), the terms of investment (e.g. liquidation preferences, dividend rate, voting rights), options pools, employment contracts, board of director representation, regular meetings, and advice and mentoring to be provided by the venture capitalist.<sup>15</sup>
- 3. Exit** — During the final phase, the investment is liquidated through a merger and acquisition, buy-back by original founders or other VC investors, liquidation, or through an initial public offering (IPO) on a stock market.<sup>16</sup>

Most Canadian VC investments are made under the auspices of VC syndicates. In these associations, one VC firm initiates the deal and then seeks to establish VC partnerships to share the burdens of risk and capital contribution. In Canada, the syndication rate was 2.2 in 2002 and 2.1 in 2001 — meaning that, on average, there were 2.2 investors per financing in 2002.<sup>17</sup> This is also a common practice in the U.S. VC market, where the syndication ratio was 2.8 in 2001, and 2.9 in 2002.<sup>18</sup>

Syndication provides tangible benefits. It brings other venture capitalists into the due diligence process, which provides both a second evaluation and another option on investment opportunities. Syndication also reduces the risk of funding unworthy companies, and encourages diversification into more and different types of investments. According to Josh Lerner of the Harvard Business School, high-quality and reputable VC funds syndicate among themselves, and many venture

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13. Ibid.

14. Ibid.

15. In the U.S., venture capitalists most often use financial instruments such as convertible debt and convertible preferred stock.

16. As mentioned in Part I, it should be noted that, between the structuring of the deal and the exit, the investment goes through a holding period of two to seven years, during which the venture capitalist adds value and nurtures the company through regular consultation and the provision of managerial and business expertise.

17. Macdonald & Associates Limited, *VC Activity Report 2002* (2003).

18. Venture Economics (2003) ([www.ventureeconomics.com](http://www.ventureeconomics.com)).

capitalists seek to break into those syndicates.<sup>19</sup> Syndication is also used by foreign investors to supplement the due diligence process and to reduce the risks involved in financing foreign companies. According to Macdonald & Associates Limited, syndication may explain both the recent increase of foreign investments in Canada and the rise in investments made by Canadian VC firms outside the country.

### ***Venture Capital is Active Investment***

Venture capitalists are active investors who take a role in the management of their investee firms. Most VC investors aspire to hold, collectively, an important ownership position so that they can add value (for example by providing advice, helping recruit the management team, identifying and analyzing new market opportunities, and providing access to professionals) and influence the destiny of the company.<sup>20</sup> According to a 1997 study by Paul Gompers, the disproportionate allocation of control to the VC fund is a critical feature of this governance structure.<sup>21</sup>

### ***Venture Capital is Risky and Transitional Investment***

One of the major risk factors facing venture capitalists is that, in a private market, there is usually little information about the operation and performance of potential investee companies. As a result, valuation is problematic and often causes conflict between VC investors and those seeking investment. Venture capitalists often assume great investment risks based on projections of how new concepts will perform in the marketplace and, as a result, VC funds are highly selective about the firms in which they invest. However, in general, one out of five investments made will be a success, three will fail to achieve expected results, and one will be a write-off. These risks are particularly acute in innovation sectors such as information technology and life sciences, due to the high capital requirements and the length of time between innovative concept and marketplace penetration in these sectors. To accept these high risks, venture capitalists require prospects for rapid and sustained growth. Once the rapid-growth phase of a company is completed, venture capitalists generally seek to liberate their capital and recycle it into new VC investments.

The risk that venture capitalists are prepared to accept, particularly at the growth stage, is often determined by the market factors that influence exit opportunities (primarily IPOs or merger and acquisition transactions). While the IPO is usually the preferred exit option because it tends to offer the greatest return on investment, IPOs represent only 10 percent of exits. Merger and acquisition transactions may be easier and less costly for smaller firms, and are the more common type of exit. Nevertheless, the current state of the stock market and the low potential for IPO exits have had major impacts on venture capitalists' willingness to invest.

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19. Josh Lerner, "The syndication of venture capital investments," *Financial Management*, 23, 1994.

20. Paul Gompers, *A Note on the Venture Capital Industry* (Boston: Harvard Business School, 2001).

21. Paul Gompers, *Ownership and Control in Entrepreneurial Firms: an Examination of Convertible Securities in Venture Capital Investments* (Boston: Harvard Business School Working Paper, 1997).

### *Size and Stage of Development*

VC investments normally come in several rounds of financings at various stages of a firm's development, including seed, start-up, early, expansion, and growth (or even prior to business creation). VC firms can undertake these financings as sole investors, in partnership with other investors, or in syndicates, and the method can vary for different stages of development.

VC firms apply different investment criteria at different stages of development, and SMEs must meet these criteria to receive financing. Early-stage investments, including seed and start-up financings, tend to be smaller and are based on criteria that reflect projected business potentials and the investors' assessments of management capabilities (or the ability of the VC firm to import experienced management teams). Conversely, expansion-stage investments tend to be larger and involve more rigorous investment criteria that require experienced management and evidence that the company has met business goals and targets. Finally, growth-stage investments are substantially larger and are predicated on the growth potential of firms with proven management teams and demonstrated profitability in high-growth businesses.

### *Relations between Venture Capitalists and Entrepreneurs are Often Difficult*

Given the nature of VC, the active participation of venture capitalists in portfolio companies, and the risks that venture capitalists face, VC firms and entrepreneurs face several challenges:

- **A lack of experienced VC fund managers.** VC funds are labour-intensive and require a knowledgeable staff and an available board of representatives to assist portfolio companies. In periods of intense VC activity, it may be difficult to find or develop the resources needed to undertake and manage VC investments. Ideally, a VC investor should have a solid technical background, extensive financial knowledge and the people skills to be able to work productively with the investee company.
- **Businesses seeking VC often lack strong management teams.** According to venture capitalists this is a major impediment to higher investment levels, but clearly a factor that firms seeking VC funding find hard to accept.
- **Entrepreneurs' unwillingness to give up enough ownership and control to make the opportunity attractive for VC investment.** While some anecdotal information suggests that this may be a diminishing trend in recent years, it is still a major concern raised by Canadian enterprises looking for capital and venture capitalists.

These factors limit the number of investments that VC funds (and the VC industry generally) are able to make. Typically, a VC fund manager can invest in only two or three companies a year. In addition, the requirement to provide hands-on involvement often means that venture capitalists restrict their investments to their local market, where they can oversee their portfolio companies efficiently, in a familiar environment.<sup>22</sup> Rapid growth in VC investment, as occurred in North America at the end of the 1990s and into 2000, is difficult to maintain and may come at the price of investment quality. As deal quality suffers and the market overheats, declining returns will have reverberations throughout the funding process and will eventually result in a decline in

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22. Paul Gompers, *A Note on the Venture Capital Industry* (Boston: Harvard Business School, 2001).

overall investment activity. Over the long term, the goal of public policy should be to match the growth of the VC market with its ability to maintain a high quality of investment.

## 2. Characteristics of Businesses Financed by Venture Capital

VC is best suited to a small pool of high-growth-potential companies with the capacity for high returns in a relatively short time frame. These criteria account for the concentration of Canadian VC investment (89 percent in 2002) on high technology companies, primarily in information technology and life sciences. However, low technology companies with a unique idea or product and tremendous market potential can also attract VC investment.<sup>23</sup> More detailed information on the characteristics of VC-financed companies and the investment criteria of VC firms is available on the Canada's Venture Capital and Private Equity Association's Web site.<sup>24</sup>

The main characteristics of VC-financed firms include:

- **High-growth orientation** that involves rapid potential and demonstrated growth in sales and market share, based on competitive advantage and dominant market position.
- **High rates of return on equity**, based on rapid sales growth and wide profit margins (or a high potential to achieve these targets). Generally, venture capitalists invest in firms that can provide annual rates of return in the 35 to 40 percent range over three to seven years (or, at least, returns proportional to the perceived risk).
- **Strong management teams** with a combination of technical, financial and marketing skills and experience, ideally with a track record in raising and exiting VC investments.
- **High research and development (R&D) spending** to develop unique products with varied applications, which is required to maintain rapid sales growth and high profit margins in domestic and foreign markets.
- **International orientation** that includes strong potential to penetrate foreign markets and rapid growth in exports or foreign business operations.
- **Ownership structures** that provide for approximately one-third ownership holdings by the initial venture capitalists (generally up to a maximum of 50 percent), follow-on venture capitalists and founders.

Given these investment criteria, only a very small percentage of rapidly growing SMEs are considered potentially viable candidates for VC investment; usually significantly less than 1 percent of all existing SMEs in any given year.<sup>25</sup> In addition, many qualified firms may choose not to use VC, preferring not to exchange control of the firm for capital injection and

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23. Ibid.

24. Canada's Venture Capital and Private Equity Association ([www.cvca.ca](http://www.cvca.ca)).

25. According to the Statistics Canada *Study of Growth SMEs* in 1996, only 5 percent of growing SMEs (about 0.04 percent of all SMEs in Canada) would be considered potential investment targets by venture capitalists.

growth. Consequently, at any given time the pool of firms that are potential recipients of VC investment is very small (although the firms that consider themselves candidates for VC investment may represent a significantly larger proportion).

### 3. The Financing Context for Venture Capital

VC is only one of several financing options for Canadian SMEs, ranging from short-term and long-term debt to various types of risk capital. While this report focusses on the VC market, it is important to consider the overall SME financing environment when analyzing one aspect of the risk capital market.

Most SME debt is secured by various types of business assets: short-term debt by accounts receivable and inventories; long-term debt by fixed assets, such as land and buildings, leasehold improvements, machinery and equipment, and furnishings. Lease financing also falls into this category, since the leased assets secure the debt. Other financing instruments include various forms of quasi-equity that are either unsecured or secured by a charge against overall corporate assets. These involve flexible long-term repayment options and royalty participation in the success of the business.

Risk capital, on the other hand, is totally unsecured — preferred equities normally have a set maturity date and an attached dividend return, whereas common equities have neither.

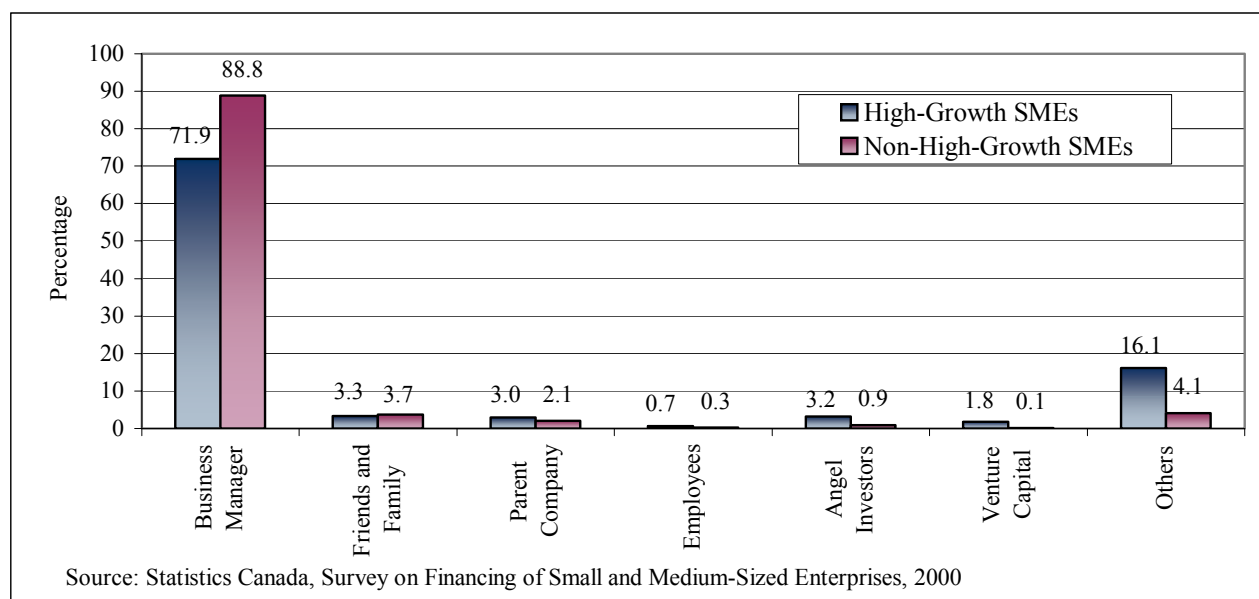
While debt is the major source of financing for Canadian SMEs, no business can or should be financed by debt alone. Business creation and company growth usually require several stages of financing that involve a variety of debt and equity instruments and depend primarily on the type of business, its growth prospects, and market conditions. In fact, what is appropriate at one stage of development may not be appropriate at another stage. For example, although it is the most common type of financing used by SMEs, traditional debt is often not appropriate for, or accessible to, fast-growth and start-up knowledge-based industry (KBI) firms, for three reasons:

- **These firms are technology-driven**, so their assets may be intangible and financial institutions are usually unable to realize any value in the event of default. They are reluctant to use them for security and, therefore, may be less willing to provide debt.
- **Their products tend to have long prerevenue and preprofit stages**, so the firms may be unable to service the debt during this period.
- **They are very risky during their prerevenue and preprofit periods** and, since their cash outflows exceed their cash inflows, they fall outside the risk appetites of traditional financial institutions.

Risk capital is a more flexible and patient financing instrument than traditional debt for most high-growth and start-up KBI firms. Figures 1 and 2 show that risk capital financing can originate from many sources, such as the entrepreneur's personal investment, investment by family and friends (love money), informal private investment by wealthy individuals (angel

investors), VC investment, and through IPOs on stock exchanges.<sup>26</sup> In particular, these figures show the importance of the business owners’ personal stake in the company, and the importance of angel and VC investment, particularly for high-growth and KBI firms. Figures 1 and 2 also demonstrate that angel investors and venture capitalists have been more active in financing high-growth SMEs and KBI SMEs than non-high-growth SMEs and non-KBI SMEs.

**Figure 1: Distribution of Equity by Source for Canadian High-Growth and Non-High-Growth Small and Medium-Sized Enterprises, 2000**



26. Angel investors are usually wealthy business people who invest in start-up and early-stage firms. They add value to a company by investing capital as well as business experience, which is often invaluable to growing firms. While research to date indicates angel investors are usually active or recently retired entrepreneurs, they can be drawn from many walks of life. A common characteristic is that they prefer to remain anonymous, thereby making it very difficult to quantify or study their contribution. In the U.S., Wetzel (1987) estimates that 250 000 individuals are active in the informal risk capital market and invest between US\$20 billion and US\$30 billion annually. In Canada, the estimates vary between \$1 billion and \$20 billion. To improve data on angel investments in Canada, Industry Canada’s SME Financing Data Initiative recently held a workshop with some of the top researchers in Canada and abroad (United Kingdom and U.S.) to discuss methodologies to measure current and potential angel investment in Canada. This should lead to pioneering work in this area in the near future. Furthermore, a recent study conducted by Industry Canada’s Information and Communications Technologies Branch provided an interesting regional and national perspective of angel investment in Canada.

**Figure 2: Distribution of Equity by Source for Canadian Knowledge-Based Industry and Non-Knowledge-Based Industry Small and Medium-Sized Enterprises, 2000**

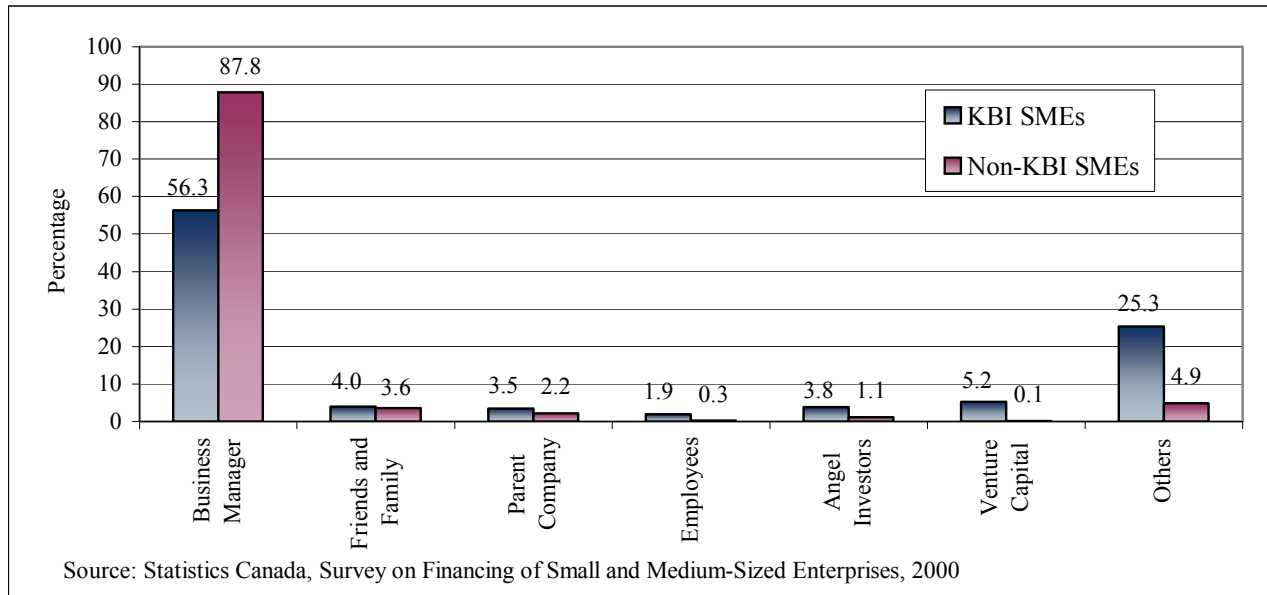


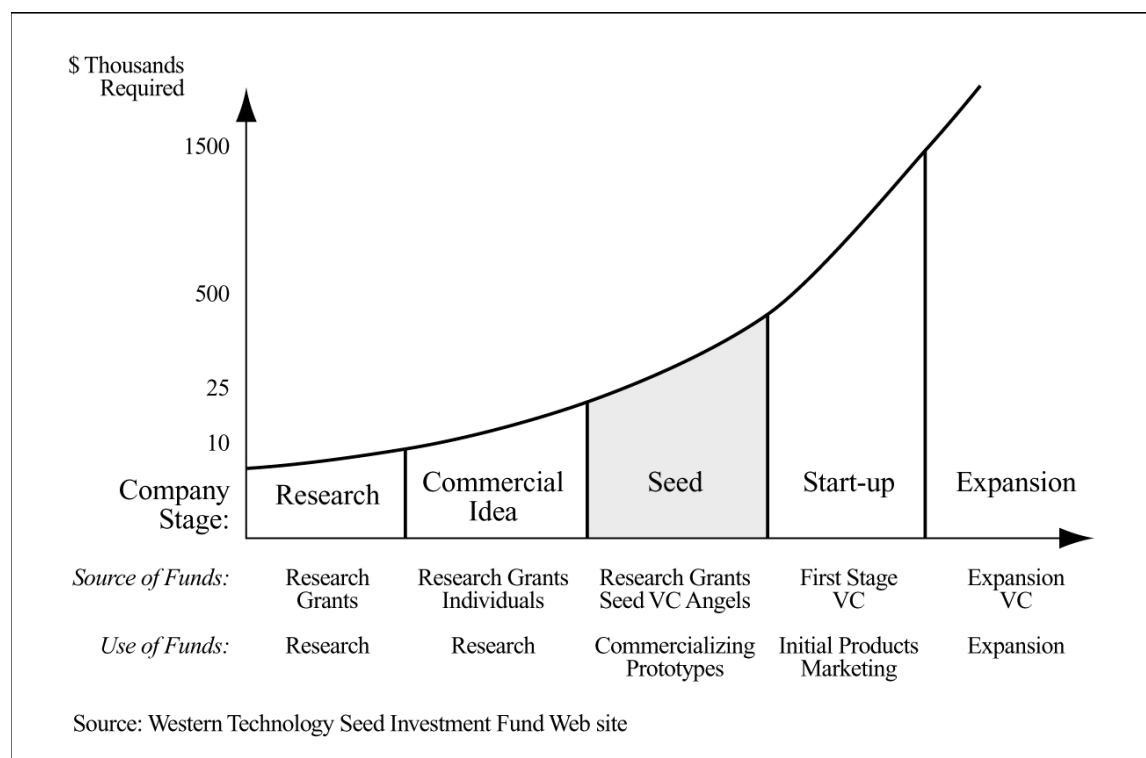
Figure 3 shows that, during the seed and start-up stages, SMEs are almost entirely dependent on the owners’ personal resources and risk capital from private investors to finance initial operations, such as research and product development. In the seed stage, equity financing is initially obtained either from the entrepreneur or from family and friends. Subsequently, financing is supplemented by seed capital from informal private investors and, in some cases, by seed financing funds and venture capitalists. In the start-up stage, early-stage VC investment is the main source of outside financing. In the expansion stage, SMEs generally require increasing amounts of equity to maintain R&D and product commercialization while rapidly expanding marketing and sales activities.

As companies continue to expand, they often require growing amounts of equity investment — amounts normally available only through IPOs (or mergers and acquisitions). Not only do IPOs supply growth capital, they also provide exit avenues for venture capitalists and other early-stage investors. Timely exits allow investors to recoup their original investments, realize their gains on investments, and reinvest their capital in new and early-stage companies — where their participation can add value.

Equity investment encompasses a broad spectrum of financing options for companies at various stages of development. These options are interdependent, since market conditions that affect one option often affect the availability of other sources of capital. For example, the availability of VC often depends on conditions in the IPO market. When venture capitalists see high prices and active markets for new firms on stock exchanges, they are more willing to invest in early-stage firms. As recently concluded by Josh Lerner, a healthy public-offering market goes hand in hand with a robust VC sector.<sup>27</sup>

27. Josh Lerner, *Venture Capital, Technological Innovation, and Growth* (Boston: Harvard Business School, 2001).

**Figure 3: Types of Equity Financing by Stage of Development and Amount Required**



Although this paper focusses on VC, Industry Canada’s SME Financing Data Initiative is collecting other data on angel investment and IPO issues. This research will broaden our understanding of risk capital options and SME financing issues.

#### 4. The Impact of Venture Capital

Although VC is usually limited to a few high-growth firms (venture capitalists invested in 677 Canadian firms in 2002), its importance to innovative high-growth-potential KBI firms should not be underestimated. Several reports suggest that, in an increasingly knowledge-based, high technology economy, there is a link between the VC market and overall economic performance. The VC industry finances innovative high-growth companies that have the potential to make significant contributions to economic growth and new wealth creation.

Venture capitalists do not create economic growth on their own; rather they finance and help those firms that create innovative products, jobs and wealth. While there are very few comprehensive analyses of the overall economic impacts of VC, a few studies in Canada and in the U.S. have suggested these impacts are significant.



According to the results of the BDC's most recent survey on VC in Canada, the growth of VC-financed companies (particularly information technology and life sciences firms) outstripped the growth of the economy as a whole.<sup>28</sup> On average, between 1995 and 1999, the VC-backed companies surveyed increased:

- employment by 39 percent annually (60 percent for information technology firms and 47 percent for life sciences firms);
- sales by 31 percent annually (53 percent for information technology firms and 66 percent for life sciences firms);
- exports by 38 percent annually (58 percent for information technology firms and 52 percent for life sciences firms); and
- R&D expenditures by 52 percent (56 percent for information technology firms and 60 percent for life sciences firms).

Similarly, according to a 2002 study, VC-backed firms in the U.S. contributed nearly \$1.1 trillion to the U.S. gross domestic product (GDP) and employed 12.5 million people directly (15 million indirectly), representing 11 percent of U.S. GDP and 11 percent of employment in 2000.<sup>29</sup> These firms outperformed other companies in terms of sales, taxes paid, exports, and investments in R&D (when adjusted for size). The study also concluded that VC reinforces the U.S.'s entrepreneurial spirit, lubricates the wheels of innovation by financing projects that are far too risky for more traditional financial suppliers, and also plays an important role in creating industry clusters.

One explanation for this trend is that, in addition to financial support, VC investors provide hands-on technical, managerial and strategic expertise, as well as a measure of discipline (by expecting timely financial information and reports, meetings, and performance milestones) and a modicum of credibility. In fact, according to Thomas Hellmann and Manju Puri of the Graduate School of Business at Stanford University, venture capitalists provide value-added services, help professionalize the companies they finance and help firms establish themselves in the marketplace.<sup>30</sup> As a result, their contributions can have dramatic effects on a company's market performance. The study found that the presence of VC increased the likelihood of a start-up bringing a product to market by 79 percent, particularly among innovator companies.<sup>31</sup>

Furthermore, according to a 2001 study by Josh Lerner, VC appears to have significant impacts on.<sup>32</sup>

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28. Business Development Bank of Canada, *Economic Impact of Venture Capital in 2000* (2001).

29. DRI-WEFA, *The Economic Impact of the Venture Capital Industry on the U.S. Economy* (2002).

30. Thomas Hellman and Manju Puri, *On the Fundamental Role of Venture Capital* (California: Graduate School of Business, Stanford University, 2002).

31. Stanford Project on Emerging Companies, an interdisciplinary research project that analyzed 170 technology start-up firms.

32. Josh Lerner, *Venture Capital, Technological Innovation, and Growth* (Boston: Harvard Business School, 2001).

- **Individual firms financed by VC** — The presence of VC funding allows these firms to invest more steadily (i.e. in R&D, new technology and equipment, human capital) — and, thus, to grow more quickly and more uniformly. The achievement of performance milestones assures these firms of future financing, which eliminates the burden of attracting new equity and reduces liquidity risk. By overcoming the capital rationing engendered by information gaps, uncertainty and soft assets, and by stimulating IPOs, venture capitalists play a critical role in the creation, growth, and development of public companies. In fact, Lerner reported that, in 1980, only 20 percent of IPOs were VC-financed. By 2000 that figure had risen to 50 percent. Firms that attract VC sustain better long-term performance, even after going public, than enterprises that follow traditional financing routes. This cycle of success is rooted in a smoother investment and spending process and the value-added managerial acumen with which venture capitalists support their portfolio companies. As a result, these firms are more likely to develop new technologies and to bring innovative products and ideas to market.
- **Economy** — VC-backed firms appear to grow more quickly and create more value (going public sooner and generating higher returns) than traditionally financed firms. VC-financed companies create more new jobs (5.6 percent of the total public-company work force; most of these jobs are high-salary, skilled positions in the technology sector). These firms also foster entrepreneurial activity (particularly in young, highly innovative and knowledge-based sectors).
- **Innovation** — VC-supported firms are more innovative than their non-venture-supported counterparts. VC stimulates patenting at three times the rate of traditional corporate R&D. By 1999, VC investments accounted for about 18 percent of U.S. innovation activity. Lerner accounted for this tendency by venture capitalists' efficient screening process, which is linked to the potential for patent or other intellectual property protections; the advice, monitoring and control that VC firms provide to entrepreneurs; and the staging of investments, which provides incentives to achieve performance benchmarks.
- **Geographic regions** — The regional concentration of VC activity has resulted in the development of several industrial clusters in the U.S. The local economies of Silicon Valley and Massachusetts have been transformed by local venture investments. VC thrived in these regions because of the links between VC and research universities (Stanford University, Harvard University, Massachusetts Institute of Technology), and the synergy of a vibrant community of technology companies.

The link between clusters, productivity, growth and innovation has been examined by, among others, Michael Porter of the Harvard Business School. For Porter, clusters are geographic concentrations of interconnected companies and institutions that “often extend downstream to channels and customers, and laterally to manufacturers of complementary products and to companies in industries related by skills, technologies, or common inputs.”<sup>33</sup> Porter also points out that many clusters include governmental and other institutions — universities,

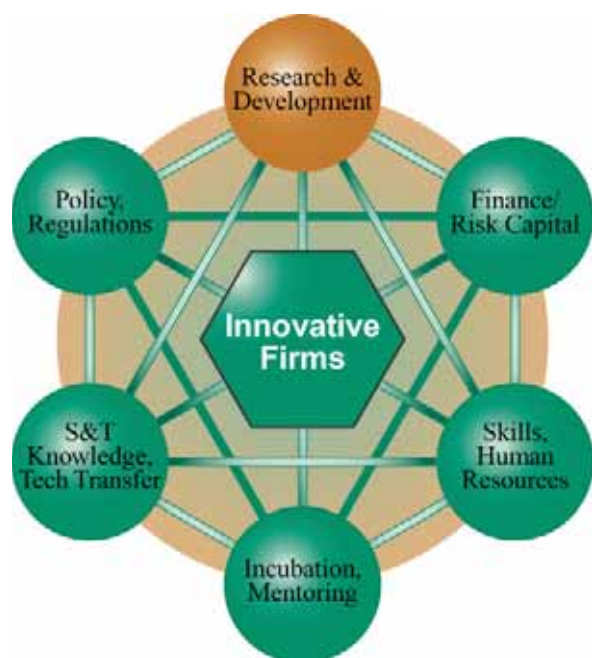
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33. Michael E. Porter, “Clusters and the New Economics of Competition,” *Harvard Business Review*, November–December 1998.

standard-setting agencies, think tanks, vocational training providers and trade associations — that provide specialized training, education, information, research and technical support. Porter argues that clusters support competition by increasing the productivity of companies within the cluster, by driving the direction and pace of innovation, and by encouraging the formation of new businesses.

These studies suggest causal links between VC, economic growth and innovation. However, the relationship is complex and difficult to quantify. As shown in Figure 4, VC is only one link in the innovation chain — albeit an important one. Further research and analysis would help to identify the relationship between these components, and would facilitate optimal economic performance and appropriate public policy action. In this context, the review and analysis of sectoral and regional VC investment trends in sections 5 and 6 of Part II present an overview of Canada’s industry clusters.

**Figure 4: Components of Innovation System**



Source: National Research Council Canada ([www.nrc-cnrc.gc.ca](http://www.nrc-cnrc.gc.ca))

## **PART II: ANALYSIS OF VENTURE CAPITAL ACTIVITY AND TRENDS 1996–2002**

The development of effective policy must rest on a foundation of solid data and sound analysis. This is especially true when erecting a policy structure that will support a sustainable, independent Canadian venture capital (VC) industry that is capable of financing promising high-growth-potential and innovative firms across the country.

While the Canadian VC market is the subject of growing interest, the systematic collection of information about its performance began only recently. Macdonald & Associates Limited has published comprehensive VC industry reports since the mid-1980s. However, the data produced before 1995 were less detailed, and before 2002 there were no returns data on the performance of Canadian VC funds. This relative lack of information, combined with the relatively young Canadian VC industry and the highly cyclical and volatile nature of the industry, has hindered accurate analysis of the market for a number of economic cycles. Nevertheless, Part II will attempt to answer the following question:

- **What is the state of VC activity in Canada? What key trends, strengths and weaknesses characterize the Canadian VC industry?**

This second part of the report provides a comprehensive overview of Canadian VC activity between 1996 and 2002, and examines key trends related to deal size, rounds of financings, the stage of development of investee firms, the sectors receiving VC investment, the regional distribution of activity, and the types of investors (domestic and foreign) that participate in the VC market.

### **Highlights**

- The Canadian VC market is dynamic, with:
  - An increase of 88 percent of new capital raised between 1996–2002, to reach \$3.2 billion in 2002 (with a peak of \$4.6 billion in 2001);
  - Growth of 217 percent of capital under management over the same period, to reach \$22.5 billion in 2002;
  - An increase of 139 percent of amount invested, from \$1 million to \$2.5 million in 2002 (with a peak of \$5.8 million in 2000); and
  - An increase of 71 percent of average deal size per firm, from \$1.8 million to \$3 million in 2002 (with a peak of \$4.3 million in 2000).
- Key drivers of VC growth are:
  - Information technology firms — with investment growth of 1063 percent between 1996 and 2002.
  - Foreign investment — with an increase of 2021 percent between 1996 and 2002.

- Contrary to common belief, Canadian VC investments compared relatively well with those in the United States for most of the 1990s. While it has not experienced the same growth in 1999 and 2002, the Canadian VC market has been less volatile than the U.S. VC market, and has averaged comparable performance in terms of VC investment as a percentage of gross domestic product (GDP) between 1990 and 2001.
- Canada ranked second among Organisation for Economic Development and Co-operation (OECD) countries in terms of early-stage and expansion investments as a percentage of GDP.

Based on VC trends since 1996, this part of the report will conclude with a section on the strengths and weaknesses of the Canadian VC market. As well, key policy issues and questions will be discussed as part of the analysis of gaps in Part IV. Subsequently, these results may be used by different private stakeholders and governments to develop a coordinated approach to these issues, and to sound policies that will support the Canadian VC industry and increase high-growth-potential small and medium-sized enterprises' (SMEs') access to VC.

## **1. Evolution and Growth of the Canadian Venture Capital Market 1996–2002**

The recent history of the Canadian VC industry has been marked by unprecedented transition, growth and optimism, despite the downturn since 2001. However, the shortcomings in long-term research on the Canadian VC market, as well as the lack of strategic dissemination of economic and policy information, have meant that this success story has remained largely untold. The following section sheds light on the evolution of the Canadian VC market since 1996, on its key overall growth trends, and on the recent market context of VC in Canada. To flesh out the contextual backdrop, this section includes absolute and relative comparisons with the U.S. VC market.

### ***1.1 History of the Canadian Venture Capital Market***

The Canadian VC market has shown solid growth since 1996. However, it is still a relatively young industry compared to the U.S., and data on the Canadian VC industry before 1995 are less detailed than those in the U.S. Highlights of the Canadian VC industry's creation and evolution are presented here to provide context and to improve the understanding of recent market trends.<sup>34, 35</sup> Some of these elements will be discussed throughout the report, particularly in the review and analysis of current government programs and policies related to VC, which is presented in Part III.

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34. Macdonald & Associates Limited, E. Wayne Clendenning, Alan Riding, and the OECD.

35. Graham D. Taylor and Peter A. Baskerville, *A Concise History of Business in Canada* (Toronto: Oxford University Press, 1994).

### **Historical Highlights in the Canadian Venture Capital Industry**

**Early 1800s** — The relatively modest financing requirements of businesses were met by the savings of individual entrepreneurs or partnerships, augmented by short-term commercial loans and reinvestment of earnings. These sources could not cover the heavy initial costs of large-scale manufacturing and distribution.

**Late 1800s** — The Bank Act (1871) inaugurated a system of chartered commercial banks, which principally offered short-term credit to merchants, farmers and other small businesses.

**Early 1900s** — Mortgage loan and life insurance companies emerged as sources of longer-term financing for business enterprises. Communities of finance capitalism developed in Montréal and Toronto. Regionally oriented groups of financiers organized in Halifax, in Quebec and in the West. In the absence of institutions such as investment banks, financiers began to form private syndicates to underwrite large capital outlays. In exchange, these syndicates took large quantities of corporate stock and common stock, to be sold later if the undertaking became profitable.

**1920s** — The prewar merger movement, the dramatic expansion of government securities (to finance participation in WWI) and optimism about Canada's growth prospects contributed to the development of more specialized and diversified techniques of financial underwriting. Investment banks, such as Wood Gundy and Nesbitt Thomson, began to finance business enterprises. These firms also provided professional experience and encouraged companies such as Massey-Harris to go public. The investment banks spawned specialized investment companies that held large quantities of common stocks and bonds in a variety of industries.

**1930s** — Mutual funds began to offer a less risky investment option for small investors and trusts.

**1945** — E.P. Taylor, through contact with U.S. financier Floyd Odlum, derived the idea of forming a closed investment trust, essentially a venture capital enterprise, to acquire sufficient shares in, and to influence the decisions of, high-growth-potential companies. These firms (typified by Atlas Corporation in the U.S.) invested in companies that had undergone industrial and financial rehabilitation and showed potential for long-term development and growth.

**1970s and 1980s** — There was an early, core VC industry during the 1970s and 1980s consisting of a few banks and corporate, institutional and private groups. As well, many important steps were taken to build a national VC infrastructure with the creation in 1983 of the Fond de solidarité des travailleurs du Québec (FTQ), the first labour-sponsored venture capital corporations (LSVCCs).<sup>36</sup> However, this period also saw extreme volatility in supply.

**Late 1980s** — The nascent Canadian VC industry practically disappeared after the 1987 stock market crash. Banks, corporate and institutional investors either left the VC market or greatly reduced their participation for the next several years. Key private groups, such as VenGrowth, then moved to the LSVCC model for fundraising, while others, such as Ventures West, weathered the period.<sup>37</sup>

**Early 1990s** — New LSVCCs led to the re-emergence of VC, as did parallel growth trends in the U.S. and Europe. These trends, along with the rekindling of private-sector interest, led to steady growth in available funds. Capital under management doubled every five years, reaching \$7 billion in 1996.

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36. LSVCCs are provincially based funds sponsored by labour unions and supported by individual investors on the basis of preferential tax provisions.

37. Mary Macdonald, *Venture Investing and Prudence* (1987).

**Mid-1990s** — The sources of venture funds diversified through the modification of LSVCC tax benefits, the liberalization of rules for institutional and foreign investors, and the introduction of government equity funds through the Business Development Bank of Canada (BDC).

**Late 1990s and Early 2000s** — Driven by the growth of high technology and information technology firms, many of them located in Ottawa, the Canadian VC industry experienced remarkable growth. The number of funds grew by 117 percent, and VC investments increased by 460 percent between 1996 and 2000. Venture investment became more innovation-oriented, reflected greater diversity and addressed previously neglected market segments, such as small deals and seed financing. These trends helped establish a critical mass of sophisticated entrepreneurs working closely with venture professionals to build a new generation of world-class technology companies. The fruits of these creative partnerships were borne in 1999. That year, a total of 824 companies obtained 989 rounds of financing, backed by \$2.7 billion (a 63-percent increase of amount invested from the previous year's \$1.7 billion).

**2001–2003** —The technology bubble burst and difficult market conditions produced a global downturn of VC activity.

## ***1.2 Structure and Growth of the Canadian Venture Capital Industry***

As explained in Part I, the Canadian VC industry is composed of professional investors who organize VC firms that establish VC funds. These VC funds first raise capital from individual and institutional investors and then invest it in portfolio companies, primarily young, high-growth-potential SMEs. These investments are usually based on individual funds' pre-established investment criteria, which are based on the investors' investment strategies and risk appetites.<sup>38</sup>

The development of the Canadian VC industry has been shaped by a number of interrelated factors:<sup>39</sup>

- the emergence and success of high technology firms, particularly in information technology (which is concentrated in Ottawa);
- the growth in the number and type of VC firms and funds, which is generally attributed to high-return potential;

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38. Note that the term “investment” refers to the amounts invested in an investee company (as opposed to VC funds) and that the term “fund raised” refers to the amounts of capital raised by the VC funds from individual or corporate investors.

39. Different studies have attempted to determine which came first: a venture capital industry that could support the development of high technology firms and clusters, or the presence of high-potential technology firms that could attract venture capital. In some cases, such as Ottawa, it appears that a strong entrepreneurship community helped create and develop a venture capital industry, which then reinforced the high technology cluster. While this may not be true of all regions and clusters, the emergence of high technology firms in the Ottawa Valley has strongly affected the growth of the Canadian VC industry over the past 10 years.

- the ability of VC funds to raise new capital from different investors, such as pension funds and foreign investors, which is also related to the high-return potential of high technology firms; and
- the investment practices of venture capitalists, such as the added value that VC investors contribute to their portfolio companies through managerial expertise, specialization, and syndication practices.

The current structure and operation of the VC industry must be understood within the context of the Canadian VC industry's development and the interplay among the key factors that shaped that development. The following section reviews the key trends behind the proliferation of VC firms and funds, their investment preferences, locations, and profiles, from 1996 to 2002. The syndication of VC deals is also discussed as a key development in the investment practices of U.S. and Canadian venture capitalists.

### ***Solid growth in the number of venture capital firms and funds since 1996***

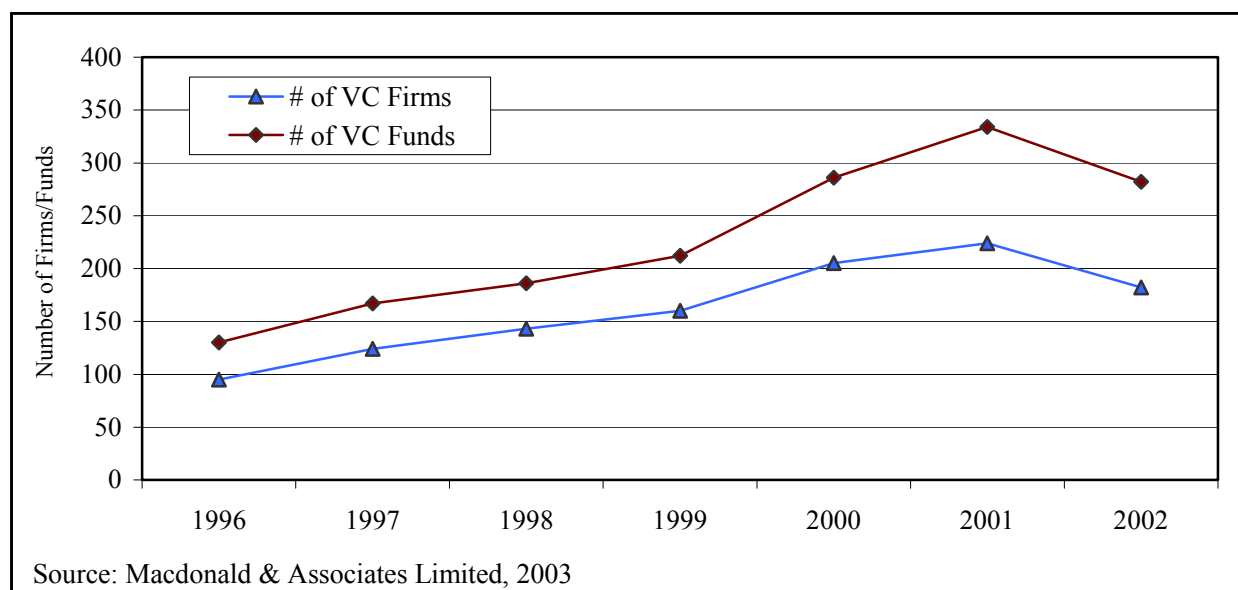
As shown in Figure 5, the number of VC funds and firms in Canada has risen significantly since 1996. The number of VC firms increased by 92 percent from 1996 to 2002 (from 95 to 182 firms), and the number of VC funds increased by 117 percent (from 130 in 1996 to 282 in 2002).<sup>40</sup> The overall growth in the number of VC firms and funds, which suggests growing interest from professional investors in creating VC investment vehicles, has been a determining factor in the growth of the VC industry in Canada. The most significant impact of this proliferation of firms and funds has been a drastic increase in fundraising activities and capital available for investment.

Indeed, between 1996 and 2001, capital raised by Canadian VC funds increased from \$1.7 billion to \$4.6 billion. Although the burst of the technology bubble brought this figure down to \$3.2 billion in 2002, this still represented an increase of 88 percent from 1996 to 2002. As explained in Part I, strong fundraising is the first step in the VC investment process because it signals that investors are generally confident in the VC investment climate and in the prospects for future returns. Canadian fundraising activities have been relatively strong (despite the difficult market conditions since 2001), showing the sustained confidence of Canadian investors in domestic firms and potential returns. Section 7 provides a more detailed review of capital under management and new capital raised and invested by investor types between 1996 and 2002.

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40. VC firms often establish one or more VC funds with different investment focusses, which explains why there are more VC funds than VC firms.



**Figure 5: Growth in the Number of Venture Capital Firms and Funds, 1996–2002**

### *Profile of Canadian venture capital firms and funds*

As explained in Part I, the composition of the Canadian VC market (see the following box) is unique because the main players are predominantly government-influenced LSVCCs, rather than private independent funds, as is the case in the U.S. The important position of this investor type changes the basis of comparison, since LSVCCs have significantly different mandates than the other investor types, such as foreign and private independent funds. Furthermore, the relatively lower participation of institutional investors continues to affect the overall growth of the Canadian VC market. The evolution and investment trends of each type of investor are presented in detail in Section 7.

#### **Type of venture capital funds in Canada (ordered by average share of total venture capital activity in 2002)**

**LSVCCs** are VC funds sponsored by labour unions. They are capitalized by many individual shareholders, who receive federal and/or provincial tax incentives in exchange for committing their capital for, usually, at least eight years.

**Foreign investors** are non-resident private VC funds or corporations active in Canada.

**Private independent funds** are private funds structured as limited partnerships, as well as related vehicles.

**Government funds** are funds created by government.

**Corporations** can also be subsidiaries of industrial or financial corporations.

**Institutional funds** are VC funds managed inside certain large institutions, such as insurance companies or pension funds.

**Other investors** include mutual funds and other institutional investors with interests in specific private equity deals, but without a permanent market presence.

Furthermore, according to several sources (such as Goodman and Carr LLP, Macdonald & Associates Limited, and a survey conducted by E. Wayne Clendenning for Industry Canada in 2002), the Canadian VC industry is also composed of relatively young and small VC funds compared to those in the U.S. VC market.<sup>41, 42</sup> Indeed, the data and key findings revealed that Canadian VC firms tend to have the following characteristics:

- **They are smaller than U.S. VC funds.** According to Goodman and Carr LLP, Canadian VC funds have an average of C\$79 million under management, compared to C\$210 million for their U.S. counterparts.
- **They have fewer executives and managers on their management teams.** Sixty-one percent of the 90 VC firms interviewed had fewer than five executives on their management team.
- **They are relatively young.** According to Goodman and Carr LLP, the average age of Canadian VC funds is 5 years, compared to 11 years for U.S. VC funds.
- **They invest in syndicates** with other VC investors. According to Macdonald & Associates Limited, the average syndication ratio in Canada in 2002 was 2.2 investors per financing.
- **They are mostly in Ontario and Quebec.** The two provinces had 40 percent and 27 percent of total VC funds, respectively, in 2002, as reported by Macdonald & Associates Limited.<sup>43</sup>
- **They invest in the early and growth stages of firms, and invest between \$1 million and \$5 million.** The smaller firms invested between \$100 000 and \$1 million and the larger ones invested more than \$10 million. Compared to U.S. investors, Canadian investors tended to invest more in mid-sized deals worth between \$1 million and \$5 million.
- **They prefer investing in high technology firms.** According to Macdonald & Associates Limited, information technology and life sciences firms captured 85 percent of total VC investments in 2002.
- **They are mostly funded by individual Canadian investors.** According to Macdonald & Associates Limited data, individual investors provided an average of 56 percent of new capital raised in 2002.

This general profile of Canadian VC funds confirms that the Canadian VC industry is younger and smaller than its U.S. counterpart, as measured by size of funds and total capital under

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41. Goodman and Carr LLP, and McKinsey & Company, *Private Equity Canada 2002* (2003).

42. E. Wayne Clendenning & Associates, *Assessment and Comparison of Key Issues Regarding the Operation of the Venture Capital Markets in Canada and the U.S. and their Implications for Private Sector Participants and Government Policy*. (Report scheduled for publication in winter 2004).

43. This distribution of investment is generally consistent with the regional distribution of economic activity and knowledge-based industry (KBI) firms. In 2002, Ontario attracted 40 percent of VC funds, 52 percent of VC investments, 45 percent of KBI firms and 41 percent of GDP. In 2002, Quebec attracted 27 percent of VC funds, 29 percent of VC investments, 20 percent of KBI firms and 21 percent of GDP.

management, size of management team, and size of deals. These issues are described in more detail further in this section and in Section 9.

***Top 10 venture capital investors in 2002***

The following table shows the top 10 VC investors in Canada in 2002 (ranked based on the number of companies financed in 2002). Interestingly, this information suggests that the most important investors were either LSVCCs (such as the FTQ, GrowthWorks and VenGrowth Capital Partners Inc.) or government-owned funds, such as the BDC and Quebec government-owned funds such as the Innovatechs. The importance of LSVCCs and other investors is reviewed in more depth in Section 7.

**Table 1: Top 10 Canadian Investors in Canada in Terms of Companies Financed in 2002**

#	Top Canadian Investors	Location
1	Fonds de solidarité des travailleurs du Québec (FTQ)	Quebec
2	Business Development Bank of Canada (BDC)	Quebec
3	CDP – Accès Capital	Quebec
4	Desjardins Venture Capital	Quebec
5	Innovatech du Grand Montréal	Quebec
6	Innovatech Québec et Chaudiere-Appalaches	Quebec
7	GrowthWorks	British Columbia
8	FondAction	Quebec
9	CDP Capital – Technology Ventures	Quebec
10	VenGrowth Capital Partners	Ontario

Source: Macdonald & Associates Limited, 2003

***Distribution of venture capital funds by sector and region***

The following two tables show an increasing trend toward specialization, and a relatively constant distribution of VC funds across Canada through the 1996–2002 period.

- **Sectoral focus** — Of the 282 active funds in Canada in 2002, 133 specialized in information technology (which grew 224 percent between 1996 and 2002) and 83 focussed on life sciences (which increased 219 percent over the same period). Of the other funds, 59 focussed on traditional sector investments (which grew 97 percent between 1996 and 2002) and 52 percent concentrated on other technology (which increased by 300 percent over the same period). This trend toward a greater specialization of Canadian VC funds is very positive for high technology firms such as life sciences firms, which often present technical concepts and risky investment proposals that require specialized skills from the VC fund managers.

**Table 2: Total Growth of Venture Capital Funds and Firms by Sector in Canada, 1996–2002**

	Information Technology			Life Sciences			Traditional		
	1996	2002	Growth (percent)	1996	2002	Growth (percent)	1996	2002	Growth (percent)
<b>VC Funds</b>	41	133	224	26	83	219	30	59	97
<b>VC Firms</b>	35	115	229	23	70	204	28	52	86
<b>Total</b>	<b>76</b>	<b>248</b>	<b>226</b>	<b>49</b>	<b>153</b>	<b>212</b>	<b>58</b>	<b>111</b>	<b>91</b>

Source: Macdonald & Associates Limited, 2003

- **Regional focus** — VC investors have traditionally shown an affinity for high technology firms. There is a generally well-established relationship between the distribution of knowledge-based industry (KBI) firms, economic activity and VC activity. It is not surprising that the distribution of VC funds across regions, which remained relatively stable between 1996 and 2002, followed the patterns of KBIs and overall economic activity. Most VC funds (see Section 6) are in Ontario (38 percent in 1996 and 40 percent in 2002), Quebec (32 percent in 1996 and 27 percent in 2002) and British Columbia (15 percent in both 1996 and 2002). However, while it is true that regions outside Ontario, Quebec and British Columbia have fewer local VC funds, they also have relatively fewer VC investments (proportionally lower than their share of KBI firms and GDP). Many national funds with headquarters in Ontario or Quebec have substantial exposure to regions outside of central Canada. Also, some local funds may do most of their investing in their home region.

**Table 3: Regional Distribution of Venture Capital Funds in Canada, 1996–2002**

Region	1996		2002		Total Growth of VC Funds (percent)
	Number of VC Funds	Percentage of Total VC Funds	Number of VC Funds	Percentage of Total VC Funds	
<b>Ontario</b>	50	38	113	40	126
<b>Quebec</b>	41	32	77	27	88
<b>British Columbia</b>	19	15	43	15	126
<b>Alberta</b>	5	4	19	7	280
<b>Saskatchewan</b>	7	5	12	4	71
<b>Manitoba</b>	3	2	7	2	133
<b>Atlantic</b>	5	4	11	4	120
<b>Total</b>	<b>130</b>	<b>100</b>	<b>282</b>	<b>100</b>	<b>117</b>

Source: Macdonald & Associates Limited, 2003

***Trends toward syndication of deals***

As mentioned in Part I, Canadian and U.S. venture capitalists tend to form syndicates in which one VC firm initiates a transaction and then establishes partnerships to share the burdens of risk and capital contribution.

In Canada, syndication has become increasingly common since 1996, and especially since 1999. Syndication represented only 1.4 investors per financing in 1996, but represented 1.9 in 1999 and 2.2 in 2002.<sup>44</sup> This practice is even more common in the U.S., where the syndication rate was 2.8 investors per financing in 2001 and 2.9 in 2002.

The syndication of deals may raise some management challenges, particularly for investee firms. These firms may have to find a lead VC investor (the initial investor generally provides the largest amount of capital and sometimes recruits other investors), and then negotiate (directly or through the lead investor) with several venture capitalists who may have different requirements or expectations. In general, however, the trend toward syndicating VC deals is a positive development for the VC industry and for prospective portfolio companies. As indicated in Part I, syndication allows other venture capitalists into the due diligence process, which provides both a second evaluation and another option on the investment opportunities. As a result, the syndication of investments reduces risk and encourages diversification into more and different types of investments.

This practice likely confers significant advantages to Canadian VC funds, given their smaller size, their limited ability to raise sufficient capital to finance large projects, and their need to build networks and partnerships with other Canadian and foreign actors to ensure the continued growth of the VC industry. As well, syndication may be the only means to ensure that high-growth-potential companies with large capital needs, such as biotechnology firms, get access to the VC financing required to bring innovative products to market.

### ***Performance of Canadian venture capital funds***

VC is one asset class among several others, including stock options on such public markets as S&P/TSX, S&P 500 and NASDAQ. Therefore, the performance of VC as an asset class is critical to its ability to attract new capital. According to Gompers, there has been a pronounced relationship between VC fundraising activity (and VC investments) and investment performance.<sup>45</sup> Periods of strong performance returns have led to increased fundraising activity and, consequently, periods of accelerated fundraising activity have preceded alarming downturns in returns. While performance data have been available in the U.S. since the early 1990s, in Canada, until March 2003, there were no such performance data available to draw historical links between the growth of performance returns and VC activity in Canada.

However, given the importance of performance data in investment decisions, it is likely that the shortage of performance data in Canada has somewhat limited the growth of the Canadian VC industry, as investors have had no solid information on which to base their investment decisions. The reticence of Canadian institutional investors may also be traced to other impediments to market participation, such as tax barriers that have inhibited institutional and other investors from backing VC funds, which, in turn, has impaired market growth.<sup>46</sup>

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44. Macdonald & Associates Limited, *VC Activity Report 2002* (2003).

45. Paul A. Gompers, *A Note on the Venture Capital Industry* (Boston: Harvard Business School, 2001).

46. Kirk Falconer, *Prudence, Patience and Jobs* (1999).

To address this discrepancy, the Canada’s Venture Capital and Private Equity Association (CVCA), in collaboration with Macdonald & Associates Limited and Venture Economics in the U.S., has recently published a second set of performance data on Canadian VC and private equity funds for the period ending December 2002. While the data published (see Table 6) present negative returns for one-, three- and five-year periods, there are some important considerations that must be noted before any interpretations or conclusions can be drawn:

- First, to present a reliable picture of the performance of VC funds, performance data should cover at least 10-year periods. Given that the Canadian VC industry is relatively young and that performance data are only starting to be published, current analyses of Canadian data are limited to 5-year periods. As a result, the data may not present the true performance of Canadian VC funds, as these returns were heavily affected by losses incurred during the recent market decline. However, as the Canadian VC industry matures and activity levels recover, the CVCA should be able to produce long-term data that will cover longer periods and allow for a more reliable analysis and comparison.
- Second, while the performance data do not yet present returns by sector, region or investor type, the overall picture may be influenced by some specific regional funds or type of funds, and may not represent an accurate overall performance of the Canadian VC industry. For example, given the dual social and economic mandates of LSVCCs and their dominant position in the market, their performance may affect the overall returns of the Canadian VC industry. Clearly, further breakdowns of the data would provide important information to investors and policy-makers.
- Finally, in the long term, as the Canadian VC industry matures, the performance data should improve and permit Canadian and foreign investors to better monitor and evaluate the performance of the Canadian VC asset class. This should increase the flow of capital to VC funds and, downstream, to innovative small and emerging businesses.

**Table 4: Investment Returns for Periods Ending December 2002**

	1 Year	3 Years	5 Years
<b>Early-Stage VC</b>	-25.1	-5.8	2.3
<b>Balanced VC</b>	-26.5	-11.6	-5.4
<b>All VC</b>	-25.0	-9.6	-3.1
<b>Buyout and Mezzanine</b>	7.0	8.5	11.6
<b>All VC and Private Equity</b>	-21.3	-7.5	-1.3

Source: Canada’s Venture Capital and Private Equity Association, 2003

Note: These data, published by the CVCA in October 2003, are based on “pooled” information from 84 investment funds. The investment returns reported are annual percentage returns for the stated period and categories. The returns are calculated on an internal rate of return (IRR) basis. These are gross returns from portfolio investments before deducting management costs and other expenses.

The CVCA recognized that the comprehensiveness of sector performance data can still be extended and can address such issues as including management fees to provide net return data (as in the U.S.) and developing global standards for the valuation of unrealized investments. To do this, the CVCA works closely with several interested parties (including Macdonald &

Associates Limited, Réseau Capital, Venture Economics, Industry Canada, leading institutional investors, the Association for Investment Management and Research, the Institutional Limited Partners Association, and national and regional VC associations in Europe, Britain, and the U.S.) to improve the consistency and comprehensiveness of sector performance data. Particularly, the CVCA has recently recommended valuation guidelines, which have been circulated to CVCA members and others for comment.<sup>47</sup>

### ***1.3 Overview of Venture Capital Investments: Growth, Trends and Analysis***

#### **1.3.1 1996–2002 Overall Venture Capital Activity Growth Trends**

***The Canadian venture capital industry has been dynamic and has experienced solid growth***

Whether the Canadian VC industry is in a boom or bust is a matter of perspective. While a short-term review — since 2001 — of Canadian VC activity suggests a bust, the following long-term statistics — 1996–2002 — present a picture of robust growth (see Figure 6) and increasing maturity, diversification and sophistication.

##### ***Fundraising activity and capital under management***

- **New capital raised by VC funds** has fed the growth of the VC market since 1996, from only \$1.7 billion in 1996 to \$4.6 billion in 2001 and \$3.2 billion in 2002 — an 88-percent increase and an average annual growth rate of 17 percent (see Figure 6 and Section 7 for more details).
- **Capital available for investment** rose 196 percent from \$2.5 billion to \$7.4 billion (see Section 7).
- **Capital under management** grew from \$7.1 billion to \$22.5 billion, a total increase of 217 percent (see Section 7).

##### ***Venture capital investment activity***

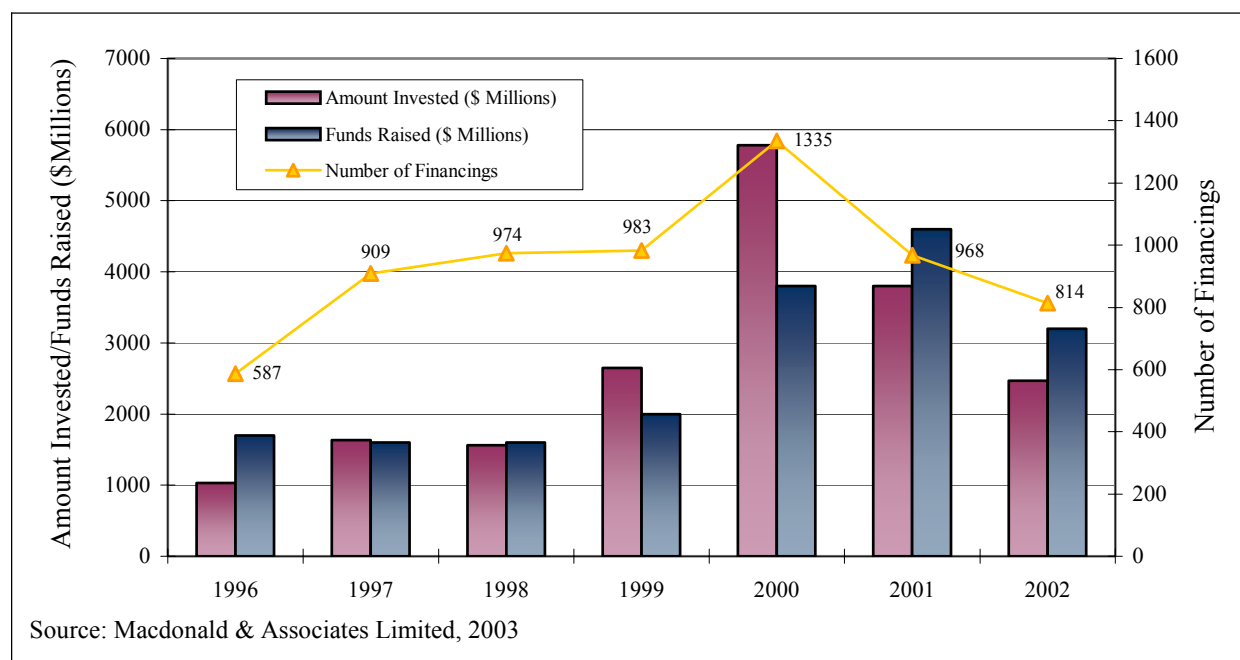
- **Investments** increased by 139 percent (from \$1 billion to \$2.5 billion), at an average annual growth rate of 29 percent, peaking at \$5.8 billion in 2000 (see Figure 6).
- **The number of financings** (or number of transactions or deals) grew by 39 percent (from 587 to 814; peaking at 1335 in 2000), at an average annual growth rate of 9 percent over the same period (see Figure 6).
- **The number of new VC funds** created since 1996 totalled 152, bringing the number of VC funds to 282 in 2002, a 117-percent increase (see Section 1.2).

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47. To consult these proposed guidelines, visit the CVCA Web site at [www.cvca.ca](http://www.cvca.ca)

- **The average deal size** reached \$3.0 million in 2002, after peaking at \$4.3 million in 2000 — a 72-percent increase from the \$1.8 million average in 1996, and an average annual growth rate of 15 percent (see Section 2).
- **Follow-on investment** grew by 362 percent (from \$394 million to \$1.8 billion), while new financings increased by only 1 percent over the same period (from \$639 million to \$646 million) (see Section 3).
- **Early-stage investment** rose 255 percent (from \$295 million to \$1.1 billion), compared to an increase of 92 percent for later-stage investment (from \$738 million to \$1.4 billion) (see Section 4).
- **Foreign investment in Canada** reached \$650 million in 2002, up 2021 percent since 1996, when foreign investment amounted to \$31 million. In 2000 and 2001, foreign investment reached a high of \$1.4 billion and \$1 billion, respectively. This high level of activity resulted in a 788-percent increase of foreign investors’ share of total VC investments, from 3 percent in 1996 to 26 percent in 2002 (with a peak at 29 percent in 2001) (see Section 7).
- **Canadian investment outside the country** increased by 757 percent, from \$63 million to \$537 million, and peaked at \$997 million in 2000 (see Section 8).

**Figure 6: Canadian Venture Capital Activity Trends, 1996–2002**



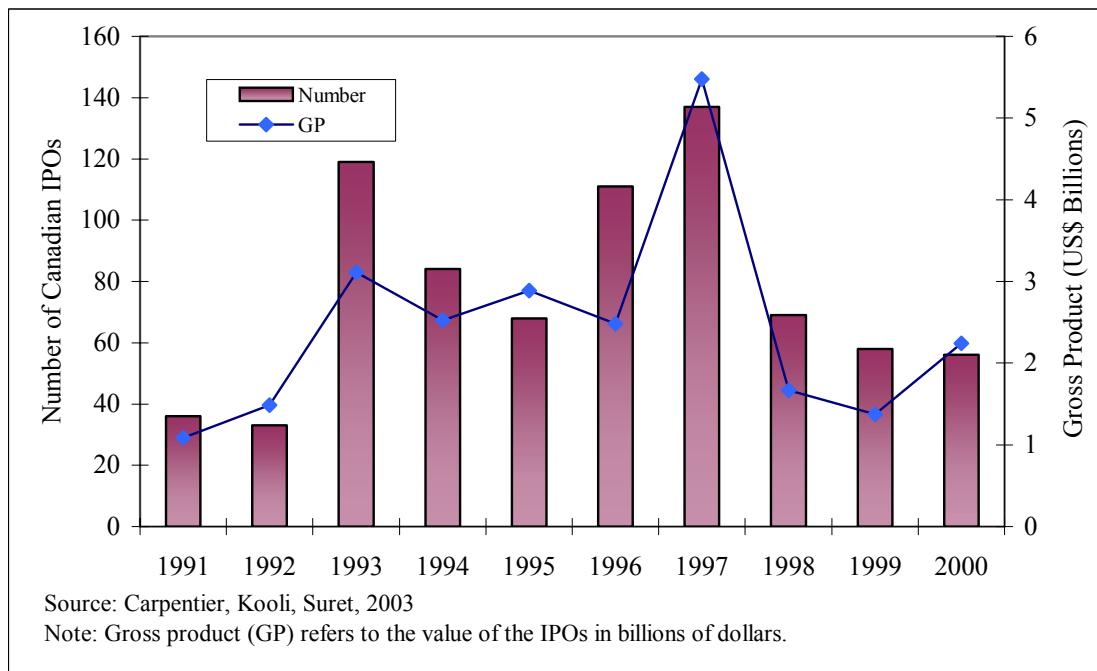


**Comparison with growth of initial public offerings and stock exchange markets**

The data confirm that, compared to the Canadian initial public offering (IPO) market, the Canadian VC industry has performed relatively well over the past few years.<sup>48</sup>

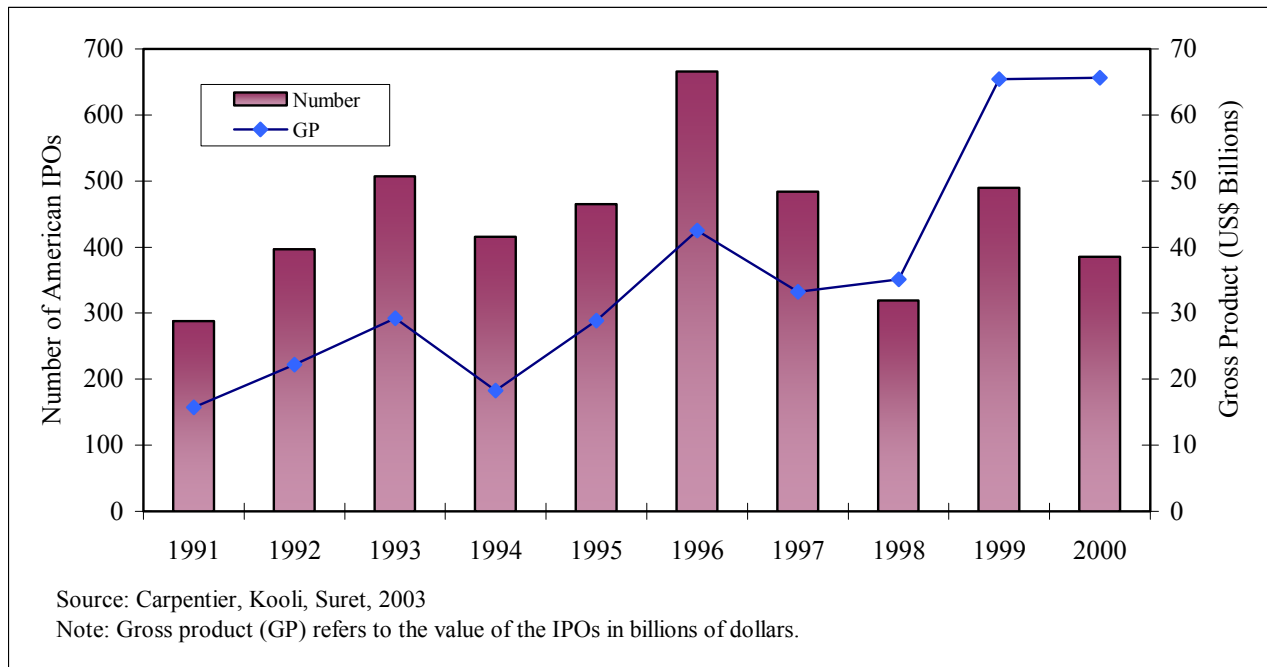
- The number and value of Canadian VC investments increased by 127 percent (from 587 in 1996 to 1335 in 2000) and 462 percent (from \$1.0 billion to \$5.8 billion), respectively. This performance was significantly better than the decline of 14 percent (from 240 to 206) of the number and 12 percent (from \$2.6 billion to \$2.4 billion) of the value of Canadian IPOs from 1996 to 2000.
- The average size of IPO transactions was much higher, at \$17 million, all transactions are included. However, if you exclude the very large demutualization and privatization IPOs, the average Canadian IPO is similar in size to the average VC transaction. Indeed, between 1996 and 2000, the average IPO transaction was valued at \$2.5 million, compared to \$2.4 million for the average Canadian VC deal. This confirms that the Canadian IPO market is characterized by very small transactions compared to foreign IPO markets. The average IPO transaction between 1995 and 1999 was \$131 million in Germany, \$74 million in France, \$93 million in the United Kingdom and \$84 million in the U.S.

**Figure 7: Number and Value of Canadian Initial Public Offerings, 1991–2000**

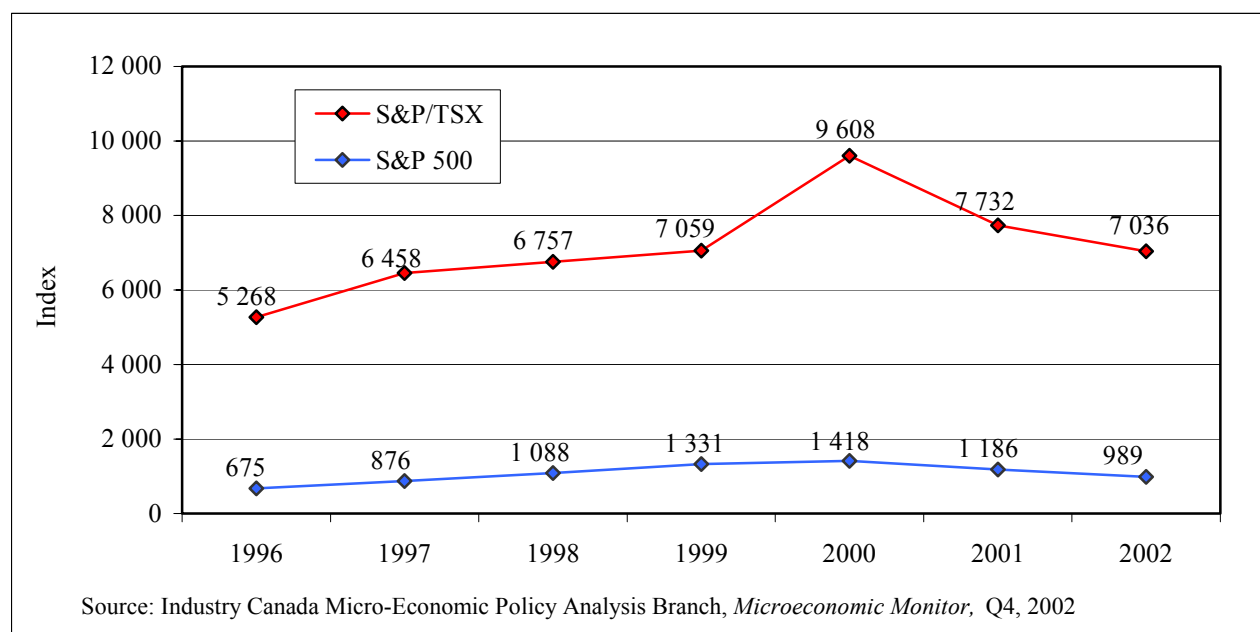


48. Data for 2001 and 2002 are not yet available for Canadian IPOs. As a result, the growth has been calculated from 1996 to 2000 to permit a comparable period.

**Figure 8: Number and Value of American Initial Public Offerings, 1991–2000**



Furthermore, when compared to the stock markets, the data between 1996 and 2002 suggest better performance and more stability for the stock exchange markets in Canada than in the U.S. (e.g. S&P/TSX and S&P 500) (see Figure 9). Between 1996 and 2002, the S&P/TSX grew by 47 percent and the S&P 500 grew by 34 percent, compared to a 139-percent increase in VC investments. The performance of the Canadian VC industry was particularly strong between 1996 and 2000, when the S&P/TSX and S&P 500 indexes grew by 109 percent and 83 percent, respectively, compared to 460 percent for VC investments. However, since 2000, the Canadian VC market has experienced a steeper decline than have the stock markets, falling 57 percent compared to drops of 30 percent and 27 percent for the S&P/TSX and the S&P 500, respectively.

**Figure 9: Stock Market Indices, 1996–2002**

As discussed in Part I, VC is only one link in the risk capital financing chain. Factors that affect other risk capital markets (such as poor performance of the stock exchanges) can have significant impacts on other sources of risk capital. To illustrate the interdependence of the public markets and the VC market, the following observations show that the poor performance of both the IPO and stock exchange markets in recent years has had significant negative impacts on the behaviour of Canadian venture capitalists and has circumscribed the growth of the VC industry.

- A recent study from Carpentier-Kooli-Suret on the performance of the Canadian IPO market demonstrated that Canada has an active IPO market, but one with marked weaknesses.<sup>49</sup> Canadian IPOs tend to be smaller than U.S. IPOs and, since many Canadian firms go public too early, the success rate or survival rate of Canadian IPOs tends to be very low. According to the authors, these dysfunctions in the Canadian IPO market have hurt the Canadian VC market. Reducing the liquidity of the VC market in a poor IPO market decreases investors' willingness to make VC investments.
- Furthermore, the relatively poor performance of the public markets since 2000, and the recent market uncertainties have undermined venture capitalists' confidence in potential exit opportunities through the public markets, resulting in more cautious investment strategies.

49. Cécile Carpentier, Maher Kooli, Jean-Marc Suret, *Primary Issues in Canada: Status, Flaws and Dysfunctions* (CIRANO, Université Laval, 2003).

### **1.3.2 Recent Situation in Overall Canadian Venture Capital Activity**

#### ***Very slow beginning in the first half of 2003, but rebounding in the third quarter of 2003***

Despite the steep decline of investment levels during the first half of 2003, the Canadian VC industry showed signs of vigour and enjoyed a stronger-than-expected third quarter in 2003, disbursing investments worth \$361 million in 191 companies. This was an increase of 52 percent from the \$238 million disbursed in the previous quarter. This positive third quarter was a very encouraging sign for the rest of the year, but the \$920 million invested in 609 companies was still well below the \$1.7 billion disbursed in 649 companies during the same period in 2002.

According to Macdonald & Associates Limited, the low level of activity in the first half of 2003 reflected the market contraction of the past two years, which has been compounded by recent world events, including the war in Iraq, and by an economic climate that remains highly uncertain. The slower economic activity level in the U.S. and the increasing strength of the Canadian dollar may also have affected Canadian VC activity in 2003, particularly as it relates to foreign investment in Canada. Interestingly, in the third quarter of 2003, VC activity levels recovered, including investments made by foreign investors.

### ***1.4 International Comparison***

Multinational comparisons can provide important context to any review and analysis of national VC activity. Indeed, international comparisons of VC activity, particularly with the U.S., are important benchmarks that help drive VC-related research and policy making in Canada. In that context, the following section discusses the existing definitional and statistical challenges related to international comparison. It then compares the performance, in both relative and absolute terms, of the VC markets in Canada, the U.S. and other OECD countries since 1996.

### **Caution with International Comparisons**

There is no internationally accepted, commonly used definition of VC. In North America, the reporting of VC data uses common definitions and methodology. However, most European statistics include activities that North American analyses exclude from VC reporting. In particular, European “VC” statistics usually include some elements of private equity, such as buyouts and mezzanine financing, which North Americans consider distinct from VC. In the case of buy-ins and buyouts, the primary activity is a transfer of assets, often between generations. Conceptually, and from a policy perspective, this type of transaction is difficult to group with the equity financing of growth in early-stage companies. Mezzanine financing is closer in concept to VC, but differs in that it usually does not involve equity participation. Comparisons are difficult because in all markets, buy-ins, buyouts and mezzanine financing are major activities and may dwarf the dollar value of VC deals. The North American approach is most useful for this paper, although it would help to have a better understanding of the other markets covered in the European definitions.

In Canada, little information had been collected and published about buy-in, buyout and mezzanine financing until 2001, which saw the first report from Goodman and Carr LLP, and Macdonald & Associates Limited on the Canadian private equity market.<sup>50</sup> A second report, in 2002, from Goodman and Carr LLP, and McKinsey & Company<sup>51</sup> (with the assistance of Macdonald & Associates Limited) on private equity in Canada estimated that the Canadian private equity market, including VC and the buyout and mezzanine market, was worth more than \$49 billion (compared to close to US\$700 billion, or C\$1085 billion, for the U.S. private equity market in 2002).

According to Macdonald & Associates Limited, the Canadian methodology is close to that used by firms that track the market in the U.S., including Venture Economics and Venture One.

Overall, the data suggest that, since 1996, contrary to general perceptions, the Canadian VC market has performed relatively well on a number of relative measures. In absolute terms, however, the data confirm that significant differences exist between the Canadian and U.S. VC industries, particularly when it comes to the number of companies financed, the size of VC funds and the average deal size. While other countries may not have the desire or ability to emulate the U.S. structure, lessons can still be drawn from U.S. experiences and initiatives.

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50. Goodman and Carr LLP, *Private Equity Canada 2001* (2002).

51. Goodman and Carr LLP, and McKinsey & Company, *Private Equity Canada 2002* (2003).

### 1.4.1 Comparison: Canada–United States

Canada and the U.S. use similar definitions and methodologies to report on VC activity. However, caution must be applied when comparing the Canadian and U.S. experiences, and when trying to duplicate the U.S. model. While these comparisons can illuminate interesting linkages, they can also obscure important realities.

- **Unique historical factors** — U.S. VC activity is highly concentrated in two areas: Silicon Valley and Boston (also referred to as Route 128), while Canadian VC activity is concentrated in Ottawa (often referred to as Silicon Valley North or the Ottawa Valley). Unique factors led to the development of a particular VC culture and concentrations of high technology in these areas. Most regions of Canada (and other countries) lack these essential parameters. To illustrate this point and to confirm the relative maturity of the U.S. VC market compared to that in Canada, the box on this page presents key historical developments of the U.S. VC industry, which confirm that significant differences exist between the two VC markets, particularly when it comes to the age of the U.S. VC industry and the role played by the U.S. government.
- **Absolute versus relative size** — Geographic and historical factors mean that it is inevitable that Canada's VC performance be compared to that of the U.S. However, given the disparity in size between the two economies, comparing absolute numbers does not accurately depict the strength and dynamism of the Canadian VC industry. Therefore, it may be more appropriate to compare the performance of the VC markets in terms of the relative size of the two economies, through measures such as VC investments as a percentage of GDP (which reflects the size of economic activity in the two countries) and per capita (which reflects the activity based on the population of each country). Such an analysis could examine absolute VC activity numbers to determine whether there are any significant differences or gaps in the size and type of financing (such as the amount of money invested or the number of successful companies launched). This will provide a better picture of the state of the two VC markets, and will better inform Canada's policy objectives.
- **Challenges faced in accessing VC** — While U.S. firms may have had easier access to VC during the technology bubble, Canadian and U.S. firms generally face similar challenges in accessing VC. Since 2001, U.S. venture capitalists' investment criteria have reverted to the prebubble approach, and they are only financing opportunities that show strong technology, large potential market, experienced management, and rapid commercial viability. In fact, U.S. firms may now face greater challenges than Canadian firms, due to the more severe impacts of the recent economic slowdown and uncertainties in the U.S., which have resulted in a steeper decline of VC activity and an increased emphasis on milestone-based funding and deal syndication.

Keeping these considerations in mind, the following text reviews the historical highlights of the U.S. VC industry, and makes relative and absolute comparisons of the evolution and growth of the Canadian and U.S. VC industries over the past 13 years.

### Historical Highlights of the American Venture Capital Industry<sup>52</sup>

**Late 19th and early 20th centuries** — Wealthy families (such as the Vanderbilts, Whitneys, Morgans and Rockefellers) began to look for ways to invest in potentially high-return, high technology companies, such as railroads, steel and oil companies, and banks.

**1946** — The first modern VC firm — U.S. Research and Development (ARD) — was created by Karl Compton (Massachusetts Institute of Technology president), Merrill Griswold (Massachusetts Investors Trust chairman), Ralph Flanders (Federal Reserve Bank of Boston president) and Georges F. Doriot (Harvard Business School professor). Considered the “father of venture capital,” Doriot had a vision that was not predicated on “making money,” but, rather, on financing “noble” ideas.

**1958** — The federal government decided to play an active role in promoting small firms’ development by becoming a participant in and regulator of small-firm financing. The Small Business Administration was given the authority to charter new small business investment companies (SBICs).

**Mid-1960s** — Seven hundred SBICs controlled the majority of risk capital invested in the U.S.

**1960s** — The IPO market was extremely active. Many SBICs were able to bring companies public, creating an incentive for SBICs to invest more in risky projects.

**1970s** — The dramatic success of ARD — particularly with its investments in High Voltage Engineering (which produced returns on investments of \$354 million) and Digital Equipment Company (which produced returns of \$1.6 million) — induced individuals to create private VC firms dedicated to hands-on management. Unlike SBICs, the new VC firms provided many services to entrepreneurs, including access to investment bankers, corporate lawyers, accountants and industry experts.

**1973–1974** — Recession hit young firms, IPO activity dropped and SBIC-backed firms lost money. By 1978 only 250 SBICs remained active.

**1978** — Changes to the Revenue Act decreased the capital gains tax from 49.5 percent to 28 percent.

**1979** — Changes to the Employee Retirement Income Security Act’s “prudent man” rule explicitly allowed pension funds to invest in VC.

**1980s** — This rule change opened the door to tremendous capital resources. By the end of the 1980s, pension funds controlled more than \$3 trillion and accounted for 47 percent (or \$17 billion) of new fund commitments (compared to 15 percent, or \$218 million, in 1978).

**1990s and 2000s** — The rapid growth in VC fundraising, the explosion of activity in the IPO market, and the exit of many inexperienced venture capitalists led to increasing VC returns. Between 1992 and 2000, new capital commitments increased 20 fold, mostly fuelled by public pension funds.

**2001–2002** — This period saw the most significant downturn in VC activity and the stock exchange markets.

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52. Paul A. Gompers, *A Note on the VC Industry* (Boston: Harvard Business School, 2001).

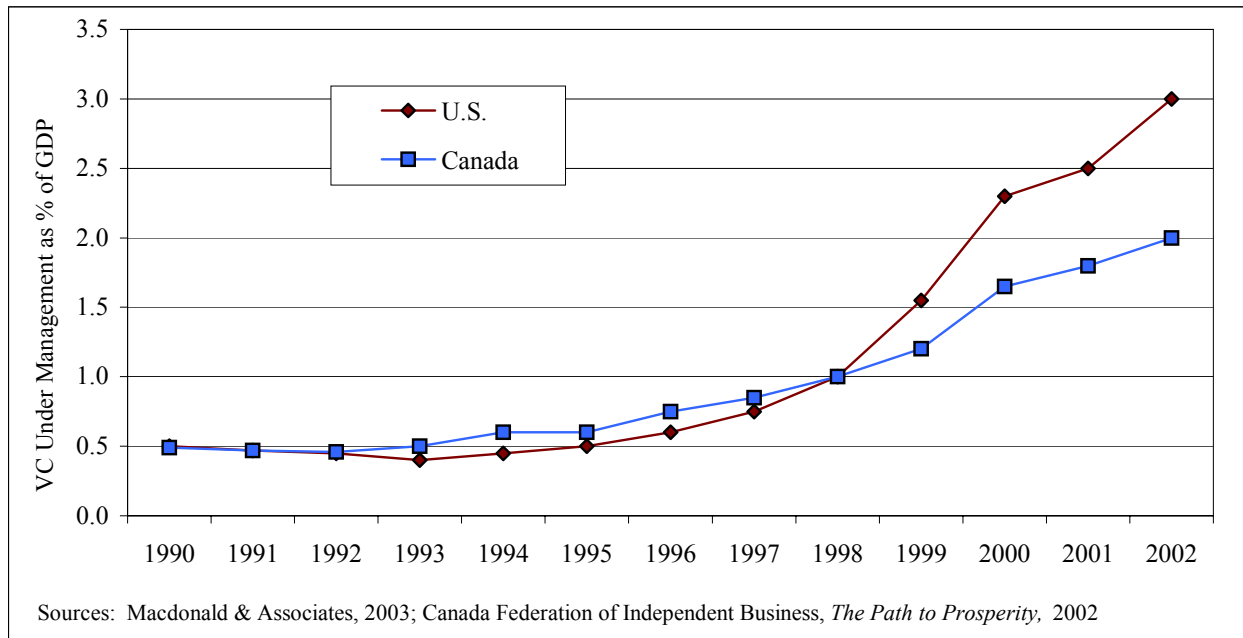
1.4.1.1 Comparison of Overall Venture Capital Activity Growth Trends in Canada and the United States<sup>53</sup>

*On a relative basis, Canada’s venture capital activity has shown comparable performance since 1990*

One of the most accurate measures of the relative performance of North American VC industries is the number of VC investments and the amount of VC under management as percentages of GDP. Contrary to the general perception that Canada’s VC sector is tiny and stagnant compared to the U.S., the data (see figures 10 and 11) reveal that, throughout the 1990s, the relative size of the Canadian VC market was similar to that of the U.S. The U.S. VC market exploded in 1999, but the collapse in 2001 narrowed the gap between the two markets. In fact, most of the negative perception about the Canadian VC market was formed during the 1999–2000 bubble, which was an aberration in the market.

However, Figure 10 shows an increasing divergence in terms of capital under management as a percentage of GDP between the two markets since 1999. This may have significant impacts on the future growth of the Canadian VC industry compared to that of the U.S.

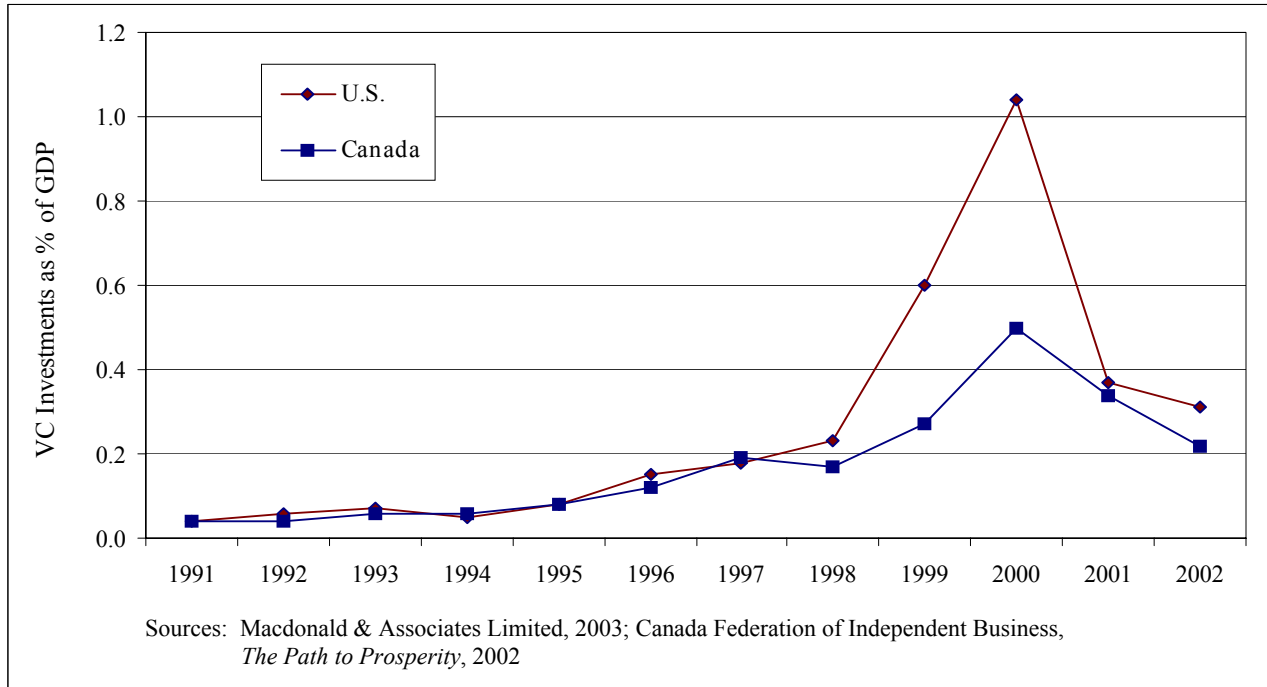
**Figure 10: Venture Capital Under Management as a Percentage of Gross Domestic Product in Canada and in the United States, 1990–2002**



53. For the purpose of this paper, an average exchange rate of 1.5 percent has been calculated for 1996–2002, based on information from the United Nations Statistics Division (<http://unstats.un.org>).



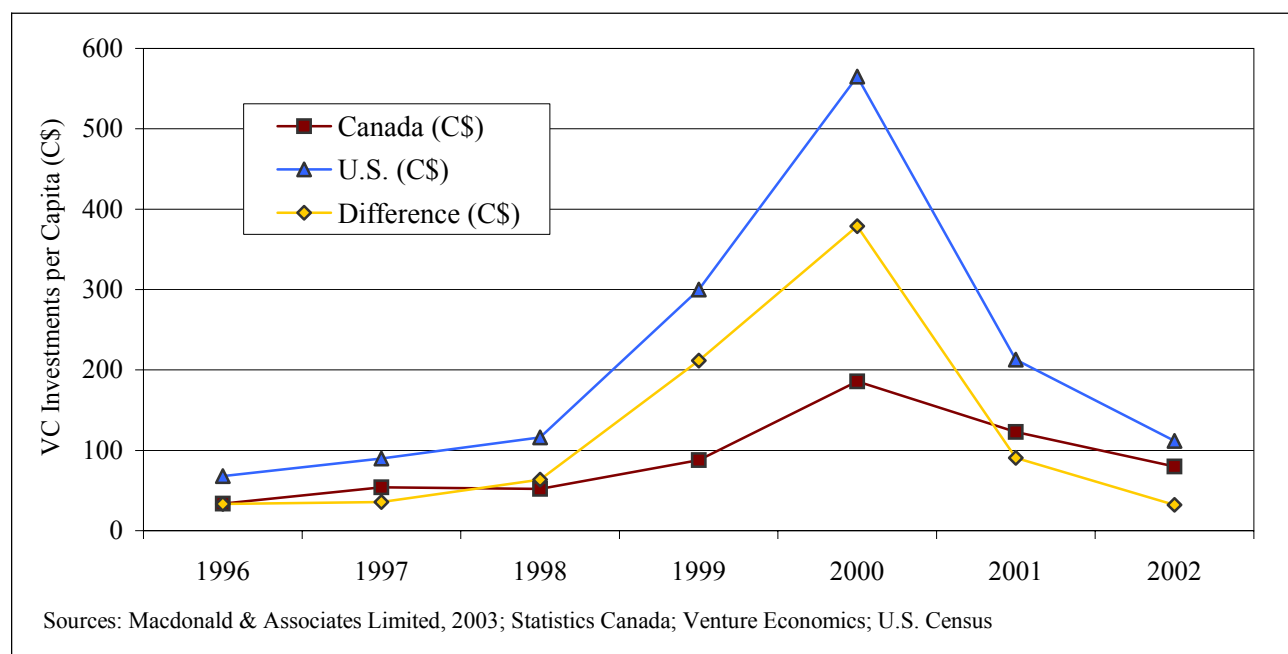
**Figure 11: Venture Capital Investments as a Percentage of Gross Domestic Product in Canada and in the United States, 1991–2002**



The steeper decline of VC investment in the U.S. and the steadier growth of the Canadian VC industry since 2000 (see Figure 11) has increased the value of Canadian VC investments as a percentage of U.S. investments. In 2002, the value of Canadian VC investments was 8 percent of the value of U.S. VC investments (adjusted to take exchange rates into account). This proportion was much higher than the 3 percent, 4 percent and 6 percent observed in 1999, 2000, and 2001, respectively. This ratio in 2002 was roughly consistent with the relative sizes of the two economies (the Canadian GDP stood at 7 percent of the U.S. GDP in 2002) and represented Canada’s approximate share of the North American market.

***Links with Canada’s innovation target related to venture capital***

In 2002, the federal government’s *Innovation Strategy, Achieving Excellence*, pledged to raise VC investment per capita in Canada to U.S. levels by 2010. Recent trends have significantly narrowed the gap between VC investments per capita in Canada and in the U.S. (as illustrated in Figure 12). The volatile and cyclical nature of VC activity makes it very difficult to predict whether this target will be achieved by 2010.

**Figure 12: Venture Capital Investments per Capita in Canada and in the United States, 1996–2002**

In 2000, for example, U.S. VC investment per capita stood at roughly 2.5 times the value of Canadian investments per capita. At that time, it seemed reasonable to establish a target to raise Canadian VC investment per capita to U.S. levels over 10 years. However, throughout 2001 and 2002, the situation changed radically, mostly due to the drastic decline of U.S. VC investments after 2001. In 2002, the Canadian VC investment per capita totalled C\$81, or 69 percent of the corresponding U.S. figure of C\$119 per person.

While it is useful to measure relative VC investment, this measure fails to indicate whether the capital needs of Canadian and U.S. SMEs are being met; it may be more practical and effective to define Canada's VC policy objectives in terms of outcomes, such as the amount of money invested or the number of successful companies launched, rather than simply to consider comparative data. However, this type of analysis will require more information on the demand for VC. Section 9 provides a detailed review of key policy issues and questions related to the demand-side data deficit.

***On an absolute basis, the United States venture capital industry is more mature and provides larger financings***

The U.S. VC market is the largest, most sophisticated and most developed VC industry in the world. The absolute numbers for 1996 to 2002 (see tables 5 and 6) show that the U.S. VC market is relatively more mature than the Canadian VC industry, both in terms of its structure (e.g. number, size, and experience of VC funds) and its fundraising and investment activities (e.g. amounts of funds raised, average deal size, and capital under management). This is to be expected from an industry that was established after 1945 and vigorously supported by private industry and government cooperation in an era of unprecedented economic growth.

Indeed, according to the Goodman and Carr LLP, and McKinsey & Company report on private equity in Canada, the average age of a Canadian VC fund is 5 years, compared to 11 years for the average U.S. fund. As well, in terms of size of funds, Canadian VC funds have an average of C\$69 million of capital under management, compared to C\$210 million in the U.S. This type of analysis and comparison will provide a great deal of practical experience, which can help accelerate the growth and maturation of the Canadian VC market.

**Table 5: Growth of Venture Capital Firms and Venture Capital Funds in Canada and in the United States, 1996–2002**

	1996		2002		Increase (percent)	
	Canada	U.S.	Canada	U.S.	Canada	U.S.
<b>Number of Existing VC Firms</b>	95	441	182	892	92	102
<b>Average VC Firm Size (C\$M)</b>	n/a	167	n/a	426	-	156
<b>Number of Existing VC Funds</b>	130	748	282	1798	117	140
<b>Average VC Fund Size (C\$M)</b>	n/a	98.4	n/a	211	-	114
<b>Average Management per Principal (C\$M)</b>	n/a	16.8	n/a	44.9	-	168

Sources: Macdonald & Associates Limited, 2003; NVCA Yearbook, 2002; PricewaterhouseCoopers LLP MoneyTree Survey 2003

Note: Unfortunately, data on the average firm size, fund size and management per principal were not collected in Canada.

**Table 6: Summary of Venture Capital Investment Activity in Canada and in the United States, 1996–2002**

	1996		2002		Increase (percent)	
	Canada	U.S.	Canada	U.S.	Canada	U.S.
<b>VC Investments (C\$M)</b>	1 032	17 400	2 466	31 800	139	83
<b>Number of Financings</b>	587	2 660	814	3 011	39	13
<b>Number of Companies</b>	490	2 126	677	2 495	38	17
<b>Deal Size (C\$M)</b>	1.8	6.6	3.0	10.5	67	59
<b>Funds Raised (C\$B)</b>	1 700	18 600	3 200	10 950	88	-41
<b>Capital Under Management (C\$M)</b>	7 100	71 250	22 500	425 000	217	496

Sources: Macdonald & Associates Limited, 2003; NVCA; PricewaterhouseCoopers, 2002, 2003

While seating the analysis within the context of the past seven years does dilute the impact of the technology bubble, it still confirms that, overall, the Canadian VC industry has been active and has been maturing, with more and larger VC firms and funds, solid fundraising activities, and growing amounts of capital under management. In fact, before the 1999 burst, both Canada and the U.S.

enjoyed outstanding growth. Although the pace of VC investment has slowed dramatically in both countries, the decline in the U.S. was proportionately larger than it was in Canada.<sup>54</sup>

The steeper drop in the U.S. since 2000 resulted largely from the restriction of corporate technology spending, the continued volatility of public markets, and declining investment returns. The higher concentration in information technology (and, within this sector, the higher concentration on Internet-related sectors and communications and networking) and the absence of other modulating factors left U.S. markets more vulnerable to the technology bust.

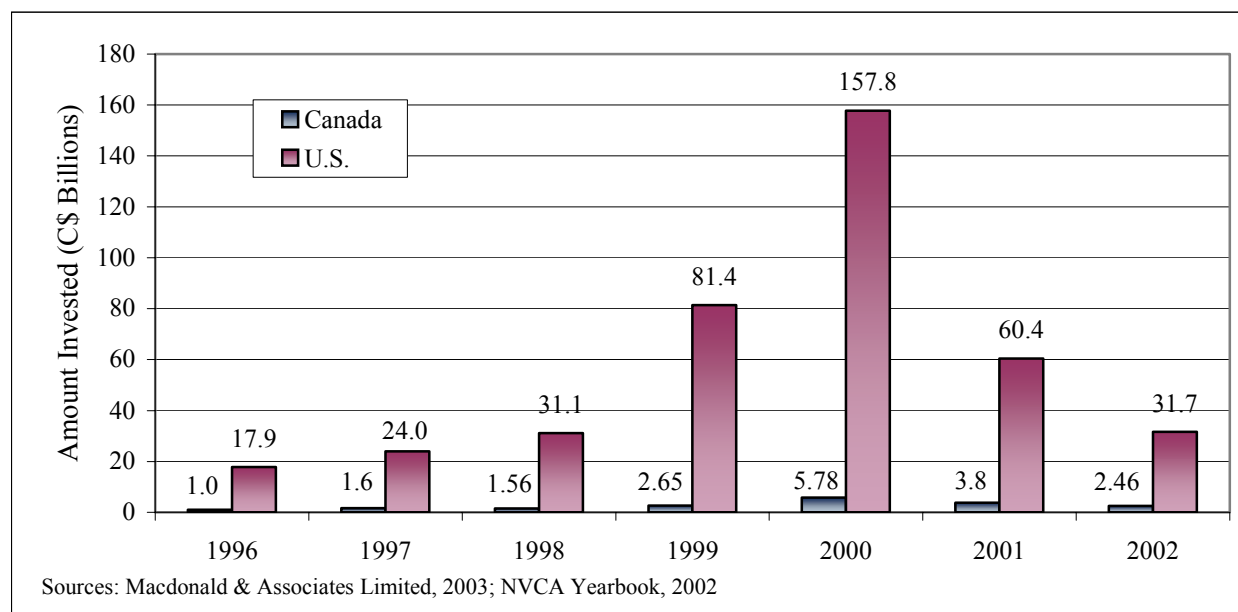
Despite its inherent vulnerability to market fluctuations, the VC industry in the U.S. has been an important player in domestic and international investment markets. The recent history of the Canadian VC industry reflects the fact that VC was virtually absent from the Canadian financial scene as late as the early 1990s. As domestic and foreign investors began pouring VC into Canadian SMEs, the VC industry went through a catch-up phase of accelerated growth.

However, the U.S. VC industry's dramatic climb during the technology bubble, and the steep drop when the bubble burst, were less drastic in Canada. Several factors accounted for this tendency: Canadian investments had been diversified across a wide range of information technology and life sciences sectors, while U.S. venture capitalists had concentrated their investments on the Internet and other computer-related sectors. Also, the relative strength of the Canadian VC industry had been supported by unprecedented cross-border capital flows, which suggests the Canadian VC industry's maturation.

This tendency has helped to shelter the Canadian VC industry from the vagaries of the marketplace. When the investment climate cooled in the U.S., U.S. venture capitalists sought promising investment opportunities north of the border. In 2001 and 2002, some of this capital found its way into a number of large U.S. information technology and telecommunications investments in Ottawa's burgeoning high technology sectors. Ultimately, this confluence of factors diluted the effects of the technology bust in Canada. However, Canada also experienced its own bust in the middle of 2002, when activity in the communication and networking sector (particularly in Ottawa) declined precipitously, influenced in part by a perceived sector glut, public market resistance to technology stocks, and the financial and corporate government problems of telecommunications giants such as WorldCom.

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54. For the purpose of this paper, an average exchange rate of 1.5 percent has been calculated for 1996–2002 based on information from the United Nations Statistics Division (<http://unstats.un.org>).

**Figure 13: Summary of Venture Capital Activity Trends in Canada and in the United States, 1996–2002**

### ***Comparison of return performance data in Canada and the United States***

As explained in the previous section, the CVCA published the first performance data on Canadian VC funds in 2002 and 2003. While this is a major positive development for the Canadian VC market, some methodological differences exist between Canadian and U.S. returns data, which complicates comparisons of Canadian and U.S. returns.<sup>55</sup> However, keeping in mind these differences, some key observations can be taken from tables 7 and 8, which present the performance of VC and private equity funds in Canada and the U.S. (as of December 31, 2002).

- Generally, the U.S. VC industry appears to outperform the Canadian industry for one-, three- and five-year periods. However, a more detailed review of Canadian returns suggests that for the top quartile, which contains many private limited partnerships, Canadian returns are competitive with the top U.S. quartile.
- Compared to other investment vehicles, such as the S&P/TSX and S&P 500, the Canadian VC industry offered competitive returns before 2002. However, as a result of the technology bust and the market downturn since 2001, the 2003 returns data present a more negative picture. Clearly, data over a minimum of 10 years would provide a better comparison of the performance of the Canadian VC industry versus other asset classes, and would provide investors with solid and reliable data upon which to evaluate their investment decisions.

55. For example, Canadian returns data are gross, whereas U.S. data are net of management costs and other fees. As well, the returns data do not reflect the different structure and composition of the Canadian and U.S. VC markets.

As explained by Gompers (see Part I), periods of incredible performance returns increase the interest of investors, attract more venture capitalists to the VC industry, and thereby increase fundraising and investment. These tendencies increase the number of venture capitalists, many of whom are relatively new to the industry and, thus, tend to lack the expertise and skills required to adequately assess business opportunities and risks. As the market becomes saturated, a wider range of firms, many of which would not represent viable investment opportunities under normal market conditions, are able to attract VC. In North America, particularly in the U.S., this stimulation of VC activity was followed by a decline in performance returns and a concomitant drop in investor confidence and interest.

**Table 7: Performance Returns of Venture Capital and Private Equity Funds in Canada and in the United States as of 12/31/2001**

	1 Year		3 Years		5 Years		10 Years	
	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.
<b>Early-Stage VC</b>	-25.1	-28.0	-5.8	18.4	2.3	42.5	-	32.9
<b>Balanced VC</b>	-26.5	-19.0	-11.6	19.9	-5.4	22.2	-	22.0
<b>All VC</b>	-25.0	-22.1	-9.6	15.0	-3.1	26.7	-	26.0
<b>Buyout Funds</b>	-	-8.2	-	-4.2	-	1.6	-	9.1
<b>Mezzanine Debt</b>	-	-1.6	-	5.2	-	7.7	-	11.1
<b>Buyout and Mezzanine</b>	7.0	-	8.5	-	11.6	-	-	-
<b>All Private Equity</b>	-21.3	-12.1	-7.5	1.2	-1.3	8.4	-	15.2

Sources: CVCA, 2003; NVCA Yearbook, 2003

**Table 8: Five-Year Rolling Averages: Venture Capital Versus Public Markets**

	VC		S&P/TSX	S&P 500	NASDAQ
	Canada	U.S.			
<b>1996</b>	-	21.5	-	12.2	17.1
<b>1997</b>	-	24.9	-	17.4	18.3
<b>1998</b>	-	25.7	-	21.4	23.1
<b>1999</b>	-	46.9	-	26.2	40.2
<b>2000</b>	-	45.5	-	16.5	18.6
<b>2001</b>	13.3	34.6	-	9.2	8.6
<b>2002</b>	-25.0	26.7	1.3	-3.0	-7.0

Sources: NVCA Yearbook, 2003; CVCA, 2003

#### 1.4.1.2 Recent Situation — Canada and United States Venture Capital Activity Trends Since 2001

*The Canadian venture capital industry has been more stable than the United States' industry since 2001, except for the first half of 2003*

U.S. VC investments declined significantly in 2001 and 2002, the first decline since 1993. VC investment fell from \$105.9 billion (C\$159 billion) in 2000 to \$40.6 billion (C\$61 billion) in 2001 and \$21.2 billion (C\$32 billion) in 2002. The capital invested in 2002 represented nearly a 50-percent decrease from 2001 (compared to a 35-percent decline in Canada over the same period). As a result, investment levels in the U.S. in 2002 were comparable to those last seen in the prebubble year of 1998, when \$21.6 billion (C\$32.4 billion) was disbursed. A similar but less pronounced trend occurred in Canada, where VC investments declined by 34 percent and 35 percent in 2001 and 2002, respectively, down from \$5.8 billion in 2000 to \$3.8 billion in 2001 and \$2.5 billion in 2002, which is comparable to VC investments in 1998 (\$1.6 billion) and 1999 (\$2.7 billion).

The relative trends since the beginning of the decline of VC activity in 2001 were reversed during the first nine months of 2003. In the first three quarters of 2003, Canadian VC activity declined more sharply than U.S. VC activity, with investments totalling C\$920 million — a 46-percent drop from the first nine months of 2002. In the U.S., VC investments declined by 27 percent, from C\$25.2 billion in the first nine months of 2002 to C\$18.4 billion in the first three quarters of 2003.

#### 1.4.2 Comparison: Canada–Organisation for Economic Co-operation and Development Countries

*Canada is among the leading Organisation for Economic Co-operation and Development countries*

While the comparative performance of Canada and the U.S. can be measured relatively accurately, comparisons between Canada and other countries have been hampered by the lack of a common definition of VC, and by other methodological disparities. Consequently, existing studies on international VC markets must be treated cautiously.

According to the OECD (see Figure 14), Canada's VC market is well placed internationally and stands second behind only the U.S. in terms of VC investments as percentage of GDP allocated to early-stage and expansion investment.<sup>56, 57</sup> In other words, while the Canadian VC industry is relatively young and small compared to the U.S. VC industry, it is much more mature compared to that of any other OECD country.<sup>58</sup> A more detailed analysis of smaller countries that are trying to develop their VC markets, such as Australia, Israel or India, would probably be more appropriate and useful to Canadian policy-makers.

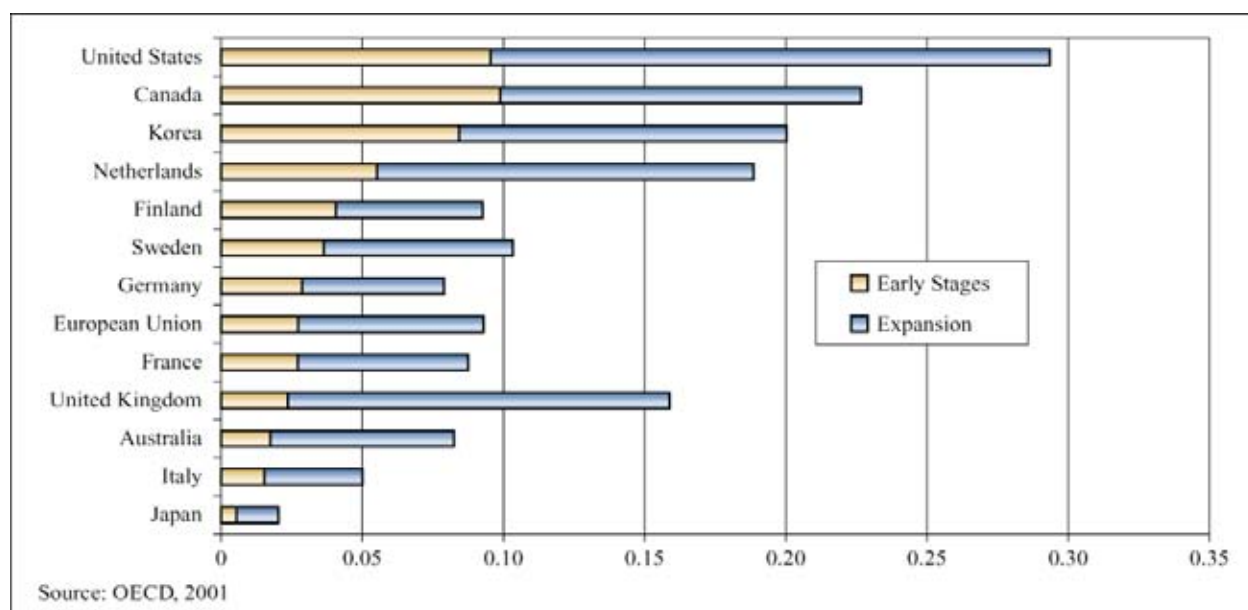
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56. John K. Thompson and Sang-Mok Choi, *Risk Capital in OECD Countries: Recent Developments and Structural Issues* (OECD, 2001).

57. Guusseli Baygan and Michael Freudenberg, *The Internationalisation of Venture Capital Activity in OECD Countries: Implications for Measurement and Policy* (OECD, 2000).

58. Figure 14 only covers the period from 1995 to 2000 and, as a result, does not reflect the recent decline of U.S. activity levels and the relatively stable level of Canadian investments as a percentage of GDP.

**Figure 14: Venture Capital Investments as a Percentage of Gross Domestic Product Among Key Organisation for Economic Co-operation and Development Countries, 1995–2000**



## 2. Venture Capital Deal Size Trends

As discussed in the previous section, VC investment data for 1996 to 2002 reveals not only increased levels of VC activity, but also an increasing preference of Canadian and U.S. investors for larger VC deals. This has resulted in an increased average deal size in both countries.<sup>59</sup>

While many factors inform VC investment decisions, the size of the financing appears to be, more than ever, a determining factor of whether a VC deal is concluded. While this can probably be explained by the fact that VC funds have had more capital available to invest, particularly in the U.S., the higher capital requirements of high technology firms, and the fixed costs involved with due diligence of investment proposals and monitoring of investee firms, feeds into the tendency toward syndication and larger deals.

Unfortunately, as explained previously, there is not enough information on the demand for VC, particularly on the amount of capital sought by Canadian SMEs versus the amount secured through VC. As a result, it is difficult to draw general conclusions about whether the current average deal size of Canadian VC investments meets the capital needs of Canadian SMEs,

59. The average size of VC investment can be analyzed in two main ways: taking the average size of financings or deals, which is the total amounts invested divided by the number of deals; or taking the average size of investment per company, which is the total amounts invested divided by the number of companies financed. Before 2002, the first method — average deal size — was used by Macdonald & Associates Limited to report on the average size of VC investments. However, since 2002, the second method — average size of investment per company — has been used. While this does not affect the general trends, the average size of investment per company tends to be larger than the average deal size, as some companies may receive more than one deal and the number of deals generally exceeds the number of companies financed.



and, more precisely, whether the amounts and average size of financing of very small, small, medium-sized, and large deals are adequate.

Nonetheless, this section examines deal size trends within the context of the large capital requirements of most high technology firms (particularly life sciences companies) and the relative smaller average deal size in Canada compared to the U.S. Outstanding policy issues related to these trends are presented and discussed in Section 9 and in Part IV.

### **Highlights**

- The emergence of high technology firms and stronger financing activity contributed to an increased preference for large VC deals and higher average deal sizes.
- The amounts invested in large deals increase by 274 percent between 1996 and 2002, from \$471 million to \$1.8 billion.
- The average deal size increased from \$1.7 million in 1996 to \$3 million in 2002 (down to \$1.8 million in the first nine months of 2003). The average over the period was \$2.7 million.
- Larger deals were concentrated in Ontario and among information technology firms, while smaller deals were mostly focussed in Quebec.
- Canadian deals were much smaller than U.S. deals, averaging C\$2.7 million versus C\$12 million.

## ***2.1 1996–2002 Overall Venture Capital Deal Size Trends and Analysis***

The VC investment data for 1996–2002 reveal two key related deal size trends.

1. Canadian (and U.S.) VC investors increasingly preferred large VC deals. Amounts invested in large deals increased by 274 percent (from \$471 million in 1996 to \$1.8 billion in 2002), and the average share of total investment grew by 57 percent (from 46 percent of total in 1996 to 80 percent of total in 2000 and 71 percent in 2002). This left fewer resources for very small and small transactions. More details about the growth of large deals compared to small deals are provided in this section.
2. The average deal size grew from \$1.7 million in 1996 to \$3 million in 2002 (with a peak of \$4.3 million in 2000 during the technology boom).

As explained in Section 1.2, several related factors account for the deal size trends between 1996 and 2002.

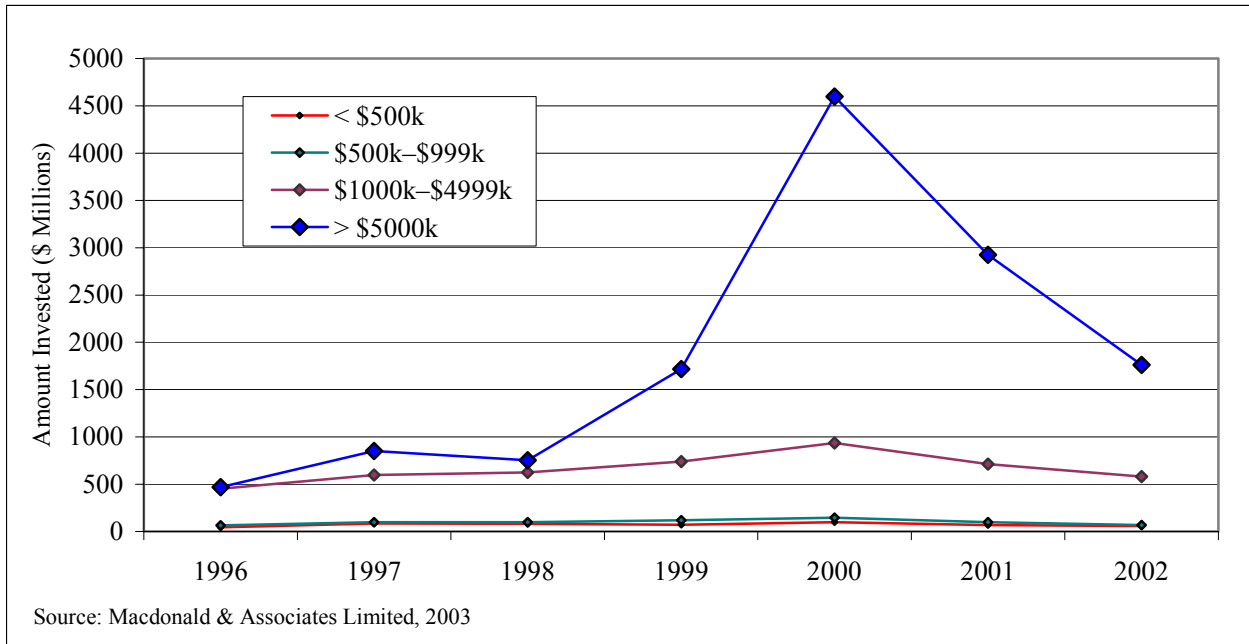
- The emergence of successful high technology firms, particularly those in information technology and life sciences, has attracted an increasing proportion of VC investments. These firms have high capital needs, so these transactions tend to be larger deals.
- Canadian and foreign VC investors are increasingly confident in the quality of deals and in the future prospects of emerging technology companies (information technology in

particular). This confidence contributed to the overall increase in VC fundraising and investment activity from \$1.7 billion in 1996 to \$3.2 billion in 2002. This increase was essential to the growing amount of VC funds available for investment, particularly since they were targeted to innovative high technology firms with high capital needs.

- The difficult market conditions may have discouraged venture professionals from making new investments. These conditions may have compelled them to inject greater amounts of money into established firms and information technology companies that required large investments and longer timeframes.
- The last factor is the increasing syndication of VC deals, particularly syndication involving U.S. VC investors. In fact, most of those large financings from 2000 to 2002 would probably not have been possible without U.S. and other foreign co-investments, particularly in key information technology sectors, such as communications and networking and semiconductors. While the rates of co-investment are also high in Quebec, financings have not benefited from leveraging U.S. sources to the same extent.

As a result, it appears that the increasing trend toward larger deals, and the increasing average deal size were driven by the emergence and success of Canadian (and U.S.) high technology firms. In Canada, these firms were mostly located in Ottawa, Vancouver and Montréal. Conversely, the growth of the technology sectors in these cities has depended on the VC industry’s support. More sectoral and regional trends are presented in sections 5 and 6.

**Figure 15: Venture Capital Investment Trends by Deal Size, 1996–2002**



## Venture capital investments trends by deal size

### *Very small deals*

While the value and number of very small deals (less than \$500 000) increased between 1996 and 2002, the data suggest that very small transactions have not benefited much from the overall increase in total VC investments over the period.

In fact, as the amount invested in very small deals increased by 26 percent (from \$45 million in 1996 to \$57 million in 2002), the amount invested in large deals increased by 274 percent (from \$470 million to \$1.8 billion). As well, while the number of very small transactions increased by 21 percent (from 232 to 281), the number of large transactions increased by 154 percent (from 57 to 145). As a result, even if very small transactions have attracted more disbursements and deals in recent years, the total capital invested in these deals has remained relatively small compared to the amounts invested in large deals. As a result, over the 1996–2002 period, very small deals' share of total VC investments fell 47 percent, capturing a seven-year average of 3 percent of VC investments.

Despite the declining dollar share invested in very small deals (compared to large deals), the Canadian VC market has been relatively dynamic in terms of the number of very small transactions, with an average share of 38 percent of the total number of VC deals between 1996 and 2002. In fact, Canadian firms, especially in Quebec, seem to have good access to very small deals, possibly because the BDC has recently created specialized seed funds and because of the increasing number of financings in Quebec, where financings are generally smaller. As a result, the average size of deal in this category remained relatively stable at \$203 000 over the period.

### *Small deals*

Small deals (\$500 000 to \$1 million) experienced the smallest growth in terms of dollars invested and number of deals from 1996 to 2002. Small investments increased by only 5 percent (from \$64 million to \$67 million) and the number of deals grew by 10 percent (from 96 to 106) over the period. This slower growth (compared to other deal size categories) meant that small deals captured a diminishing share of total VC investments and deals over the period.

In 1996, small transactions attracted a 6-percent annual average share of total VC investments and 16 percent of deals, compared to 3 percent and 13 percent, respectively, in 2002. In fact, between 1996 and 2002, small transactions captured a 4-percent annual average share of total VC investments and 16 percent of the number of deals. As a result of this marginal increase in both the amounts invested and the number of transactions since 1996, the average deal size remained relatively constant, at \$656 000, suggesting that these deals are at the smaller end of the \$500 000 to \$1 million range.

These trends reveal that the Canadian VC market has been somewhat less dynamic in providing small VC deals than it has been in financing very small deals.

### *Mid-sized deals*

As was the case with very small deals, mid-sized VC transactions did not benefit much from the overall increase of total VC activity between 1996 and 2002. Mid-sized deals (\$1 million to

\$5 million) grew by 28 percent (from \$453 million to \$581 million), compared to 274 percent for large deals, and the number of mid-sized financings increased by 40 percent (from 202 to 282), compared to 154 percent for large deals. As a result, their average annual share of total VC investments declined by 46 percent between 1996 and 2002 (from 44 percent to 24 percent) to settle at 30 percent. The average annual share of total transactions remained relatively constant, between 30 percent and 35 percent (with 33 percent of the total number of deals over the period).

It appears that the increase in VC activity since 1996 has had little effect on SMEs' access to mid-sized financings. Furthermore, while the number and amount invested in mid-sized deals has increased modestly, the average amount of financing available in this category remained relatively constant at \$2.2 million, in the middle of the \$1 million to \$5 million range.

### ***Large deals***

The investment pattern in large financings confirms the increasing preference of venture capitalists for large deals of more than \$5 million. The tremendous growth of this deal category from 1996 to 2002 produced most of the expansion of Canada's VC industry since 1999. These transactions totalled \$471 million (46 percent of total VC investment) in 1996, peaked at \$4.6 billion (80 percent of total) in 2000, and settled at \$1.8 billion (71 percent of total) in 2002. Between 1996 and 2002, the value of these investments grew by 274 percent. As well, the number of large transactions increased by 154 percent, from 57 in 1996 to 145 in 2002.

These transactions were also the key drivers of the increasing average deal size in Canada. The average deal size in this category was \$12.4 million between 1996 and 2002. It was \$8.3 million in 1996, rose to \$18.9 million in 2000, but fell to \$12.2 million in 2002. A higher average deal size and a focus on larger deals suggest that, in relative terms, firms seeking smaller amounts are facing increasing difficulties accessing financing. However, the increasing preference of VC investors for large deals has helped the VC industry generally, and can be attributed to their stronger interest in more capital-intensive sectors, such as information technology and life sciences. This strong indicator of the Canadian VC industry's growth has made larger amounts of capital available to high technology firms.

However, little information is available on the demand for VC and on whether the amounts provided through increasingly large deals meet the needs of most Canadian firms. Without such information, it is extremely difficult to determine whether there is indeed a gap in smaller deal sizes. As a result, the key problem appears to be not so much accessing small VC financings but, rather, securing the larger amounts required to commercialize research and development (R&D) products. This may be particularly true for firms in specific sectors that require adequate capital and time to bring a product to market, as is the case in the biotechnology sector.

### ***Sectoral focus — information technology is the driver of larger deals trends***

While both the information technology and life sciences sectors enjoyed a considerable boom in VC investments between 1996 and 2002, the information technology sector was the main driver of the overall increase in VC activity in Canada. The large capital requirements of these transactions accounted for the tendency towards larger deals. Information technology attracted an average of 66 percent of large deals (compared to 17 percent for life sciences, 14 percent for traditional sectors, and 3 percent for other technologies). In fact, traditional sector transactions

(e.g. consumer and business services, manufacturing, and retailers) counterbalanced the information technology and life sciences trends by acting as a brake on deal-size growth over the period. These sectors captured a 40-percent average share of very small deals and 33 percent of small deals. See Section 5 for more sectoral trends.

The emergence of information technology firms led to larger deals and to the increase in average deal size in recent years. It follows that the creation and emergence of more information technology and life science firms will augment the growth of the Canadian VC industry.

However, the deal size data do not address the specific concerns of life sciences firms. In general, life sciences firms tend to require very large amounts of capital to research, develop and commercialize new products. However, according to the data, the average deal size for life sciences firms was significantly lower (\$2.7 million) than that of information technology firms (\$3.5 million) from 1996 to 2002.

Without more qualitative and quantitative data about the demand for VC by life sciences firms, it is extremely difficult to determine whether there is a deal-size gap in this sector. Alternatively, other shortcomings may prevent these firms from obtaining capital, such as the quality of business proposals, the experience and expertise of the management team, or the long incubation period associated with life sciences investments.

***Regional focus — very small and small transactions are concentrated in Quebec and large transactions are concentrated in Ontario***

Between 1996 and 2002, most of the VC investment activity — the very small, small, mid-sized and large deals — followed emerging computer-related and high technology sectors to Greater Toronto, the Ottawa Valley and Greater Montréal. However, the deal sizes vary significantly from region to region.

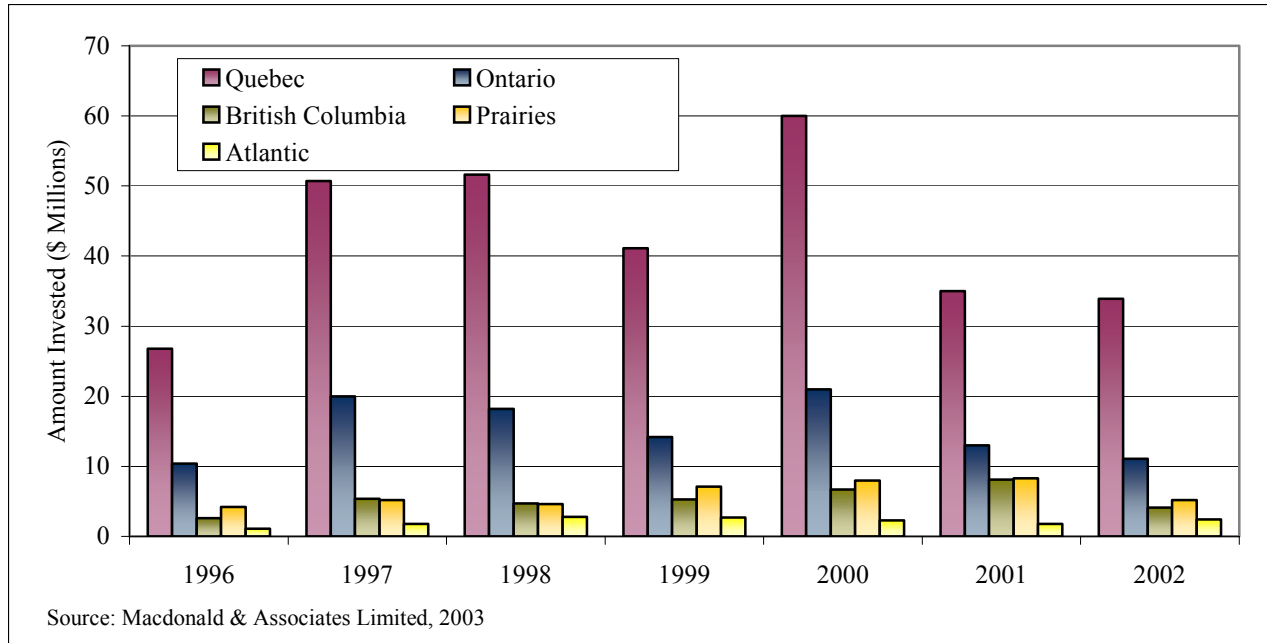
As shown in figures 16, 17, 18 and 19, very small and small transactions were concentrated in Quebec, which attracted an average share of 60 percent and 50 percent, respectively, from 1996 to 2002 (compared to 22 percent and 26 percent in Ontario, and 7 percent and 9 percent in B.C.). Until 1998, Quebec dominated the Canadian VC scene, as measured by number of deals, deal size and capital invested. Since 1999, Quebec has continued to exceed the other provinces in terms of number of deals, but has fallen behind in terms of deal size and capital invested.

Given Quebec's strong focus on life sciences firms, it is hard to explain this lower average deal size, since normally the emergence of life sciences firms' higher capital requirements should lead to larger deals. VC in Quebec tends to involve many small transactions, which lowers the average deal size. More information on the capital needs of life sciences firms would help to determine whether there is a size gap for this sector in Canada, particularly given that the average VC deal for U.S. life sciences firms was much higher (C\$16 million in the U.S. compared to C\$2.7 million in Canada in 2002).

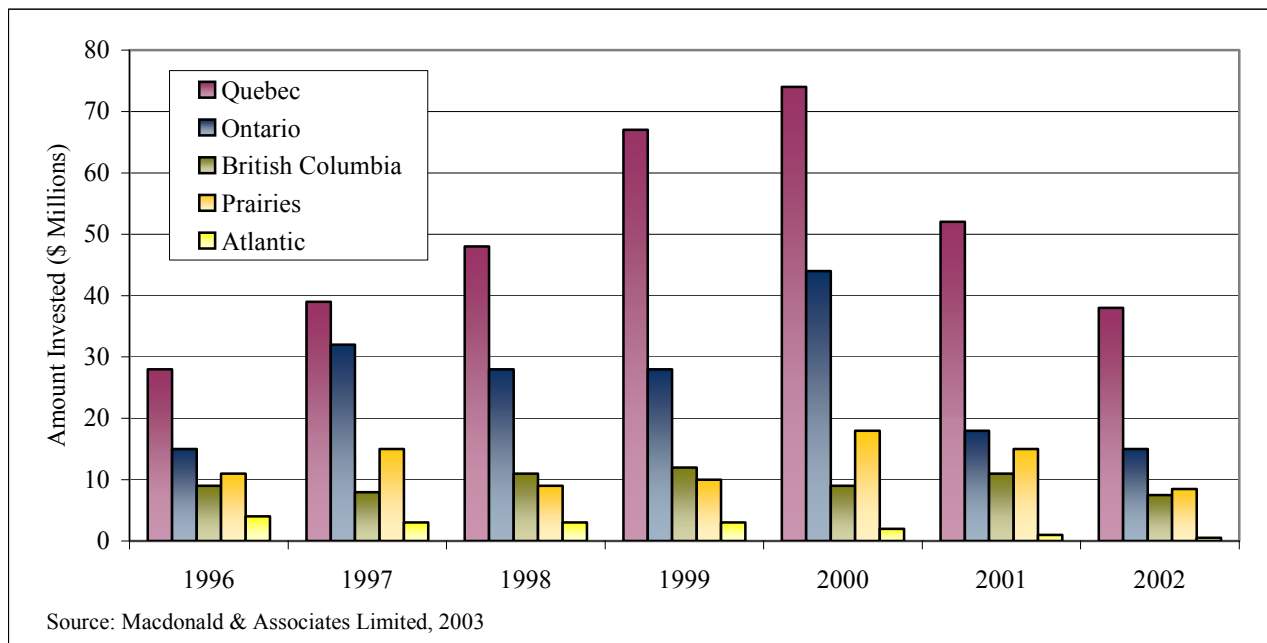
For mid-sized deals, Ontario and Quebec each attracted 39 percent of the total, B.C. captured 10 percent and Alberta accounted for 5 percent.

Large deals, on the other hand, have been concentrated in Ontario, which attracted 59 percent, on average, between 1996 and 2002, compared to 23 percent for Quebec and 12 percent for B.C. Ontario has also had a greater share of large financings, capturing 64 percent of large financings in 2000, 62 percent in 2001, and 60 percent in 2002.

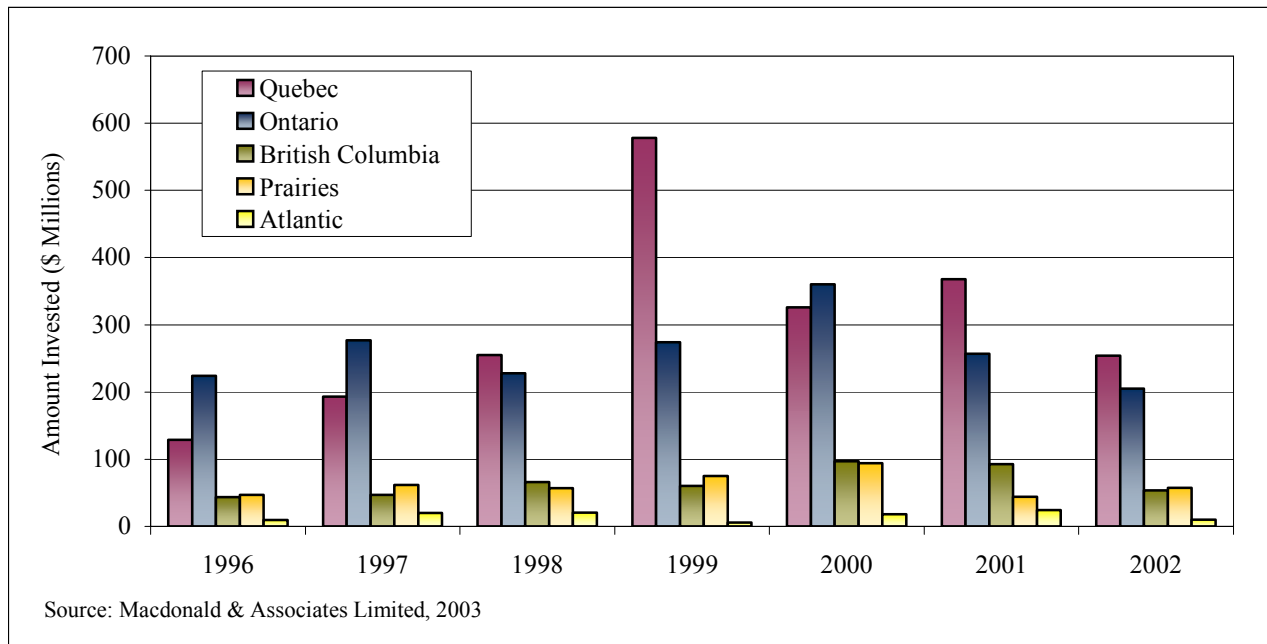
**Figure 16: Regional Distribution of Very Small Deals (< \$500 000), 1996–2002**



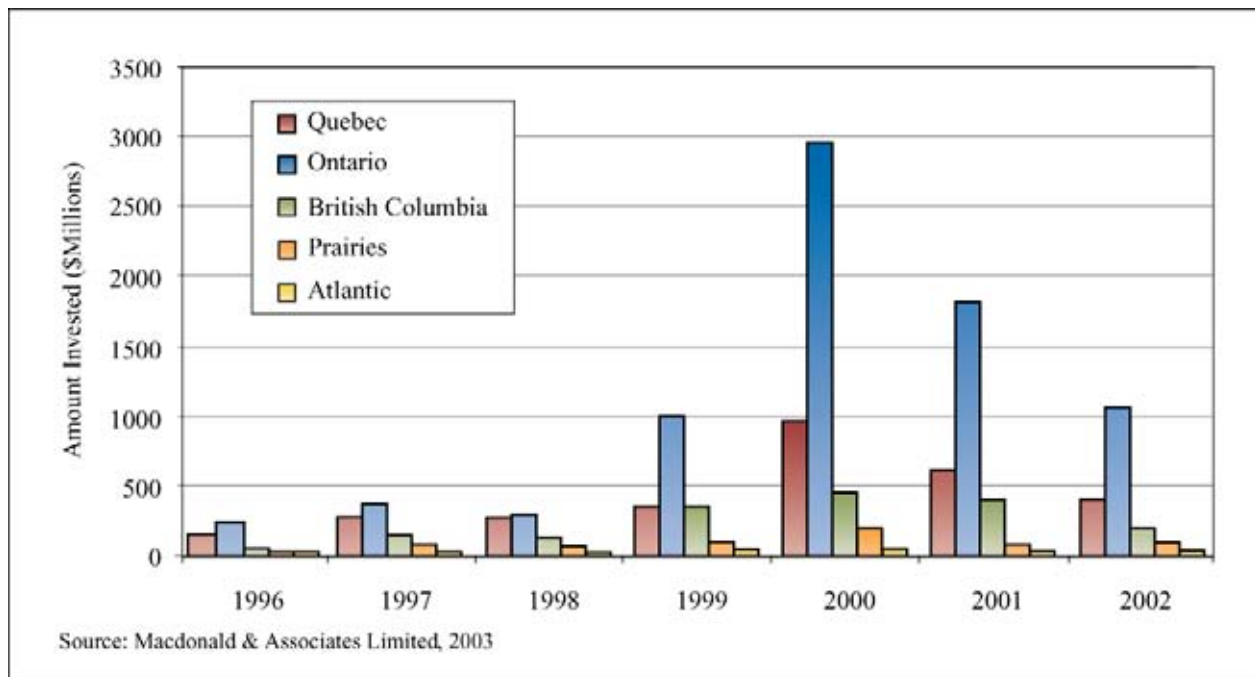
**Figure 17: Regional Distribution of Small Deals (\$500 000 to \$1 Million), 1996–2002**



**Figure 18: Regional Distribution of Mid-Sized Deals (\$1 Million to \$5 Million), 1996–2002**



**Figure 19: Regional Distribution of Large Deals (\$5 Million and Over), 1996–2002**



To illustrate these trends, Table 9 shows that larger technology financings in Ontario and B.C. (as opposed to the more numerous, smaller financings prevalent in Quebec) have continually outperformed the Canadian average deal size over the last seven years. See Section 5 for more details on regional trends.

**Table 9: Average Deal Size by Region, 1996–2002 (\$ Millions)**

	1996	1997	1998	1999	2000	2001	2002	Average 1996–2002
<b>Ontario</b>	2.6	2.4	2.0	4.5	7.9	7.1	5.8	4.6
<b>Quebec</b>	1.2	1.3	1.2	1.6	2.3	2.3	1.8	1.7
<b>British Columbia</b>	2.1	2.6	2.4	3.4	4.5	4.7	3.1	3.3
<b>Alberta</b>	2.0	1.5	2.2	3.2	3.8	3.1	3.1	2.7
<b>Saskatchewan</b>	0.9	0.8	1.8	1.7	2.2	1.8	1.9	1.6
<b>Manitoba</b>	1.7	3.7	1.2	1.4	1.0	0.7	0.8	1.5
<b>Prairies</b>	1.5	2.0	1.8	2.0	2.5	1.4	1.8	1.8
<b>Atlantic</b>	1.4	1.2	1.2	2.1	2.2	1.7	2.2	1.7
<b>Canada</b>	1.8	1.8	1.6	2.7	4.3	3.9	2.9	2.7

Source: Macdonald & Associates Limited, 2003

## ***2.2 Recent Situation in Venture Capital Deal Size Trends***

### ***Greater concentration in larger transactions since 2001, but smaller deals in 2003***

While large transactions attracted a commanding 71-percent share of total investments in 2002, and the average deal size reached \$3 million, these large deals were almost absent during the first nine months of 2003. Accordingly, the average deal size fell sharply from \$3 million in 2002 to \$1.8 million. Although not necessarily a lasting trend, this tendency arose as a number of companies began investing significantly less VC. According to Macdonald & Associates Limited, megadeals simply were not concluded in the first six months of 2003. However, the third quarter showed positive developments, and the fourth quarter may reveal continued increases in activity level and size.

**Table 10: Top 10 Transactions in Canada in 2002**

Name	City	Province	Size of Transaction (C\$M)
Catena Networks	Kanata	Ont.	113
Innovance Networks Inc.	Ottawa	Ont.	88
Hyperchip Inc.	Montréal	Que.	70
SiGe Semiconductor	Ottawa	Ont.	64
Silicon Access Networks	Ottawa	Ont.	59
Inkra Networks	Burnaby	B.C.	46
Trillium Photonics Inc.	Ottawa	Ont.	44
ITF Optical Technologies Inc.	St-Laurent	Que.	38
Castek Software Factory Inc.	Toronto	Ont.	34

Source: Macdonald & Associates Limited, 2003



### ***2.3 Comparison: Canada–United States***

Canada's VC community is dwarfed by its U.S. counterpart. Between 1996 and 2002, the average size of Canadian VC transactions increased by 72 percent, from \$1.8 million to \$3 million, and reached an average deal size of \$2.7 million. In 2000 and 2001, the average deal size reached \$4.3 and \$4 million, but the average deal size in the U.S. has consistently hovered between three and four times that in Canada — C\$6.5 million in 1996 and C\$12.6 million in 2002.

This deal-size gap can probably be explained by three factors:

1. The U.S. VC market has more and larger VC funds, which can access a deeper pool of institutional investment to provide capital for larger transactions. See Section 7 for more details on investor trends, including institutional investment trends.
2. U.S. high technology firms are more successful and more concentrated, particularly in the Silicon Valley and Boston areas.
3. The higher syndication rate in the U.S. has probably, through the pooling of capital and sharing of risk, permitted the U.S. VC industry to finance larger deals.

This higher average deal size in the U.S. often leads many to believe that Canadian VC investors are more risk averse than are their U.S. counterparts, which may have some merit. However, it may also be that U.S. investors have too much capital to do small transactions, which could reflect a lower interest from U.S. venture capitalists in small deals and a more risk-averse industry (particularly since the technology bust). As well, it may be that U.S. investors tend to syndicate more, which enables them to share risks and finance larger deals. As a result, the general perception that Canadian VC investors are more risk averse must be weighed against the relative size of the two VC markets, and must consider syndication practices. Unfortunately, neither the National Venture Capital Association nor Venture Economics report on VC investment trends by deal size, which makes it difficult to answer these questions conclusively.

Nonetheless, there is a significant difference in average deal size, a gap that does raise fundamental issues for Canadian firms, particularly life sciences firms, which tend to require more capital to bring new products to market. The sectoral trends and the deal-size issues by sector are explained in detail in Section 5, while Section 9 discusses key strengths, weaknesses and policy issues. These are also discussed in the analysis of gaps in Part IV.

### 3. New Versus Follow-On Venture Capital Investments Trends

As previously discussed, the recent market downturn has reduced overall VC activity and fostered a more conservative, risk-averse investment climate. This has had a profound effect on new deal activity. Canadian and U.S. venture capitalists have focussed on follow-on rounds of financing in existing investee firms. This has limited the direction of their disbursements and reduced venture capitalists' appetite for first-time deal activity, regardless of the quality of the innovative businesses that approach them. This trend has created significant challenges for Canadian entrepreneurs seeking initial VC.

This section details the trend toward follow-on investments and shows how this is complicating access to initial VC. These trends raise a number of policy issues and questions, in particular for seed and start-ups firms that are more likely to seek initial VC. These issues are presented in Section 9 and in Part IV as part of the gap analysis.

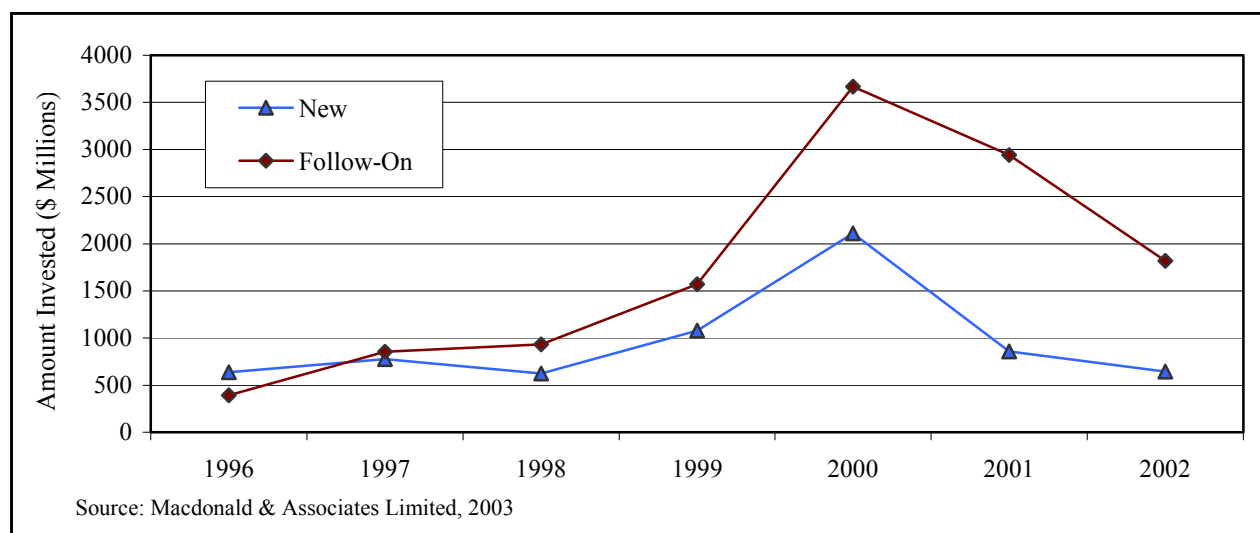
#### Highlights

- With the emergence of high technology firms, new VC financings increased significantly during the mid-1990s, accounting for about 60 percent of total investments in 1996.
- However, as investee firms matured, and with the market downturn since 2001, follow-on investments became less risky and more attractive to VC investors.
- There was a 40:60 ratio of new versus follow-on investments from 1996 to 2002. That ratio was 26:74 in 2002 and 30:70 in the first nine months of 2003.
- Despite the decline of new investments in both countries, Canadian venture capitalists remain more willing to finance new investments than U.S. venture capitalists. New deals represented an average of 40 percent of total investment in Canada between 1996 and 2002, compared to 30 percent in the U.S. In 2002, new deals captured 26 percent in Canada, compared to only 13 percent in the U.S.

#### ***3.1 1996–2002 Overall New Versus Follow-On Venture Capital Investment Trends and Analysis***

##### ***Significant rise in follow-on financings***

The rapid growth of high technology sectors drove the growth of the VC industry in the 1990s. As a result, new financings increased significantly throughout the early to mid-1990s (along with all types of financings) and accounted for about 60 percent of total investments and 50 percent of the financings made in 1996. As investee firms matured and developed, this trend toward new financings gradually began to reverse in 1997, especially after the market slowdown in 2001. As a result, the Canadian VC industry has become more attracted to the security of existing portfolio companies (see Figure 20).

**Figure 20: New Versus Follow-On Venture Capital Investment Trends, 1996–2002**

The data from 1996 to 2002 confirm this trend toward follow-on investment:

- **Amounts invested in follow-on investments** increased by 362 percent, from \$394 million to \$1.8 billion, compared to an increase of only 1 percent for new financings, from \$639 million to \$646 million.
- **The average share of total follow-on investments** increased by 94 percent, from 38 percent in 1996 to 74 percent in 2002. The average share in the period was 61 percent. By contrast, for new investments the share dropped from 62 percent to only 26 percent, for an average share of 32 percent over the period.
- **The number of follow-on transactions** increased by 96 percent, from 280 deals to 500, and captured a 60-percent annual average of total transactions. New deals declined 52 percent, from 307 (52 percent) to 264 (32 percent).

This trend can be explained by the market context of a tightening investment climate and diminishing exit opportunities, which forced venture capitalists to maintain investments in portfolio companies, and reduced their appetite for new transactions. According to Macdonald & Associates Limited, high technology entrepreneurs seem to encounter fierce challenges when approaching investors for the first time, especially during tightening market conditions.

#### ***Deal size focus — large transactions dominate new and follow-on investments***

Consistent with overall VC deal-size trends, both new and follow-on financings showed an increasing preference for larger deals between 1996 and 2002. The desire to reduce due diligence costs, and the increasing capital needs of high technology firms may account for this tendency.

- **New deals** — In 1996, 54 percent of new deals were mid-sized transactions and 33 percent were large deals. By 2000, 84 percent of new deals were large transactions, and the share of mid-sized financings had fallen to 13 percent. The numbers levelled off somewhat in 2002,

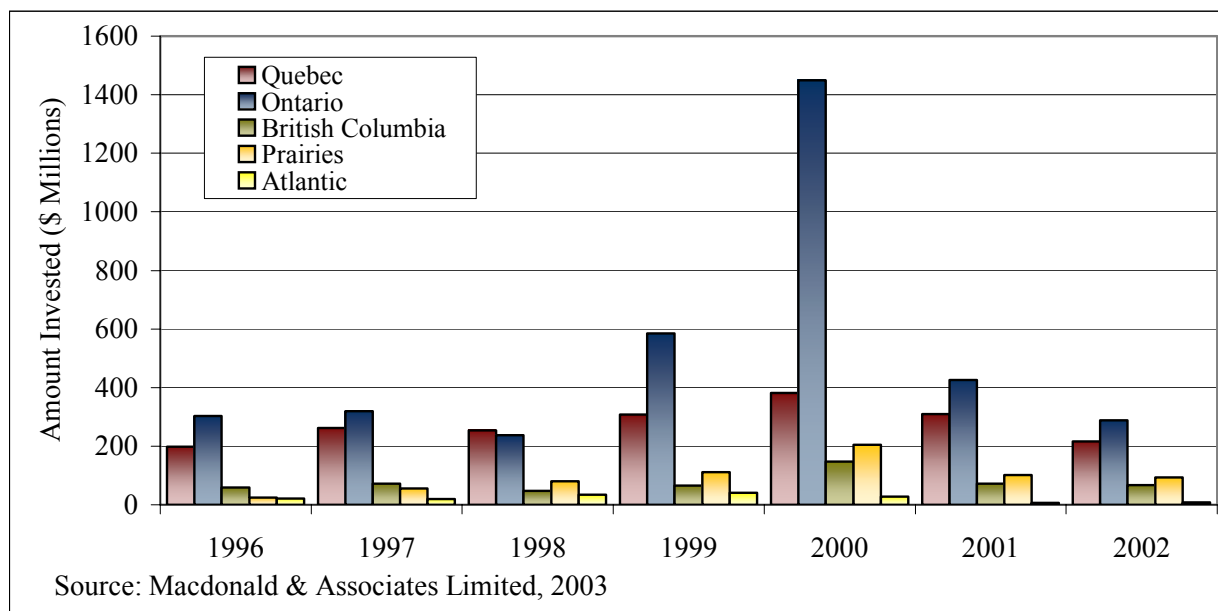
when 71 percent of new deals were large financings and 24 percent were mid-sized deals. However, large financings made greater gains in new-deal activity (an increase of 242 percent) than in follow-on financings (which increased by 136 percent).

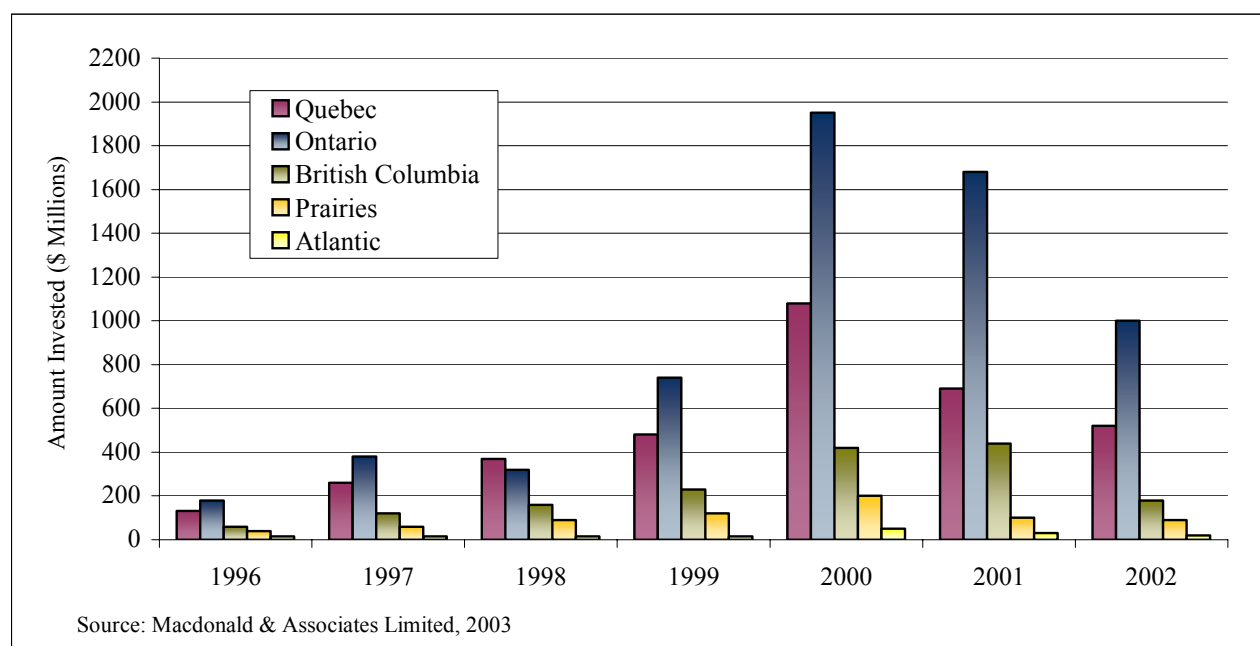
- **Follow-on financings** — In 1996, 82 percent of follow-on financings were either mid-sized or large deals. By 2002, 96 percent of follow-on investments were mid-sized and large deals. Since follow-on financings are often tailored to meet the larger capital needs of firms at later stages of development, they tend to be larger than initial financings. From 1996 to 2002, the average deal size was \$3.1 million (compared to \$2.6 million for new investments).

**Regional focus — new and follow-on deals are concentrated in Ontario and Quebec**

As with the regional distribution of overall VC activity in Canada, most new and follow-on financings were concentrated in Ontario, Quebec and B.C. Over the 1996–2002 period, Ontario and Quebec captured an average share of 54 percent and 29 percent of total new deals, and 51 percent and 29 percent of follow-on deals, respectively, while B.C. attracted an average of 8 percent of new deals and 13 percent of follow-on financings. See Section 6 for more details on regional trends.

**Figure 21: Regional Distribution of New Investments, 1996–2002**



**Figure 22: Regional Distribution of Follow-On Investments, 1996–2002**


### 3.2 Comparison: Canada–United States

#### *Focus on follow-on investments also observed in the United States*

The VC industry's strong preference for follow-on financings is not unique to Canada. In fact, Table 11 reveals that U.S. firms face greater difficulties in accessing new VC financing than Canadian firms do. The typical ratio of new versus follow-on from 1996 to 2002 was 30:70 in the U.S. and 40:60 in Canada. As well, between 1996 and 2002, the amounts invested in the first round of financing in the U.S. declined by 14 percent, but remained relatively stable in Canada.

Although the Canadian VC industry is more focussed on new investments than the U.S. industry, follow-investments have experienced stronger growth over the period and still represent the majority of investments. In Canada, the data show that follow-on investments grew by 362 percent (from \$392 million to \$1.8 billion) compared to 142 percent in the U.S. (from \$11.1 billion to \$27 billion).

**Table 11: Comparison of New Versus Follow-On Venture Capital Investments in Canada and in the United States, 1996–2002**

	1996 (C\$M)		2002 (C\$M)		Increase (percent)		Average Share of Total VC Investments 1996–2002 (percent)	
	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.
<b>New</b>	639	4 950	646	4 270	1	-14	40	30
<b>Follow-On</b>	394	11 120	1 802	27 050	357	143	60	70

Sources: Macdonald & Associates Limited, 2003; NVCA Yearbook, 2003

## 4. Stage-of-Development Trends

VC stage of development trends suggest that seed and start-up firms are facing increasing difficulties, particularly in accessing initial and large amounts of capital. This compounds the problems associated with the recent VC investment slowdown, the deal-size gap with the U.S., and the increasing difficulty in securing new VC financing.

### Highlights

- While investments in seed and start-up firms still represent a small proportion of total VC investment in Canada, these firms have seen some significant improvement to their access to VC, with a growth of 292 percent in the amount invested between 1996 and 2002, from \$137 million to \$536 million.
- Furthermore, the data show that Canadian venture capitalists are relatively more willing to invest in seed and start-up firms than are their U.S. counterparts.
  - In the U.S., seed and start-up investments declined by 80 percent over the same period, compared to an increase of 292 percent in Canada.
  - Seed and start-ups firms' average share of total VC invested between 1996 and 2002 was 17 percent in Canada, but only 5 percent in the United States. In 2002, the numbers were 20 percent in Canada and 1.4 percent in the U.S.

Within the context of these challenges, this section presents the key Canadian and U.S. VC trends by the stage of development of investee firms.

### ***4.1 1996–2002 Overall Stage-of-Development Venture Capital Investment Trends and Analysis***

#### ***Increasing focus on early-stage financings***

The data suggest that the Canadian VC industry has been increasingly active in financing early-stage firms. Between 1996 and 2002, capital invested in early-stage financings grew 255 percent, from \$295 million to \$1 billion. Over the same period, later-stage financings grew 92 percent, from \$738 million to \$1.4 billion. The number of early-stage transactions doubled over the same period, from 212 to 423 transactions, while later-stage financings grew 4 percent, from 375 to 391 deals.

As a result, early-stage investments have captured a growing average annual share of total VC, from 29 percent in 1996 to 44 percent in 2000 and 61 percent in 2001. As a result, early-stage financing captured a 40-percent average share of total VC investments and 45 percent of transactions over the period. While this is less than the 60 percent of VC investments and 55 percent of transactions for later-stage investments (including expansion and other later stages), it represents a significant difference from the U.S. situation, which suggests that Canadian venture capitalists are more willing to invest in younger and riskier firms.

Furthermore, the increase in overall early-stage financing since 1996 has been mostly targeted toward seed firms. VC investment in seed firms increased by 546 percent, from \$14.5 million in 1996 to \$107 million in 2000 and \$94 million in 2002. The growth in seed investment outpaced the growth in start-up (a 262-percent increase, from \$122 million to \$442 million) and other early-stage firms (a 223-percent increase, from \$158 million to \$511 million). The recent proliferation of seed funds across Canada, led by the BDC, may account for this increase. See Part III for more details on specific government programs.

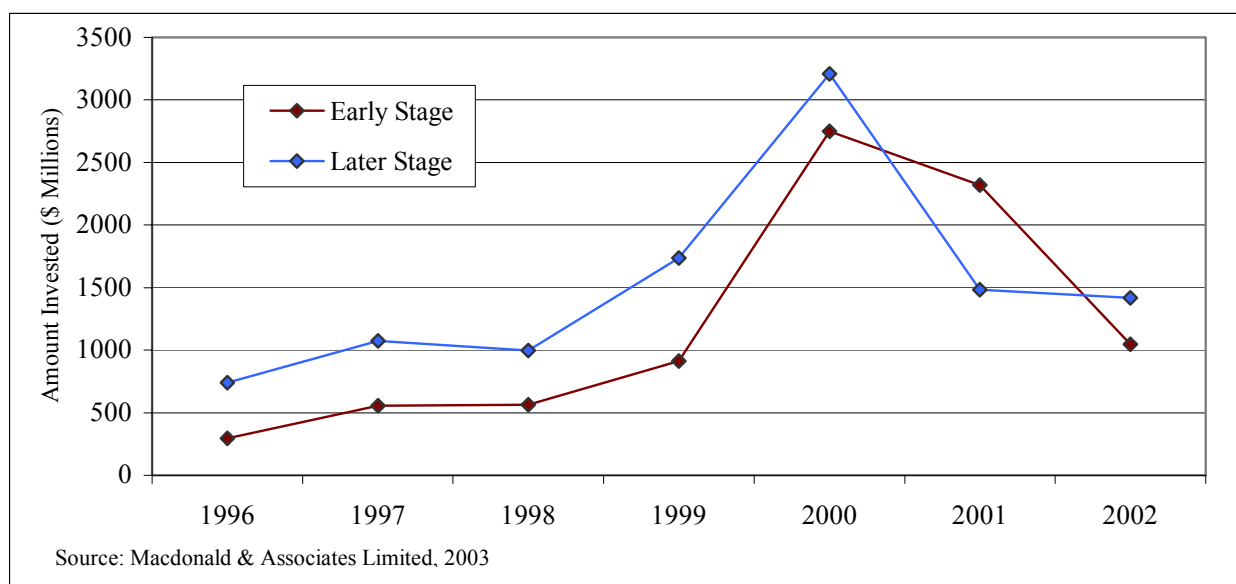
However, despite the positive growth of seed financing, most early-stage investment remains targeted at high-growth-potential start-ups and other early-stage firms, rather than at firms in the seed stage. Start-ups and other early-stage firms attracted an average of 38 percent and 57 percent of early-stage VC investments in 1996 and 2002, respectively. This trend left seed firms far behind, with an average annual share of early-stage VC investments of only 5 percent. This confirms that seed firms have faced significant barriers in accessing VC financing, especially for initial investments and small financings.

***Strong performance for later-stage investment***

Investment in later-stage firms also expanded over the past seven years, increasing the amount invested by 92 percent, from \$738 million in 1996 to \$1.4 billion in 2002. Most of this growth was driven by expansion firms, which attracted a 90-percent average share of later-stage VC investment over the period. Later-stage financings tended to be large transactions, resulting in an average deal size of \$3 million, which is slightly higher than the national average deal size of \$2.7 million.

However, there were only 4 percent more later-stage transactions, an increase of 375 to 391 deals over the same period, resulting in a declining share of the total number of deals, from 64 percent in 1996 to 48 percent in 2002.

**Figure 23: Venture Capital Investment Trends by Stage of Development, 1996–2002**

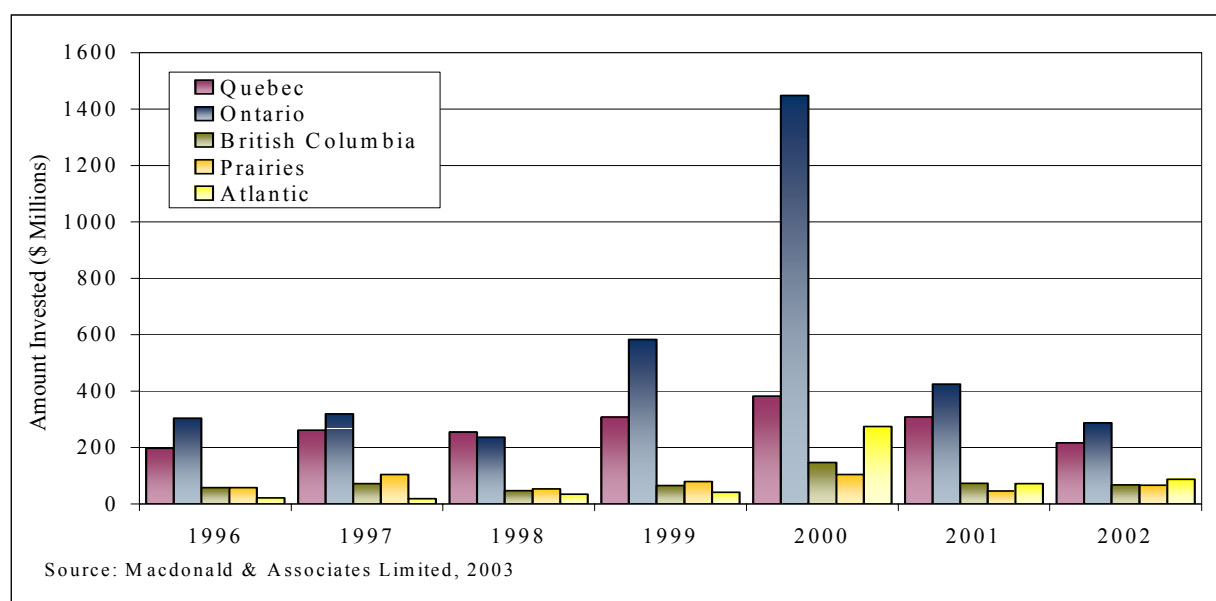


**Regional and deal-size focus**

**Early stage**

- On average (see Figure 24), all provinces have benefited from increased early-stage investment over the last seven years, particularly in 2001. However, Ontario and Quebec captured an average of 53 percent and 27 percent of early-stage investments in 1996 and 2002, followed by B.C. with 13 percent, the Prairies with 6 percent, and the Atlantic region with 2 percent. Ontario also captured 51 percent of the seed and start-up investments, while start-up investments captured 36 percent of early-stage investments in Quebec, compared to 18 percent for seed financings and 21 percent for other early-stage financings in Quebec.
- Early-stage investment was concentrated in the larger deals, which captured an average of 70 percent of total early-stage deals, dominating in most provinces. However, the Prairies and Quebec attracted significant investments among the smaller deal sizes. The average early-stage deal size increased by 78 percent, from \$1.4 million in 1996 to \$2.5 million in 2002. However, the average early-stage deal size decreased significantly, from \$4.4 million in 2001 to \$2.5 million in 2002. Between seed, start-up and other early-stage deals, other early-stage deals were larger, with an average deal size of \$3.5 million over the period, compared to \$2.5 million for start-ups and \$1.2 for seed firms. These numbers confirm the increasing challenge faced by these firms.

**Figure 24: Regional Distribution of Early-Stage Venture Capital Investments, 1996–2002**



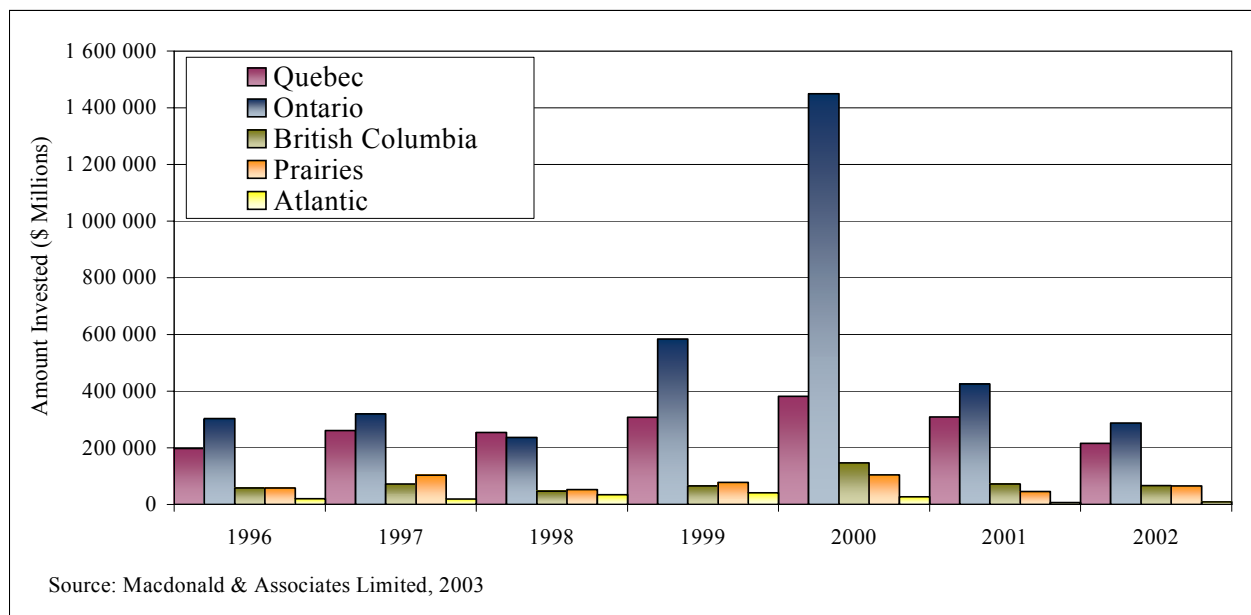
**Later stage**

- As shown in Figure 25, between 1996 and 2002, later-stage investments tended to concentrate in Ontario (51 percent), Quebec (30 percent) and B.C. (10 percent). The Prairies attracted 6 percent and Atlantic Canada netted 2 percent. In all provinces, expansion investments were emphasized over other later-stage investments.



- Later-stage investments were concentrated in large deals, given the high capital requirements of expanding information technology and life sciences firms. Large deals attracted an average of 68 percent of total later-stage investments between 1996 and 2002. Mid-sized deals were second, with an average of 26 percent, while small and very small deals only captured 3 percent each. As a result, the average later-stage deal size grew by 84 percent, from \$2 million in 1996 to \$3.6 million in 2002 (with an average size of \$3 million over the period).

**Figure 25: Regional Distribution of Later-Stage Investments, 1996–2002**



## 4.2 Recent Situation in Stage-of-Development Venture Capital Investment Trends

### *Later-stage investments regained their lead in 2002 and battled for first place in 2003*

Since 2001, early-stage and later-stage investments have vied for top spot as leader of VC activity. After a strong emphasis on early-stage investments in 2001 (61 percent of total investments, or \$2.3 billion), 2002 saw later-stage investments regain the lead with a 58-percent average share of capital invested (or \$1.4 billion). This was a sharp increase from 2001, when later-stage investments accounted for 39 percent of the market (or \$1.5 billion). This is particularly the case for expansion-stage investments, which accounted for 89 percent of later-stage investments (or \$1.3 billion) in 2002.

In the first nine months of 2003, the first-place position was shared between early-stage investments (49 percent of total VC investments, or \$449 million) and later-stage investments (51 percent of total investments, or \$470 million). As a result, while the ratio between early-stage and later-stage investments in 2002 and 2003 showed a preference for later-stage investments, the Canadian VC industry remains relatively active in early-stage financing.

### 4.3 International Comparison

#### 4.3.1 Comparison: Canada–United States

##### *Later-stage firms also dominate Canadian and American venture capital activity*

Comparing the trends of VC investments by stage of development, a stronger focus on later-stage financings is apparent in the U.S., with a 72-percent average share of total VC investments (compared to 60 percent in Canada). While the focus of U.S. VC toward later-stage investments has remained relatively constant from 1996 to 2002, the amount invested over the period did increase 147 percent (from US\$6.8 billion in 1996 to US\$16.8 billion in 2002). This is a more significant expansion than the corresponding Canadian figure of 92 percent.

Within later-stage development, expansion firms in both Canada and the U.S. attracted the majority of total investments and later-stage VC investments over the period, with 49 percent and 57 percent of total VC investments, and 82 percent and 75 percent of later-stage investments.

**Table 12: Summary of Venture Capital Investments by Stage of Firms in Canada and in the United States, 1996–2002**

	1996 (CSM)		2002 (CSM)		Increase (percent)		Average Share of Total VC Investments 1996–2002 (percent)	
	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.
<b>Early Stage</b>	<b>295</b>	<b>7 650</b>	<b>1 480</b>	<b>6 557</b>	<b>402</b>	<b>-14</b>	<b>40</b>	<b>28</b>
Start-Ups/Seed	137	2 250	537	453	292	-80	17	5
Other Early Stage	158	5 400	511	6 104	223	13	23	23
<b>Later Stage</b>	<b>738</b>	<b>10 200</b>	<b>1 419</b>	<b>25 211</b>	<b>92</b>	<b>147</b>	<b>60</b>	<b>72</b>
Expansion	564	7 650	1 272	19 913	126	160	49	57
Other Later Stage	174	2 550	147	5 298	-16	107	11	15

Source: Macdonald & Associates Limited, 2003; NVCA Yearbook, 2002

##### *Early-stage firms face more challenges in the United States than in Canada*

Early-stage firms in the U.S. faced greater obstacles in attracting VC financing than did their Canadian counterparts. In fact, U.S. early-stage firms averaged a 28-percent share of total VC investment, compared to 40 percent in Canada. While the difference does not seem significant over the 1996–2002 period, the divergence has increased in recent years. In 2002, early-stage investments captured an average of 21 percent of total VC investments in the U.S., compared to 42 percent in Canada.

Furthermore, the data show that the Canadian VC industry has provided better support for seed and start-up firms. Canadian firms increased investments by 292 percent between 1996 and 2002, during which time U.S. firms decreased their investments 80 percent. Seed and start-up firms captured an average of 17 percent of total investments in Canada, compared to only 5 percent in the U.S.

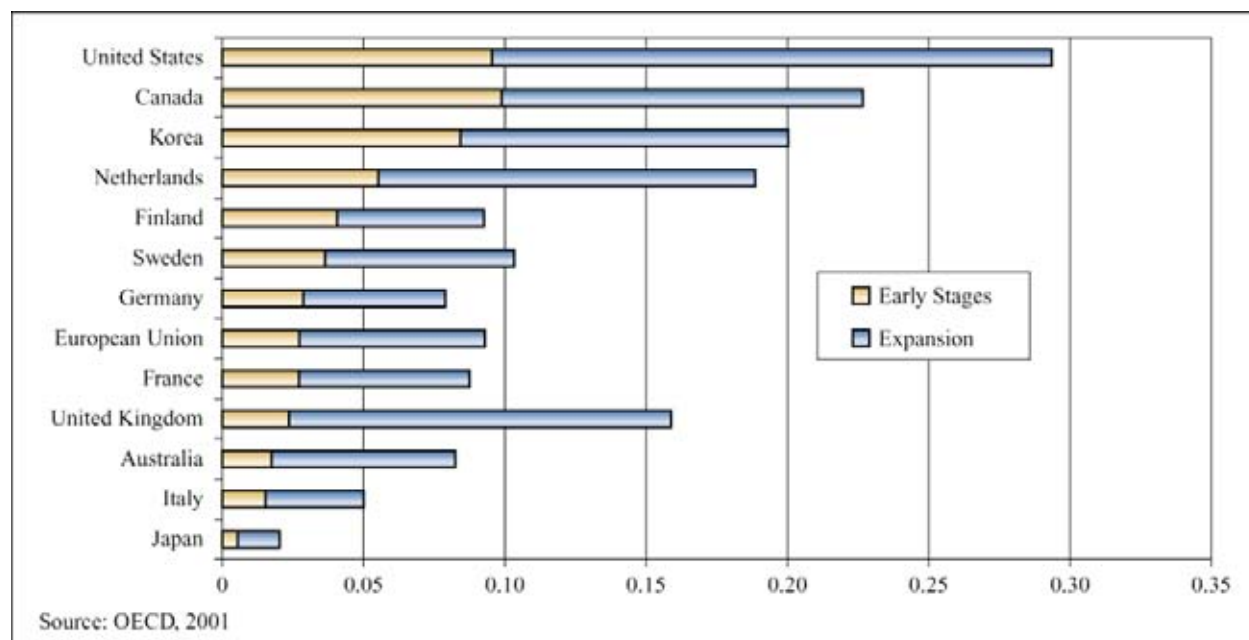
The Canadian VC industry’s stronger focus on early-stage firms, particularly in 2001, suggests two conclusions:

1. The Canadian VC industry offers more support for early-stage firms and new investments than does the U.S. VC industry.
2. Canada’s smaller VC industry may not have the capacity to finance later-stage firms, so many of these firms are forced to look to U.S. investors.

### 4.3.2 Comparison: Canada–Organisation for Economic Co-operation and Development Countries

As explained previously, comparing stage of development trends across countries is inherently problematic. Each country uses a different methodology to define and calculate stages of financing. However, a recent OECD report ranked Canada second in terms of early-stage and expansion VC investments as a share of GDP (see Figure 26).<sup>60</sup>

**Figure 26: Venture Capital Investments as a Percentage of Gross Domestic Product in Major Organisation for Economic Co-operation and Development Countries, 1995–2000**



60. Günseli Baygan and Michael Freudenberg, *The Internationalization of Venture Capital Activity in OECD Countries: Implications for Measurement and Policy* (OECD, 2000).

## 5. Sectoral Venture Capital Investment Trends

### *5.1 Overview of Sectoral Venture Capital Investment Trends and Analysis*

#### Highlights

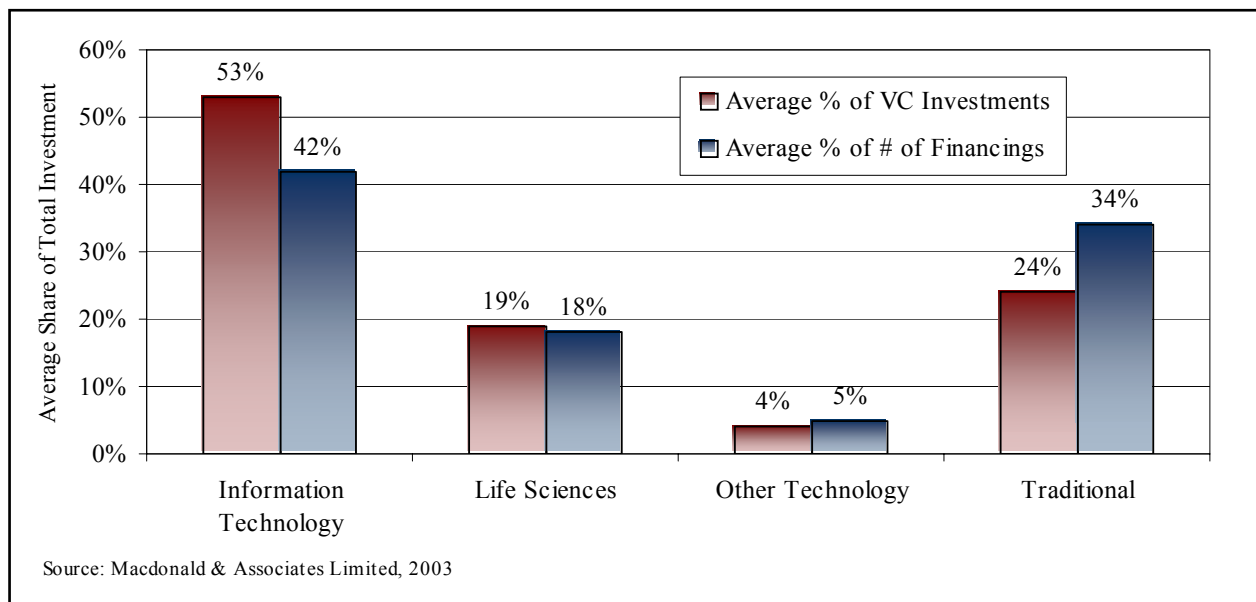
- Generally, venture capitalists will invest in firms with high-return potential. This likely explains most of the distribution of VC investment across sectors. Sectors with the highest growth and returns potential attract most of the VC.
- In most countries, including Canada and the U.S., the emergence of information technology firms has been driving VC investment since 1996. In Canada, the amount invested in information technology firms grew by 368 percent between 1996 and 2002, resulting in a 96-percent increase of their average market share, from 33 percent in 1996 to 65 percent in 2002. This represented an average of 53 percent of total VC investments from 1996 to 2002 and for the first nine months of 2003.
- Life sciences firms have also driven VC industry growth, although to a lesser extent than have information technology firms. The amount invested in life sciences firms increased by 103 percent over the past seven years, resulting in an average market share of 19 percent of total VC investment (ranging from 22 percent in 1996 to 19 percent in 2002 and 22 percent in the first three quarters of 2003). The success of these firms is largely attributed to the creation of investor groups specialized in these sectors.
- Traditional firms, on the other hand, experienced a 27-percent decline in investment and a declining share of total VC investment since 1996 — from 37 percent in 1996 to 11 percent in 2002, for an average share of 24 percent over the period (and 22 percent in the first three quarters of 2003). Venture capitalists' investment criteria and demand for high returns is probably making it difficult for traditional-sectors firms to attract VC.
- Compared to the U.S., the Canadian VC industry has demonstrated a relatively more balanced distribution across sectors.
  - The U.S. VC industry has been, over the past seven years, heavily focussed on information technology, with these firms capturing an average of 74 percent of total investments (compared to 53 percent in Canada). This may explain why the U.S. VC industry has declined further since 2001.
  - The relative importance of life sciences firms is similar in both countries. These firms attracted an average of 17 percent of total VC investments from 1996 to 2002, compared to 19 percent in Canada.
  - U.S. venture capitalists have been less interested in traditional-sectors firms, which attracted an average of only 7 percent of total investments since 1996 (compared to 24 percent in Canada).

### 5.1.1 1996–2002 Overall Sectoral Venture Capital Trends

***Sectoral venture capital activity trends confirm venture capital’s importance to high technology firms***

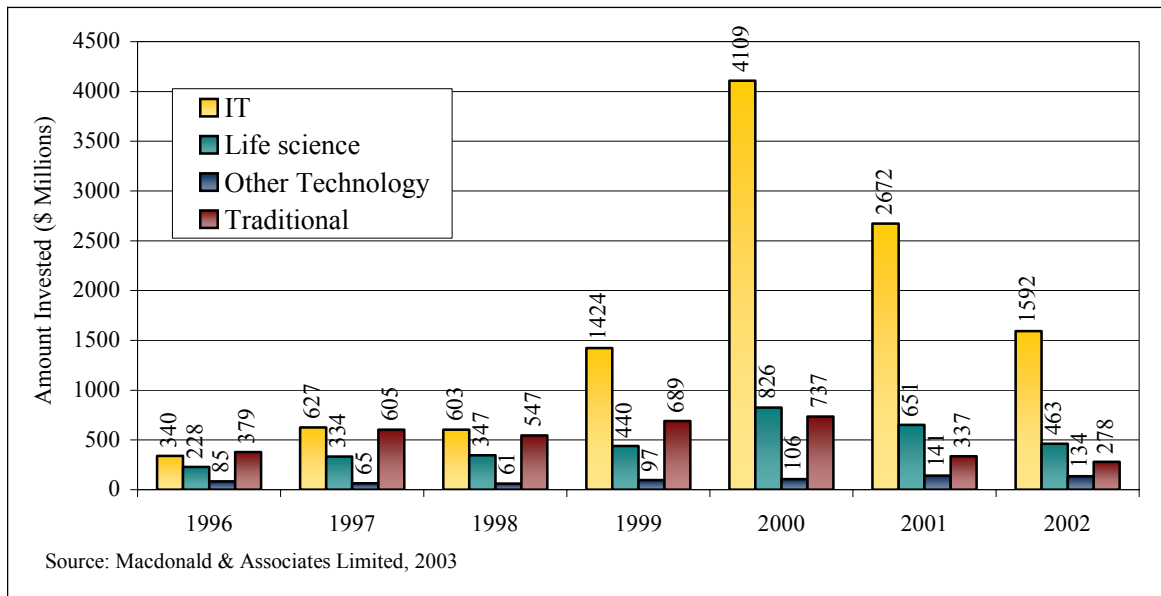
As demonstrated previously, high technology firms have driven the growth of the Canadian VC industry in recent years. Indeed, the data for 1996–2002 confirm that the Canadian VC industry has focussed on high technology firms (see Figure 27). Companies in the information technology, life sciences and other technology sectors have accounted for, on average, almost 80 percent of total VC investments from 1996 to 2002. Their share has increased from 87 percent (\$5 billion) in 2000 to 91 percent (\$3.5 billion) in 2001, but that has declined to 89 percent (\$2.2 billion) in 2002 and 78 percent in the first nine months of 2003. This decline is probably due to the decline of investments in information technology firms, although the third quarter of 2003 suggests that these investments have picked up again and that the situation looked like it should be positive for the fourth quarter.

**Figure 27: Average Share of Venture Capital Investments and Venture Capital Financings by Sector, 1996–2002**



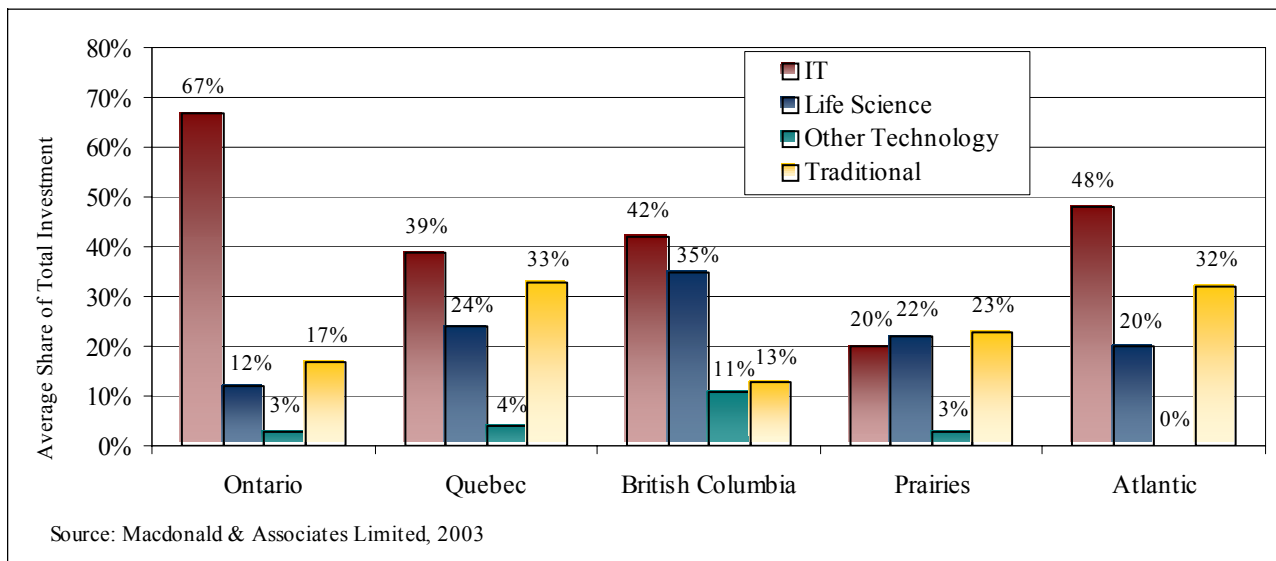
To confirm the importance of information technology firms, Figure 28 reveals that information technology has driven VC activity in Canada over the past seven years, attracting 33 percent of total investments in 1996 and 71 percent in 2000, or 65 percent over the entire period. See further in this section for more details. However, while information technology has received the largest proportion of investment, life sciences and other technology sectors firms have also attracted substantial amounts of VC financing in recent years.

**Figure 28: Venture Capital Investments by Sector, 1996–2002**



In terms of regional activities, as shown in Figure 29, this focus on high technology firms was consistent across most provinces and regions. Indeed, these firms captured an average share of 88 percent of total VC activity in B.C., 82 percent in Ontario, 61 percent in Atlantic Canada, 67 percent in Quebec, and 62 percent in Alberta. In contrast, in the Prairies, particularly in Manitoba and Saskatchewan, firms in the traditional sector attracted most of the VC activity, averaging 68 percent and 60 percent, respectively, from 1996 to 2002 (compared to 11 percent and 7 percent for information technology and 20 percent and 29 percent for life sciences). More details on the regional VC activity trends are presented in Section 6.

**Figure 29: Average Share of Venture Capital Investment by Sector and Region, 1996–2002**



***Links between clusters and venture capital activity in specific sectors and regions***

It is unclear how the presence of industry clusters affects the level of VC activity in some sectors or regions. However, given the link between high technology firms and VC activity, it is not surprising that sectors and regions that comprise successful technology clusters have been relatively active in terms of VC investment. In fact, as described in the box below (and in Figure 4), clusters are, along with the risk-capital market, one of the key components of the innovation system. On one hand, clusters support VC activity and the economic development in some sectors or regions, and, on the other, VC activity is a key contributor to the creation and success of high technology firms, which, in turn, is essential to the formation and success of industry clusters.

**What is a cluster?**

- “A geographically proximate group of interconnected companies and associated institutions in a particular field linked by commonalities and complementarities.” (Michael Porter)
- “A regionally based network of public and private institutions, including private sector firms, universities, other research laboratories as well as financial and other service providers whose interactions are focussed on technological development and innovation for economic growth.” [National Research Council Canada (NRC)]

**How do clusters develop?**

- Clustering is a long-term process, and several key ingredients must be in place to ensure its ultimate success:
  - The cluster process must be community driven with a well-defined technology focus, active networks and committed local champions.
  - A cluster develops when a critical mass of innovative knowledge-based firms acts as a magnet, attracting other firms to invest and locate in the same area. These firms gain strength when supported by strong research institutions, a concentration of capital and business expertise, and an appropriate environment in which innovation can flourish.
  - Importantly, clusters need a science and technology anchor, usually a government research institution or a university that is able to work with local companies, able to transfer technology and able to spin off new enterprises.

**Clusters are only one element of the innovation system, which includes:**

- A solid entrepreneurial culture with a critical mass of established private firms, particularly R&D performers;
- A strong knowledge and science system that includes public and private research institutions, universities and other education and training organizations, and technology transfer agencies;
- The right government policies and programs — which would cover government labs, R&D funding, and conditions that favour business and innovation (such as policies on intellectual property, taxation and regulation);

- Networks and business organizations that aid knowledge and technology transfer; and
- A financial system with strong angel and VC investment to support technology firms.

**What are the benefits of clusters?**

- They improve productivity by increasing access to specialized suppliers, skills, information and training.
- They foster innovation by making it easier to perceive opportunities. Local suppliers and research institutions encourage knowledge creation and experimentation.
- They aid commercialization by making it easier to create new firms, start-ups, spin-offs and new business lines.

**What are current government actions?**

- The NRC's cluster-building approach allows the entrepreneurial spirit in local industry sectors to tap into the NRC's primary strengths: R&D expertise, scientific and technical information resources, and innovation assistance programs. The NRC helps Canadian companies make the most of national and international networks. With existing strengths in key sectors and growing interest from national and global investors, many Canadian communities are poised to make a powerful entrance into the global knowledge-based economy.
- The NRC has 10 regional technology centres. It is spending \$110 million over three years for the Atlantic Technology Clusters initiative; \$110 million over three years for the innovative clusters initiative; and \$20 million for the new Medical and Related Sciences Centre. It is also funding initiatives in various cities through Regional Development Agencies.

Because innovation and high-growth firms are important to regional economic development, government initiatives help develop sectoral and regional clusters. Examples of such initiatives include Genome Canada, NRC technology centres, National Centres of Excellence, Precarn, and technology road maps. For example, NRC's cluster-building approach allows the entrepreneurial spirit in local industry sectors to tap into key components of the innovation system: R&D expertise, scientific and technical information resources, and innovation assistance programs. The NRC also helps Canadian companies make the most of its national and international networks.

The following box presents a map of sectoral clusters that shows existing NRC clusters by key sector.<sup>61</sup> With existing strengths in key sectors, and growing interest from national and global investors, many Canadian communities are poised to make a powerful entrance into the global knowledge-based economy.

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61. This list only includes the sectoral clusters established through the NRC, and may not include all clusters in Canada. Given that clusters are generally regional, information on clusters is also presented in Section 6, which discusses regional VC investment trends.



**National Research Council Canada Sectoral Clusters**

**Information technology, life sciences, photonics** — Ottawa — contributing to cluster activities in information technologies, life sciences, R&D, and training in photonics.

**Information technology/e-business** — Fredericton, Moncton, Saint John and Sydney — integrating regional strengths to build a competitive information technology/e-business cluster.

**Aerospace, biopharmaceuticals, industrial materials** — Montréal — building infrastructure to assist SMEs in Canada's largest aerospace and biopharmaceuticals clusters, as well as investigating novel materials and manufacturing techniques.

**Life sciences** — Halifax — building enabling technologies and integrating players in the fields of marine biosciences and brain repair.

**Medical devices** — Winnipeg — advancing medical technologies, precision and virtual manufacturing.

**Agri-biotechnology, nutraceuticals** — Saskatoon — adding new dimensions to the world's leading agro-biotechnology cluster.

**Nanotechnologies** — Edmonton — building Canada's R&D capacity, infrastructure and programs in this emerging field.

**Ocean technologies** — St. John's — creating new opportunities locally, nationally and internationally.

**Aluminium technologies** — Ville Saguenay — building value-added manufacturing in a region housing 95 percent of Canada's aluminium players.

**Fuel cells** — Vancouver — supporting the development of fuel cell and alternative energy technologies.

**Astronomy** — Victoria, Penticton — creating new opportunities in structural engineering, radio engineering and precision instrumentation.

However, while the presence of successful clusters may have contributed to the strengths of some sectors, as well as to VC activity in these sectors and regions, there are fundamental policy issues and questions related to establishing clusters. Among these is the role of government in cluster development. According to Michael Porter, governments can improve economic performance by working actively with cluster participants to understand their needs and to invest in cluster-specific training, research institutions and infrastructure.

However, it may not be appropriate for government to be directly involved in creating clusters, even though it is already involved in such clusters as the NRC's. Does government need to do more? Clusters should be considered as one element that can help financial markets operate efficiently and that can help them create and commercialize innovation. These ideas are considered in the gap analysis (Part IV).

### 5.1.2 Information Technology

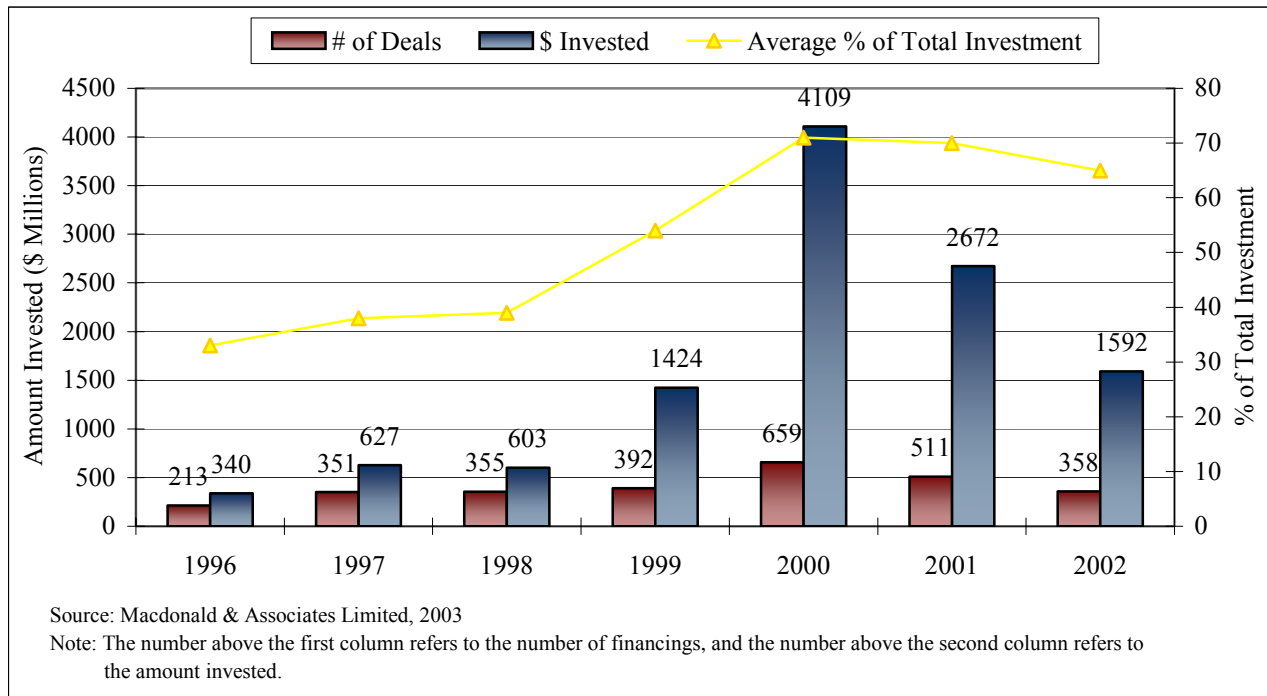
**1996–2002 overall trends: information technology is the clear driver of venture capital activity**

Overall sectoral trends favouring information technology have generally been consistent with the nature of VC and the investment criteria of venture capitalists (as explained in Part I). Venture capitalists’ (particularly foreign venture capitalists’) recent increased interest in information technology investments has meant that this sector has experienced the strongest growth of VC investment since 1996, increasing by 368 percent (from \$340 million in 1996 to \$1.6 billion in 2002). This growth was underpinned by strong performances in communications and networking (a 567-percent increase, from \$101 million in 1996 to \$673 million in 2002); software (a 129-percent increase, from \$157 million in 1996 to \$358 million in 2002); semiconductors (a 2178-percent growth, from \$11 million to \$247 million in 2002); and Internet industries (a 943-percent growth, from \$14 million to \$154 million).

This increased activity has propelled the information technology sector to the forefront of VC activity in Canada since 1996, capturing 53 percent of total VC investments and 42 percent of VC deals (see Figure 30). In Canada, the predominance of the information technology sector was even more evident in 2001 and 2002, when these firms attracted 70 percent and 65 percent of VC investments and 53 percent and 44 percent of VC deals, respectively.

Moreover, the average information technology VC deal was 179 percent bigger in 2002 than it was in 1996. The average size of these deals was also significantly larger than the national average VC deal size during this period: \$3.5 million for information technology investments (with a peak at \$6.2 million in 2000) compared to \$2.7 million for the national average.

**Figure 30: Information Technology Venture Capital Activity Trends, 1996–2002**



***Recent situation — despite a steep decline of venture capital activity, information technology continues to dominate venture capital activity in 2002 and 2003***

Despite the burst of the technology bubble, information technology still drives VC investment in Canada (and in most countries, including the U.S.). Renewed activity in communications and networking, software, and other information technology sectors has accounted for much of the recent rise in capital invested in Canada.

In 2002, information technology firms attracted 65 percent of total VC investment (worth \$1.6 billion) and 44 percent of financings (in 358 deals). This represented a decline from 2001, when \$2.7 billion, or 70 percent of total investments, was invested in 511 deals (representing 53 percent of transactions). Within the information technology sector, communications (42 percent), software (22 percent), Internet industries (11 percent) and semiconductors (15 percent) attracted most of the VC investment in 2002. However, with the exception of semiconductors, the capital invested in all information technology subsectors declined between 2001 and 2002. Capital invested in semiconductors increased by 17 percent in 2002, from \$211 million in 2001 to \$247 million in 2002.

In 2002, the main Canadian investors in information technology companies included the BDC; Innovatech Montréal; GrowthWorks; Desjardins Venture Capital; VenGrowth Capital Partners; Innovatech Québec et Chaudière-Appalaches; Caisse de dépôt et placement du Québec (CDP) Capital; Fonds de solidarité des travailleurs du Québec (FTQ); Covington Capital Corporation; and CDP Capital — Technology Ventures. In terms of foreign investors (mostly located in California and Massachusetts), the most active ones were Venture Investment Management Company LLC (VIMAC); Kodiak Venture Partners; Morgenthaler Ventures; Technology Crossover Ventures; Flagship Ventures; Pilgrim Baxter; Norwest Venture Partners; Prism Venture Partners; Menlo Ventures; and Newbury Ventures.

In the first nine months of 2003, the decline of VC investment in information technology firms continued. In fact, while information technology still dominated VC investment in Canada, with 53 percent of total investment and 42 percent of deals in 2003, this sector's share of total VC has been declining since 2000. However, these early data represent only nine months of the year, and it remains to be seen whether this tendency is an aberration or a long-term trend.

Although investment in information technology has cooled in recent years, it is still a viable and healthy market. Since technology companies are now more carefully watching their costs and profit margins, the future may still be positive. Other public or private initiatives may also spur information technology investment. For example, the Silicon Valley VC firm Draper Fisher Jurvetson (DFJ) has joined forces with Primaxis Technology Ventures Inc. to raise a US\$100-million fund to target investment opportunities in Canada.<sup>62</sup> This type of partnership (along with trends such as the steep increase in foreign VC investment) signals a growing recognition of the viability of Canadian information technology investment opportunities.

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62. Primaxis Technology Ventures Inc. has been an active player in the Canadian VC industry for the past five years, and will manage the fund out of its Toronto office. DFJ expects to leverage its investment process in Silicon Valley to provide valuable U.S. business contacts for Canadian start-ups.

***Regional focus — Ontario is the clear leader in information technology investment***

While the information technology sector has dominated VC investment in most regions since 1996 (see Figure 29), this tendency has been more evident in Ontario, Atlantic Canada, B.C. and Quebec, where information technology firms have captured, respectively, average VC investment shares of 67 percent, 48 percent, 42 percent and 39 percent over the 1996–2002 period. See Section 6 for more details for each region.

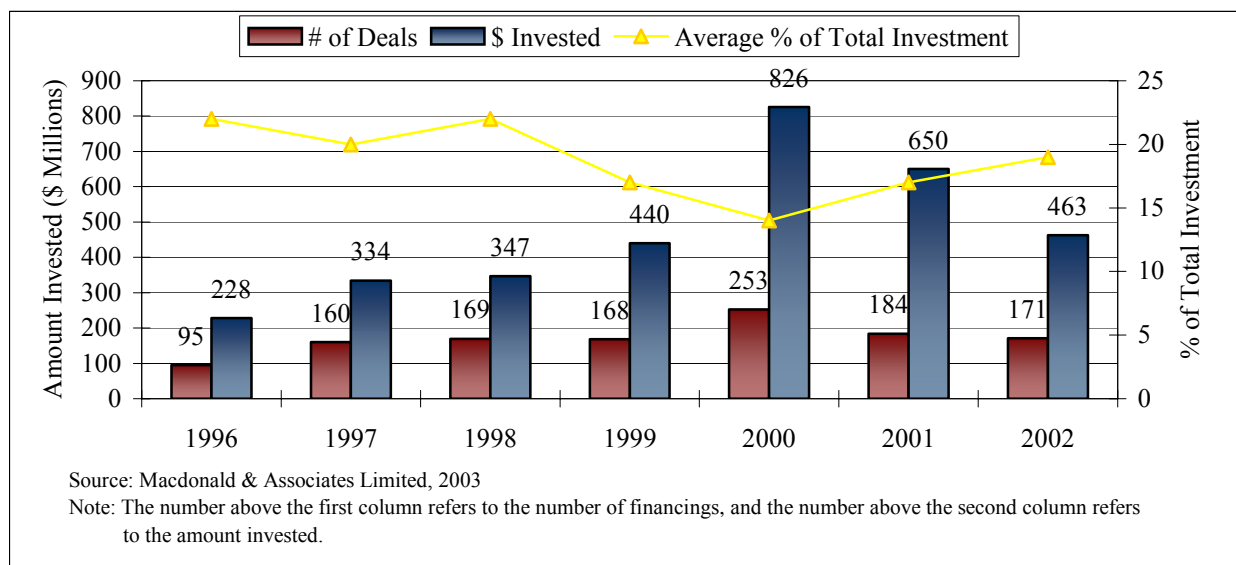
### **5.1.3 Life Sciences**

***1996–2002 overall trends: constant share of total venture capital activity despite the remarkable growth of amounts invested***

While life sciences investments have not led VC activity in Canada since 1996, this sector has experienced solid growth in VC investment. Its relative importance has remained relatively stable over the past seven years, with a slight increase in 2002 and the first nine months of 2003. Compared to the information technology sector, life sciences did not face as steep a decline. Canadian life sciences VC activity has been driven by successful fundraising among investor groups that specialized in this sector. When an important new innovative sector emerges in the VC industry, we usually see more well-capitalized specialized funds featuring investment professionals with the relevant technology expertise. In recent years, strong Canadian fundraising activity has helped national and regional life sciences specialty funds, such as the Canadian Medical Discoveries Fund Inc., T2C2 Capital, and Genesys Capital Partners Inc. These funds have, in turn, been able to invest more in this sector.

The data from 1996 to 2002 show that this sector benefited from a 103-percent surge in VC investment, from \$228 million to \$463 million, and an 80-percent increase in VC deals, from 95 to 171 (see Figure 31). Mirroring trends in overall VC investment, the bulk of this increase came in 2000 and 2001, when life sciences investments reached \$826 million (253 deals) and \$651 million (184 deals), respectively.

Figure 31: Life Sciences Venture Capital Activity Trends, 1996–2002



Within the life sciences sector, biotechnology firms have typically accounted for the largest amount of VC capital invested in life sciences. However, in terms of the growth of VC investments within this sector, investment in medical devices and equipment increased by 192 percent, from \$44 million in 1996 to \$127 million in 2002; followed by 163 percent for medical and biotechnology software, from \$13 million to \$35 million; 76 percent for biopharmaceutical investment, from \$163 million to \$286 million; and 65 percent for VC investment in health care, from \$8 million to \$14 million.

As a result of this increased activity level, life sciences firms attracted 19 percent of total VC activity and 18 percent of VC financings between 1996 and 2002. Similarly, life sciences’ share of total VC investment for 2001 and 2002 — 17 percent and 19 percent, respectively — was generally consistent with the overall trend since 1996. Other forms of financing (e.g. IPOs and secondary financing) in life sciences have experienced similar growth over the same period, but the virtual closing of the IPO market since 2001 has meant that VC financing has accounted for a larger portion of overall financing.

Life sciences investments need a lot of capital to move from the research stage to the developmental or precommercialization stages. Accordingly, 65 percent of life sciences financings in 2001 were large deals, driving the average deal size up to \$3.5 million in 2001, but down to \$2.7 million in 2002 because of the general decline of activity. From 1996 to 2002, the average life sciences VC deal was \$2.7 million, which was similar to the national average deal size.

However, considering the high capital requirements of these firms, this average deal size raises a number of financing and policy issues for life sciences firms, particularly considering that the average U.S. life sciences deal is much larger. The current economic climate has severely strained cash flow and the smaller average size of financings in Canada, compared to the U.S., which exacerbates these difficulties. For example, the average biotechnology VC deal size in Canada was C\$2.7 million in 2002 versus C\$16 million in the U.S. The same is true in the later

financing stages in the public markets, where the average biotechnology IPO is C\$6.4 million in Canada, compared to C\$83 million in the U.S.<sup>63</sup>

### **Biotechnology Firms**

The latest Statistics Canada data on biotechnology companies in Canada in 2001 indicate that there were 375 companies with revenues of \$3.7 billion that spend \$1.3 billion on R&D.<sup>64</sup> The majority of these firms were SMEs (71 percent small, 17 percent medium-sized, and 12 percent large). This \$1.3 billion in private sector R&D, along with more than \$400 million in federal government R&D, represents a significant combined effort in biotechnology.

According to Statistics Canada, most of the financing for biotechnology firms over the years has come from VC. For example, in 2001 VC financing accounted for 43 percent of financing (only about a seventh of which was U.S.) followed by 23 percent from public offerings and private placements, 15 percent from angel investors, 13 percent from governments, and 7 percent from banks. Canadian VC provided the largest share of funds to SMEs, 37 percent and 46 percent, respectively. Large firms received 54 percent of their funding from conventional and government sources and 14 percent from VC.

In 2001, Canadian biotechnology firms raised \$980 million in financing capital for biotechnology activities, which included \$517 million (53 percent) for small firms, \$374 million (38 percent) for medium-sized firms and \$89 million (9 percent) for large companies. The health sector accounted for \$858 million of the \$980 million raised. Quebec attracted the most financing, with \$467 million, followed by \$216 million for Ontario, \$139 million for Alberta, and \$127 million for B.C. Within the companies' internal operations, small firms raised proportionately more for biotechnology activities than did large firms, which tend to have more diversified operations.

Only 50 percent of small biotechnology firms were able to reach their financing targets, compared to 80 percent of medium-sized firms and 66 percent of large companies. The limited success of these firms in raising capital was due to three main reasons: the capital was unavailable because of market conditions (78 cases), lenders needed further product development or proof of concept (43 cases); or the biotechnology products or processes were deemed not sufficiently developed to warrant financing (42 cases). Insufficient management expertise and limited product lines were cited in 13 and 12 cases, respectively.

Life sciences firms that use biotechnology progress from the VC stage to the IPO stage faster than do other high technology companies. This is because life sciences firms require substantially larger amounts of funding, and the product development period is significantly longer.<sup>65</sup> Most life sciences firms go public during the development stage, whereas other high technology firms go public once products have been produced and sales are being generated. This has had an impact not only on Canadian firms' ability to become internationally competitive

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63. Ernst & Young data converted to Canadian dollars (C\$).

64. Statistics Canada, *Biotechnology Use and Development Survey* (2001).

65. Houlihan Valuation Advisors/VentureOne, 1998.

but also on their ability to benefit from current government R&D programs and policies in the same way that other R&D firms do. For example, in 1999 the average unused Scientific Research and Experimental Development Program tax credit accumulated by biotechnology companies was double that of nonbiotechnology firms, accounting for \$500 million or 10 percent of all unused tax credits of Canadian R&D firms.<sup>66</sup>

The most definitive study conducted to date on the financial needs of Canadian biotechnology therapeutics firms (which represent 80 percent of total capital demand in biotechnology) indicates that the capital demand between 2001 and 2006, based on products currently in the development pipeline, will be \$4.8 billion annually, and that the capital supply will likely average \$4.2 billion, suggesting a \$600-million annual shortfall.<sup>67</sup> This conservative estimate does not include indirect cost considerations, nor does it address those discoveries that will be seeking financing in order to move to the development stage. According to the study, these additional requirements would mean an annual shortfall of at least \$3.3 billion.

The challenge for biotechnology firms is to attract significant amounts of new capital. We have identified the unique financing challenges associated with biotechnology companies, using the *Innovation Strategy* engagement process, Statistics Canada surveys, national and regional reports, statements by leaders in the Canadian health research community, provincial government initiatives (such as the Quebec and Ontario budgetary initiatives), and direct engagement with the biotechnology community.

The overwhelming majority of Canada's 375 biotechnology companies are SMEs with limited managerial resources and significant challenges in accessing capital. Compared to other enterprises, biotechnology R&D is too expensive and takes too long to commercialize. These companies depend on limited and short-timeline venture capital support and other nontraditional sources (e.g. Technology Partnerships Canada and the Industrial Research Assistance Program). The biotechnology community believes that no more than half of these firms are viable. The majority of these firms are very early-stage university spin-off companies that have not developed a strong enough business case for their research.

Many Canadian biotechnology companies are increasingly developing their research, some are commercializing it, and many newer entrants continue to focus on research and predevelopment. Government programs need to reflect this shift to biotechnology development and commercialization. Will government policies and programs keep up with the pace of biotechnology innovation? Can government work with the private sector to help develop and commercialize biotechnology in Canada?

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66. Conference Board of Canada, 2000.

67. Université du Québec à Montréal, *Demand and supply of capital for Canadian biotechnology therapeutics companies* (2002).

***Recent situation — despite a decline in venture capital activity in 2003, the life sciences sector captured an increasing share of total activity***

Life sciences VC activity increased in 2001 and 2002, a tendency that may have been related to increasingly cautious information technology investment strategies. Life sciences activity remained strong throughout 2001, 2002 and 2003, despite the decrease in total VC invested compared to 2000. In 2002, life sciences firms captured 19 percent of total VC for \$463 million and 171 transactions (21 percent of deals). Within the life sciences sector, biopharmaceutical companies received 62 percent of life sciences VC investment in 2002.

The key Canadian investors in terms of amount invested in 2002 were FTQ; the BDC; Desjardins Venture Capital; Innovatech Montréal and Innovatech Québec et Chaudière-Appalaches; Canadian Medical Discoveries Fund Inc.; Genesys Capital Partners; CDP Capital — Technology Ventures; T2C2 Capital; and CDP Capital. The most active foreign investors were Kinetic Capital Partners; Seaflower Ventures; Sanderling; Softbank Venture Capital (Mobius Venture Capital); Qwest Emerging Biotech Fund Ltd.; ProQuest Investments; IDEC Pharmaceuticals Corporation; Hearthstone Investments Ltd.; Shire Pharmaceuticals Group; and BioFund of Finland. While most of these are located in California and Massachusetts, a few are from the U.K., Finland, and other U.S. states.

In the first nine months of 2003, while the life sciences sector experienced a decline of VC investments, its overall performance remained strong compared to firms in other sectors. In fact, life sciences firms attracted an increasing share of total investment, with 22 percent of total investments (\$200 million in 83 companies) and 19 percent of financings (or 97 deals).

***Regional focus — Quebec and British Columbia leading life sciences venture capital activity in Canada***

Between 1996 and 2002, the life sciences sector in B.C. captured a 42-percent average share of provincial VC investments (compared to 24 percent in Quebec, 20 percent in Atlantic Canada and 22 percent in the Prairies). Since investment in Ontario has tended to favour information technology firms, the life sciences sector in that province has traditionally accounted for a lower share of provincial disbursements, averaging 12 percent from 1996 to 2002.

This is generally consistent with the Statistics Canada 2001 biotechnology survey, which indicated that biotechnology VC activity was most prevalent in Manitoba, Quebec and B.C., but represented a smaller proportion of overall financing in Ontario. On the other hand, the survey revealed that Alberta and Saskatchewan received the highest proportion of financing from angel investors. See Section 6 for more details for each region.

### **5.1.4 Other Technology**

***1996–2002 overall trends: this sector represents a small but constant portion of venture capital activity***

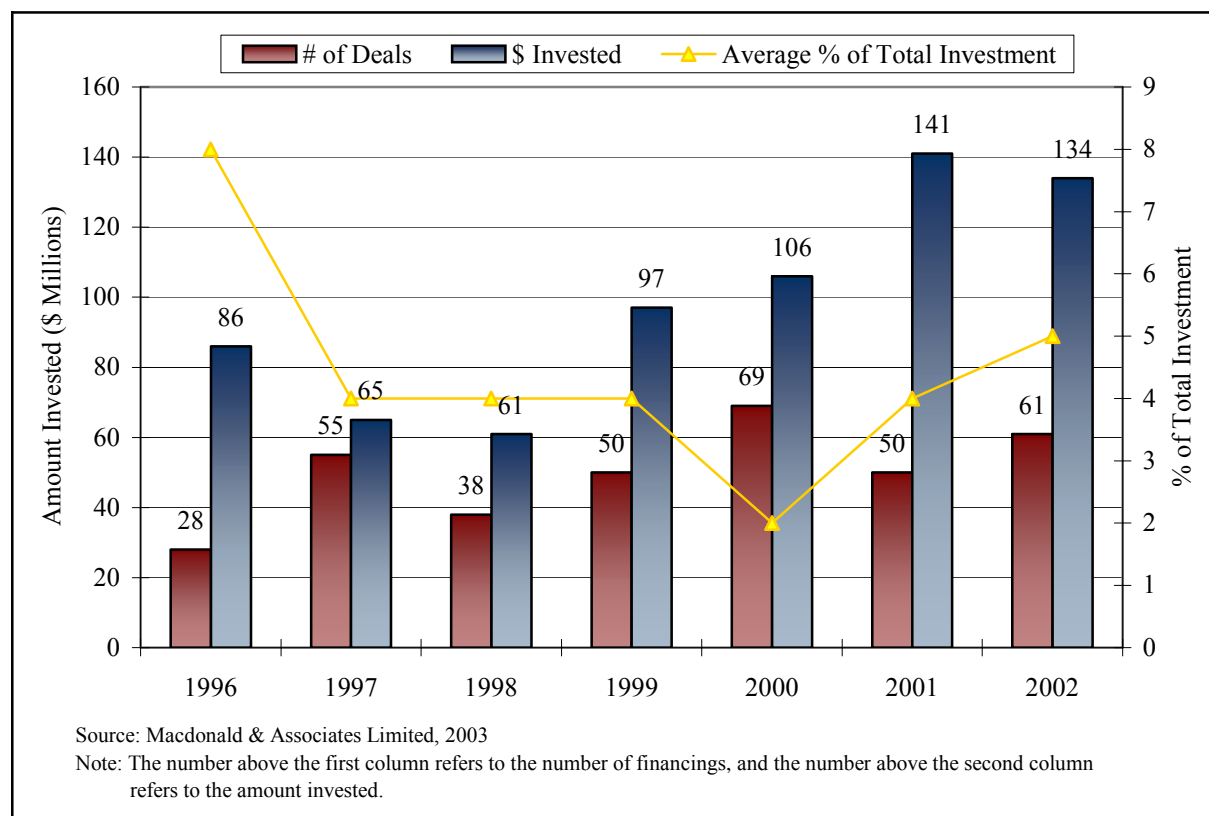
As shown in Figure 32, capital invested in the other technology sectors (composed mostly of energy and environmental technologies) has experienced a moderate 56-percent growth over the past seven years — from \$86 million to \$134 million. However, in relative terms, this sector's share of total VC investments fell 35 percent between 1996 and 2002, for an averaged 4 percent



of total VC investment from 1996 to 2002 (and in the first nine months of 2003).<sup>68</sup> The number of deals in this sector increased by 118 percent — the highest growth of any sector — from 28 in 1996 to 61 in 2002; and from 5 percent of deals in 1996 to 7 percent of deals in 2002, an increase of 57 percent. As a result, the average deal size fell 28 percent, from \$3 million in 1996 to \$2.2 million in 2002, for an average deal size over the period of \$2 million. This average deal size was lower than the national average deal size of \$2.7 million.

In terms of Canadian investors, the most active in the other technology sectors in 2002 were Innovatech Québec et Chaudière-Appalaches; FTQ; CDP Capital; The Quantum Leap Company Limited; GrowthWorks; Skylon Capital Corp.; Fullarton Capital Corporation; Innovatech sud du Québec; Hydro-Québec CapiTech; and the BDC. The main foreign investors investing in other technologies firms included Shell Hydrogen BV (Netherlands); BTG Ventures (Pennsylvania and the U.K.); Royal Dutch/Shell Group (Netherlands); Areté Corporation (New Hampshire); and JohnsonDiversey (Wisconsin).

**Figure 32: Other Technology Venture Capital Activity Trends, 1996–2002**



Despite this relative decline of VC investment, and despite this sector’s declining importance relative to the information technology and life sciences sectors, the future may offer interesting investment opportunities for VC investors. New environmental technologies and other related technologies may gain some importance with the implementation of the Kyoto agreement.

68. Given that this sector represents only a small share of total VC investments, only the general trends are presented.

Energy and environmental technologies firms have also benefited, as have life sciences firms, from the recent growth in sector-focussed VC funds with in-house expertise (e.g. ARC Financial | ARC Energy Venture Funds, Chrysalix Energy Management, OPG Ventures Inc.). This expertise allows the funds to invest more in these sectors. Indeed, the energy and environmental sector is the only technology field in which VC activity has remained fairly steady during the market slowdown. This indicates something of its potential growth capacity in Canada, particularly in certain areas such as fuel cells.

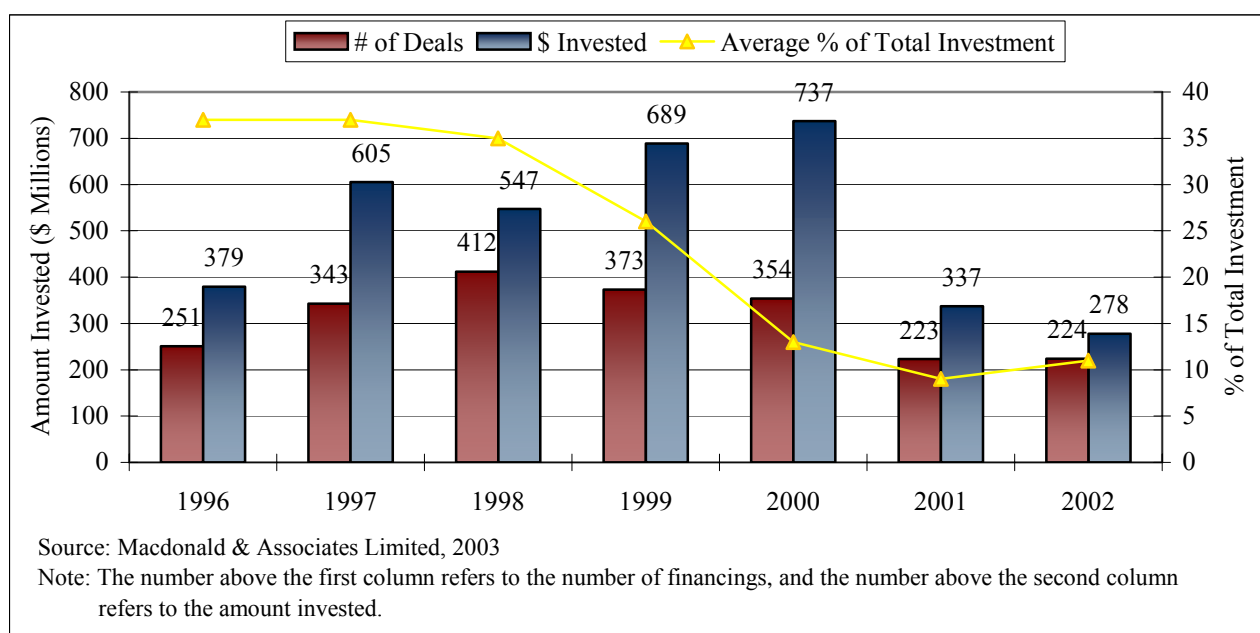
### 5.1.5 Traditional Sectors

#### *1996–2002 overall trends: declining importance of traditional venture capital activity*

Confirming that venture capitalists generally invest in high-return-potential firms, VC investment in traditional sectors (which includes consumer and business services, consumer products, manufacturing, miscellaneous, and retailers) declined 27 percent, from \$379 million in 1996 to \$278 million in 2002. The traditional sector’s share of total VC investment fell from 37 percent in 1996 to 11 percent in 2002 (see Figure 33). However, this sector had the second-highest average share of total VC investment, with 24 percent, ahead of life sciences (19 percent) and other technologies (4 percent), but behind information technologies (53 percent). In terms of the number of financings, this sector’s share also declined, from 43 percent (251 deals) in 1996 to 28 percent (224 deals) in 2002.

In general, VC investment in traditional sectors tends to be less capital-intensive than investment in most high technology firms, which tend to need more capital. As such, the average traditional-sector investment of \$1.6 million did not approach the \$3.5-million average deal size in the information technology sector, or the overall average deal size for 1996–2002 (\$2.7 million).

**Figure 33: Traditional Venture Capital Activity Trends, 1996–2002**



***Recent situation: declining importance of traditional sectors in 2002***

Consistent with the trends from 1996 to 2002, traditional-sector firms continued to lose market share in 2002, capturing \$278 million for 11 percent of total VC investment. However, the number of financings remained stable, with 223 in 2001 and 224 in 2002. After declining to 27 percent in 2000 and to 23 percent in 2001, the traditional sector's share of financings recovered to 28 percent in 2002.

This consistency may suggest that, while VC investors do not focus on traditional-sector firms, some of these firms may be viable investment opportunities, particularly for smaller deals. In fact, in the first nine months of 2003, traditional investments attracted 21 percent of total investment, which represented a significant increase from previous years. However, this increase may be due not to increased investment but to the strong decline of investment in the information technology and other sectors.

In 2002, the key Canadian investors in the traditional sector were FTQ, CDP Capital, Fondation, Desjardins Venture Capital, Fonds régional de solidarité FTQ, Crocus Investment Fund, Crown Capital Partners Inc., Innovatech Montréal, Crown Investments Corporation of Saskatchewan, and the BDC. There were also three foreign investors (from California and Texas) who invested in six traditional sector companies in 2002: Prospect Venture Partners, VentureLink Holdings, and Claridge/Andell Group.

***Regional focus: traditional sector still leads venture capital investments in Manitoba and Saskatchewan***

Between 1996 and 2002, investments in Manitoba and Saskatchewan were highly focussed on traditional sectors. This sector averaged 68 percent and 60 percent of VC investments in those provinces, respectively, compared to 11 percent and 7 percent for information technology, and 20 percent and 29 percent for life sciences. By contrast, an average of 33 percent of VC investment in Quebec and Atlantic Canada went to traditional sectors from 1996 to 2002. However, venture capitalists increasingly focus on high technology firms, so VC investment in the traditional sector has been decreasing consistently in most regions from 1996 to 2002. Only Saskatchewan continued to see heavy VC investment in traditional sectors in 2002, with 54 percent of provincial VC going to that sector. See Section 6 for more details for each region.

## ***5.2 International Comparison***

### **5.2.1 Comparison: Canada–United States**

***1996–2002 overall venture capital trends: the United States' venture capital activity is slightly more focussed on information technology***

Despite some discrepancies in the sectoral definitions and breakdowns between the two countries, which may affect the accuracy of the comparisons presented here, the sectoral distribution of VC activity in Canada and the U.S. from 1996 to 2002 confirms that in both countries VC investments have been heavily focussed on information technology (particularly in the U.S.) and life sciences. See Table 15 for a summary of the amounts invested in each sector for the two countries in 1996 and 2002.

- **Information technology**<sup>69</sup> attracted an average of 74 percent of total U.S. VC investment from 1996 to 2002, and 60 percent of it in 2002 (or C\$18.3 billion). This is significantly higher than the average of 53 percent of total Canadian VC investments between 1996 and 2002, but lower than the 65 percent observed in 2002 (with C\$463 million). This greater concentration on the information technology sector in the U.S. over the past seven years may be because U.S. investment in that sector has been concentrated on software and Internet products, which grew tremendously between 1999 and 2001, but which have declined sharply since. Canadian information technology investment has been more diversified across a broader range of technologies, which has insulated the Canadian VC industry since 1998 from the rampant fluctuations of boom and bust.
- **Life sciences**<sup>70</sup> attracted an average of 17 percent of total U.S. VC investments from 1996 to 2002, and 22 percent in 2002 (or C\$7.1 billion). This compares relatively well with the average of 19 percent of Canadian VC investment allocated to life sciences firms, both from 1996 to 2002, and in 2002, when C\$431 million was invested. However, as explained above, VC investments made in Canadian and U.S. life sciences firms are very different in average size. See Section 9 for more information on the policy issues related to this issue.
- **Other technology**<sup>71</sup> captured a 4-percent share of total VC activity in the U.S. and Canada from 1996 to 2002. However, VC investments in other Canadian technologies increased by 56 percent between 1996 and 2002, compared to 15 percent in the U.S.
- **Traditional**<sup>72</sup> (or non-technology) sectors in the U.S. attracted an average of 7 percent of total VC investments from 1996 to 2002, and 5 percent of it in 2002 (or C\$1.9 billion). This belies this sector's importance in Canada. Traditional-sector investment amounted to an average of 24 percent of total VC investments from 1996 to 2002, and 11 percent in 2002 (or C\$134 million).

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69. For comparative purposes, the following categories have been included in the U.S. information technology category: communications, computer software, semiconductors and electronics, and computer hardware and services.

70. For comparative purposes, biotechnology and technologies related to health care have been included in the U.S. life sciences category.

71. For comparative purposes, the industrial and energy sectors have been included in the U.S. "other technology" sector.

72. For comparative purposes, the following categories have been included in the U.S. traditional sector category: retail, media and business/financial.

**Table 13: Summary of Venture Capital Investments by Sector in Canada and in the United States, 1996–2002**

	1996 (C\$M)		2002 (C\$M)		Increase (percent)		Average Share of Total VC Investments 1996–2002 (percent)	
	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.
<b>Information Technology</b>	340	9 210	1 591	18 279	368	98	53	74
<b>Life Sciences</b>	228	3 857	463	7 134	103	85	19	17
<b>Other Technologies</b>	86	1 625	134	1 866	56	15	4	4
<b>Traditional</b>	379	2 650	278	2 470	-27	-7	24	7

Sources: Macdonald & Associates Limited, 2003; NVCA Yearbook, 2003; PricewaterhouseCoopers LLP MoneyTree Survey 2003

***Recent situation: life sciences sector was the bright spot in 2002***

In the U.S., each of the sectors declined in 2002, most by nearly 50 percent. While activity in the life sciences sector also fell, this sector was the bright spot in 2002. VC investments totalled C\$7.1 billion (US\$4.7 billion), accounting for 22 percent of all VC investing (up from 13 percent in 2001), which was the highest proportion of total VC in seven years.

Separately, the biotechnology industry offered strong performance and the highest average investment per company (C\$17.3 million), as well as investments totalling C\$4.2 billion (US\$2.8 billion) in 2002. As a result, the proportion of total VC invested in the biotechnology sector rose from 3.5 percent in 2000 to 8 percent in 2001 and 13 percent in 2002. The medical devices industry also performed well, attracting C\$2.9 billion (US\$1.9 billion) in 2002.

According to the NVCA, the strong growth of the biotechnology and medical devices subsectors can probably be attributed to investment by corporate players and increased speed in the drug approval process. As well, according to a study from the Canadian Consulate General, New York, this recent growth may also be attributed to the broad range of opportunities created by the integration of technology in the drug development process, and to continuing advances in the genomics and proteomics fields.<sup>73</sup>

Despite the burst of the technology bubble, the U.S. software sector remained strong throughout 2001 and 2002, while networking and telecommunications remained relatively stable.<sup>74</sup> Software, perennially the leading industry category, maintained its lead in 2002 with 20 percent of total VC (799 deals, worth \$4.3 billion). Telecommunications followed with 14 percent of the annual total (335 deals, worth \$2.9 billion). Investment in the networking industry fell by 61 percent in 2002 to \$2.2 billion in 209 companies, or 11 percent of the total. Other information technology sectors experienced sharp declines in 2002. Investment in media and entertainment fell 70 percent, while investment in information technology services dropped 60 percent.

73. Canadian Consulate General, New York, *Tri-State Area Venture Capital Report* (2002).

74. PricewaterhouseCoopers/Venture Economics/National Venture Capital Association MoneyTree Survey.

For the first nine months of 2003, most of the leading industries experienced declines. Software remained the leading sector, with \$790 million invested in 166 firms (down 13 percent from the previous quarter). Biotechnology investing was stable but moved into second place, with \$490 million in 49 firms, and investment in medical devices fell 48 percent (\$255 million) from the last quarter of 2002.

### **5.2.2 Comparison: Canada–Organisation for Economic Co-operation and Development Countries**

While there are differences in specific distributions within each sector, information technology dominates VC activity across the OECD countries. The life sciences sector generally attracts less VC investment, but has recently gained importance in several countries, particularly the U.S. and Canada. This, as explained previously, may be attributed to the higher return potential, which has resulted in more VC funds specializing in raising capital for these firms.

This international trend towards investment in information technology and life sciences illustrates how, in western economies, there is a symbiotic relationship among VC, innovation and high technology.

## 6. Regional Venture Capital Investment Trends

### Highlights

- In general, venture capitalists will invest in firms with high potential for growth and high returns, so VC investments are usually concentrated in regions with more knowledge-based firms and greater GDP. This is generally true for Ontario, Quebec and B.C., although the Prairies and Atlantic Canada have attracted a relatively smaller proportion of VC investments compared to their share of KBI firms and of GDP.
- Firms in Ontario (particularly in Ottawa) have attracted the majority of investments, on average attracting 49 percent of total investment over the past seven years. These investments have been generally very large deals (averaging \$4.6 million) concentrated in information technology (representing an average of 77 percent of the province's investment from 1996 to 2002). These large information technology deals depend on foreign investors, who were mainly interested in Ottawa information technology firms.
- Quebec-based firms have attracted an average of 31 percent of total VC investment since 1996 (and 45 percent of it in the first nine months of 2003). The province saw 48 percent of total number of deals between 1996 and 2002 (and 55 percent of them in 2003). In fact, Quebec's VC investments have been characterized by a large number of smaller deals, so the average deal size is lower (\$1.7 million in Quebec, compared to \$2.7 million in Canada and \$4.6 million in Ontario). Quebec's VC market is also characterized by the smaller role played by foreign investors. Quebec attracted only 7 percent of foreign VC investments in 2002, compared to 29 percent of total VC investments.
- B.C.-based firms experienced a modest but constant growth in VC investment over the past seven years. The amounts invested in B.C. firms grew 134 percent, from \$107 million in 1996 to \$251 million in 2002. By comparison, the overall growth of activity in Canada was 139 percent. This growth has meant a relatively constant average market share of 11 percent of total VC investment from 1996 to 2002 (ranging from 10 percent in 1996 to 14 percent in 2001 and back to 10 percent in 2002). This is slightly lower than B.C.'s 13-percent share of KBI firms and 13 percent of GDP in 2001.
- In the Prairies, VC investment grew by 93 percent between 1996 and 2002, from \$82 million to \$159 million. However, despite this increase, the Prairies' share of total VC declined by 19 percent to reach an average of 7 percent over the period (and only 4 percent in 2001). This declining share has, as a result, been much lower than its share of KBI firms (19 percent) and GDP (19 percent) in 2001. This is particularly true for Alberta, which attracted only 3 percent of total VC activity, compared to 16 percent of KBI firms. Manitoba and Saskatchewan, which are more focussed on traditional sectors, seemed to attract a fair share of VC investments, with 1 percent and 2 percent of total VC, respectively, compared to 1.4 percent and 2 percent of KBI firms. VC investments in the Prairies are also characterized by smaller average deal size, which averaged \$578 000 in the Prairies between 1996 and 2002, compared to the national average of \$2.7 million.

- Firms located in Atlantic Canada provinces attracted a small, but relatively stable, share of total VC investment in Canada between 1996 and 2002, with an average of 2 percent of the total. This proportion, while lower than their 6-percent share of GDP, is relatively similar to their 3-percent share of KBI firms in 2001.
- However, compared to the U.S., Canadian VC activity is relatively well distributed across regions. Indeed, in the U.S., VC investment is concentrated almost exclusively in Silicon Valley, Massachusetts, New York and the Southeast, which attracted 72 percent of total VC investment in 2002. Compared to Canada, other U.S. regions get relatively little attention from venture capitalists.

### *Absolute versus relative measures*

As in previous sections, when we analyze the regional distribution of VC activity in Canada, we need to take into account both absolute and relative measures. There are no precise measures of what should be the optimal or appropriate amount of VC investment for an economy (or a particular region), so most countries have instead used the U.S. as a benchmark.

But this may not necessarily be appropriate in all situations or for all regions. For example, an absolute comparison between Canada and the U.S. (e.g. total VC investments and number of deals) reveals that the Canadian VC industry is smaller and less developed. On a relative basis, however, the data reveal that Canada's VC activity from 1990 to 2002 has been similar to U.S. activity. This suggests that the current Canadian VC market situation may not be problematic, even if there are some key differences or imperfections in different segments of the two VC markets (such as in deal size and total disbursements).

Regional distribution of overall VC activity in Canada is also relative. To be meaningful and useful to policy-makers, one must compare the current regional distribution of VC with the most appropriate benchmarks. The most frequently used benchmarks are population, economic activity (GDP) and the number of KBI firms. Since VC funding is generally directed toward KBIs, it is appropriate to use the number of KBI firms by region to compare the regional distribution of VC activity across regions. However, this is not a perfect measure. This review will adapt the concentration of KBI firms and GDP across regions to make a comparative analysis of the regional distribution of VC investment in Canada.

Based on these measures — VC activity, number of KBI firms and GDP — for each of the five regions, the data reveal relative gaps in the distribution of VC activity in the Prairies and, to a lesser extent, Atlantic Canada. Other gaps may exist in some specific areas within a province or region, such as northern Ontario and eastern Quebec. Unfortunately, the current data do not permit a detailed analysis of specific areas within each province or region.

The following section reviews regional VC activity trends since 1996. While some regional elements have been discussed previously, the information is collected here to provide a more detailed analysis of the regional distribution of VC. This analysis will help us understand these gaps and will explain the relative concentration of VC activity in Ontario and Quebec. It will also review regional VC activity (e.g. total growth, average distribution of total VC activity, and shares for each region over the period) and determine whether the regional situation is improving



or worsening and whether we should act to ensure the continued growth of VC activity across Canada. These issues will inform policy issues being considered in the gap analysis in Part IV.

### ***6.1 1996–2002 Overall Regional Venture Capital Investment Trends and Analysis***

***There is a relatively strong relationship between regional distribution of venture capital activity, gross domestic product, and knowledge-based industry firms, except in the Prairies and Atlantic Canada***

The absolute data show that VC activity in Canada since 1996 has been concentrated in Ontario, Quebec and B.C. In these provinces, market patterns seem very similar. For example, we find a dedicated focus on the information technology and life sciences sectors, particularly in clusters centred in Ottawa, Montréal and Vancouver. This tendency mirrors U.S.-style VC investment activity, which is highly focussed on high technology and is concentrated in a few states, with California (Silicon Valley) and Massachusetts (Boston) attracting the majority of VC investment.

This high concentration of VC activity in a few regions is usually associated with the structure and nature of VC investment (see Part I). In fact, because of the strong mentoring role usually played by venture capitalists, VC has historically had a strong local component. While there are some indications that venture capitalists are now more specialized and, thus, increasingly open to investing in good opportunities regardless of location, VC investment remains highly concentrated in a few regions. A good example of the fading importance of local restrictions is the increasing level of foreign investment in Canada (and the increasing levels of investment by Canadian VC funds outside the country), as well as the growing number of VC funds that invest in all regions. However, many venture capitalists continue to invest in firms located a reasonable distance from their main office. This tendency is reinforced by concentrations of high technology firms in specific clusters.

Furthermore, the types of businesses that generally attract VC funding may also contribute to this concentration. As explained in Part I, VC is only appropriate for and used by a very limited number of firms (677 in 2002). These firms must be able to offer high-growth potential and can only be financed by 35 percent to 40 percent of investors who are willing to accept high risks in exchange for high returns. Most often, such opportunities are found in the technology sectors, which tend to concentrate in specific regions, such as Ottawa (information technology), Montréal (life sciences) and Vancouver (life sciences).

To clarify the links between VC activity and high technology firms, Figure 34 illustrates the relative distribution of VC activity, KBI firms and GDP across regions. More particularly, it shows that provinces or regions with high concentrations of SMEs and KBI firms (such as Ontario and Quebec) attracted substantial amounts of VC in 2002. The Ottawa area, for example, is often cited as a “technology cluster,” and it captured 56 percent of the total amount invested in Ontario-based firms in 2001 and 2002. Likewise, the Montréal area captured 69 percent and 73 percent of provincial VC investment in 2001 and 2002, respectively, while in B.C. the Vancouver area captured 93 percent and 90 percent in 2001 and 2002. A similar link is observed between the provincial or regional share of GDP and VC investment. In 2001 for example, as

shown in Figure 34 and Table 14, Quebec attracted a similar proportion of total VC activity, KBI firms and GDP, with 26 percent, 20 percent and 21 percent, respectively, in 2001.

However, this relationship between VC investment and the distribution of GDP and KBI firms by region does not apply to all provinces or regions. In fact, a VC activity gap can be detected in the Prairies and Atlantic Canada, where the share of VC activity (4 percent and 1 percent, respectively, in 2001) was lower than the proportion of GDP (19 percent and 6 percent) or KBI firms (19 percent and 3 percent) in 2001. This may be due to the fact that provincial VC investment patterns are often influenced by the nature of specific provincial activities and economies. The Prairies and Atlantic Canada may not have a critical mass of high-growth technology companies, which appear to attract VC investments in similar proportions to the rest of Canada. Consequently, businesses in these regions appear to have more difficulty attracting the same proportions of VC.

**Figure 34: Regional Distribution of Venture Capital Investment, Knowledge-Based Industry Firms and Gross Domestic Product in Canada, 2001**

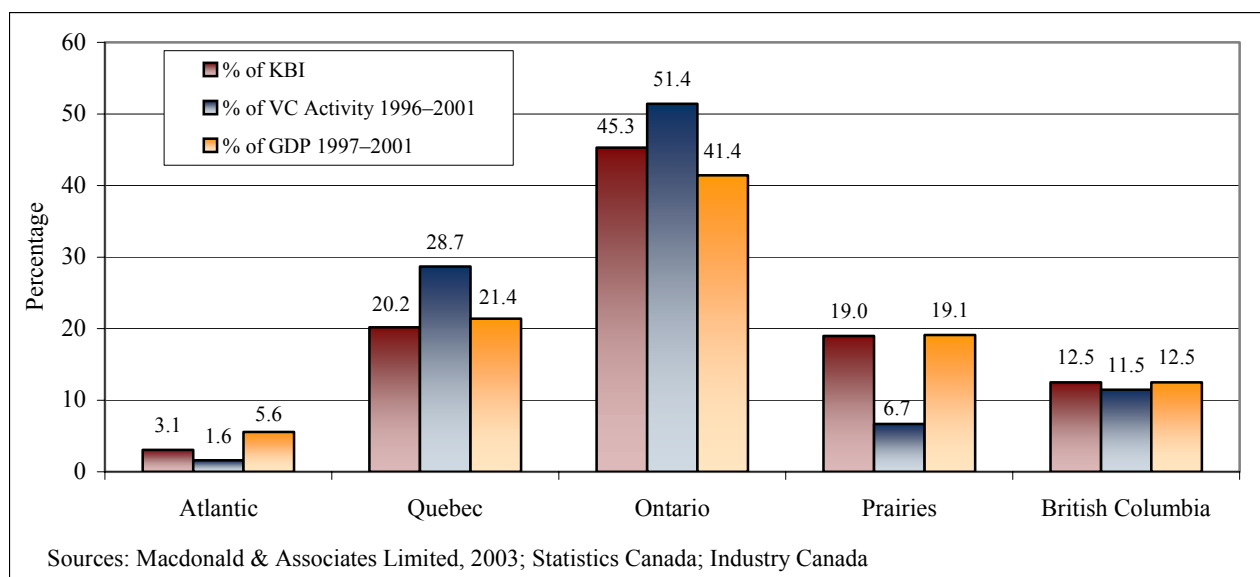


Table 14 shows that, in terms of the growth of VC investment from 1996 to 2002, both the Prairies (93 percent) and Atlantic Canada (33 percent) have remained below the national average (139 percent). As a result, the gap appears to be growing over time. In an absolute sense, the problem is worse in the Prairies, but, in terms of lagging growth, the discrepancy is more pronounced in Atlantic Canada. On a positive note, the number of active funds in the Prairies and Atlantic Canada has grown faster than the national average over the period (growth of 154 percent and 120 percent, respectively, compared to 117 percent for Canada).

This regional disparity of VC activity touches on an important debate about the direction of causality. Does strong VC activity lead to the creation of high-growth firms, or does the presence of a critical mass of high-growth-potential KBI firms result in the creation of more VC funds and the expansion of investments? How do clusters affect the creation of the critical mass required to attract VC investment and support high technology and innovative firms? To better understand

these relationships, and to further suggest explanations and potential solutions to some of the regional economic development issues, we now look in more detail at regional VC investment trends, and we review existing clusters in each region, province or city.

**Table 14: Summary of Venture Capital Activity Growth in Canada Versus Each Region, 1996–2002**

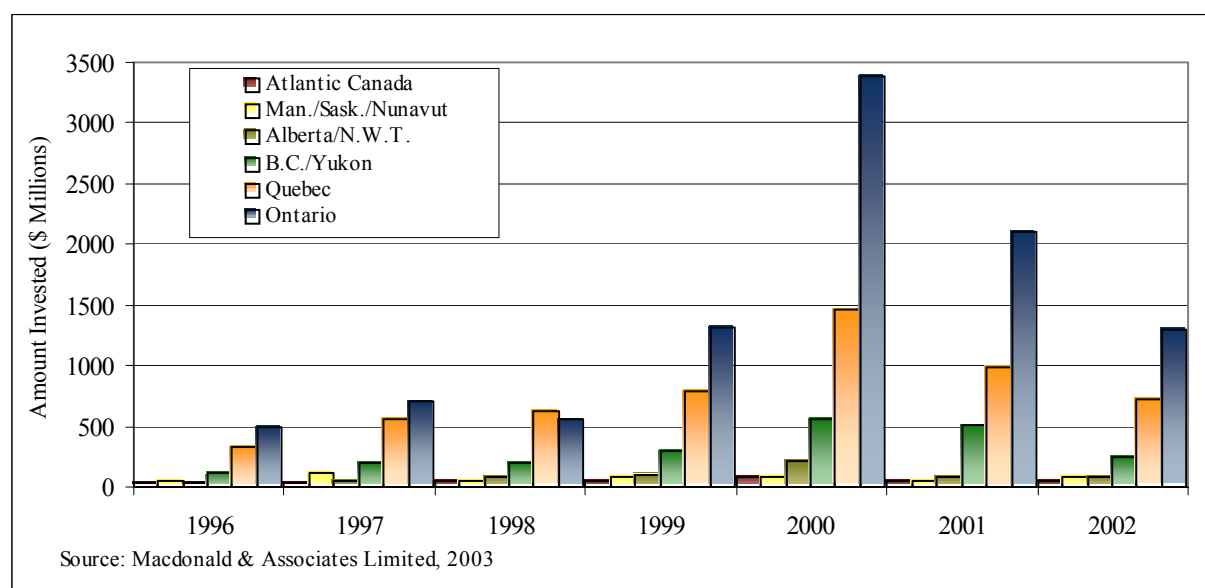
	Growth in VC Investments (percent)	Growth in # of VC Funds (percent)	Average Share of Total VC Investments (percent)	Average Share of Total VC Funds (percent)
Ontario	165 (\$487M–\$1.3B)	126 (50–113)	49	40
Quebec	123 (\$323M–\$722M)	88 (41–77)	31	30
British Columbia	134 (\$107M–\$251M)	126 (19–43)	11	15
Prairies	93 (\$82M–\$159M)	100 (15–30)	7	11
Atlantic	33 (\$33M–\$44M)	120 (5–11)	2	4
<b>Total</b>	<b>150</b> <b>(\$1B–\$2.5B)</b>	<b>117</b> <b>(130–282)</b>	<b>100</b>	<b>100</b>

Source: Macdonald & Associates Limited, 2003

***Absolute growth of venture capital activity was observed in all regions from 1996 to 2002***

Despite the concentration of VC activity in Ontario, Quebec and B.C., and despite the impact that this may have on the economic development of the other regions, these numbers should be placed into perspective. First, few firms receive VC investments in any given year. Just 677 did in 2002. In provinces or regions that have had a small base of VC investments, a very small change in the number of investments can dramatically shift the regional distribution figures from one year to another. Areas with less VC industry are more susceptible to these fluctuations, so we should review regional investment trends over longer periods.

Table 15 and Figure 35 show that the overall pool of VC has been rising in all regions, despite the 2002 downturn. Even if a particular region’s share of total investment does not change much relative to other regions, the data may still reflect a substantial increase in actual dollars invested, and may suggest an improved industry structure and the potential for future investment.

**Figure 35: Trends in Regional Distribution of Venture Capital Activity, 1996–2002**


In addition to the growth of VC investment across all regions since 1996, Table 15 shows that the last seven years have seen significant growth in the number of active VC firms and funds in all regions of Canada. However, the most active VC investors in Canada are concentrated in Quebec and Ontario. This suggests that many of the new VC firms outside central Canada tend to be smaller, and, as result, it is difficult to determine their impact on provincial investment trends. On the other hand, large VC firms in central Canada (e.g. bank-owned VC firms and some LSVCCs that raise capital across the country) are becoming more active nationally through branch operations in other regions. It would be informative to collect and review the data on the provincial activities of these firms.

**Table 15: Summary of Regional Venture Capital Investment Trends, 1996–2002**

	Total Growth 1996–2002 (percent)		Average Share of Total VC (percent)		Average Deal Size (\$M)	VC Funds		KBI (2001)	GDP (2001)
	\$M	# of Financings	\$M	# of Financings		# of Funds 2002	Increase 1996–2002 (percent)	Percent	Percent
Ontario	165	17	49	30	4.6	113	126	45	41
Quebec	123	50	31	48	1.7	77	88	20	21
British Columbia	134	57	11	9	3.3	43	126	13	13
Prairies	93	60	7	10	1.8	38	100	19	19
- Alta.	138	56	4	4	2.7	19	280	-	-
- Sask.	183	32	1	2	1.6	12	71	-	-
- Man.	-10	94	2	4	1.5	7	133	-	-
Atlantic	33	-13	2	3	1.7	11	120	3	6
<b>Canada</b>	<b>139</b>	<b>39</b>	<b>100</b>	<b>100</b>	<b>2.7</b>	<b>283</b>	<b>117</b>	<b>100</b>	<b>100</b>

Sources: Macdonald & Associates Limited, 1996–2002; Statistics Canada, 2002

In 2002, the most active Canadian investors in terms of number of Canadian companies financed were mostly in Quebec: the FTQ, the BDC, CDP Capital, Desjardins Venture Capital, Innovatech Montréal, Innovatech Québec et Chaudière-Appalaches, Fonds régional de solidarité FTQ, GrowthWorks, FondAction, CDP Capital — Technology Ventures, and VenGrowth Capital Partners. Key foreign investors (mostly located in California and Massachusetts) included VIMAC, Kodiak Venture Partners, Morgenthaler Ventures, Technology Crossover Ventures, Flagship Ventures, Pilgrim Baxter, Norwest Venture Partners, Prism Venture Partners, Menlo Ventures, and Kinetic Capital Partners.

## ***6.2 Provincial and Regional Trends***

As there is not enough data for some subregions to provide a significant comparative analysis, the following analysis focusses on trends by province or in such key areas as Ottawa, Montréal, Vancouver and Calgary. As a result, the Prairies and Atlantic Canada are being analyzed in aggregate, although we offer a short analysis of Alberta, Saskatchewan and Manitoba.

### **6.2.1 Ontario**

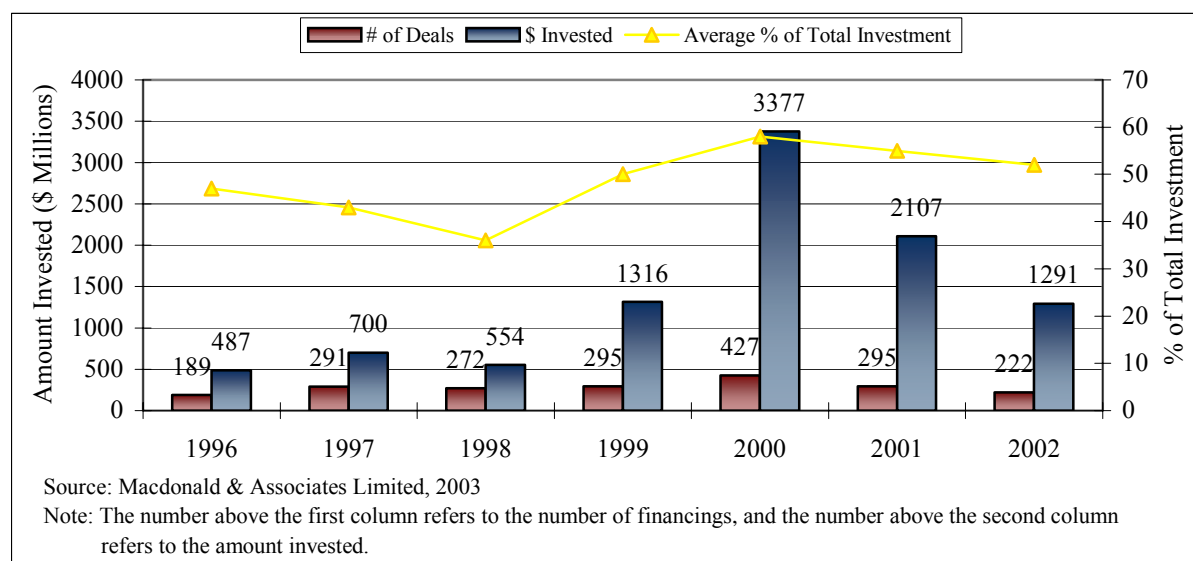
#### ***1996–2002 overall venture capital activity trends and analysis: Ontario leads venture capital activity in Canada***

Given the strong concentration of KBI firms in Ontario, and the affinity of venture capitalists' (particularly foreign investors) for technology firms, it is not surprising that VC investment in Ontario has experienced the strongest growth since 1996. Investment in Ontario grew 165 percent, from \$487 million in 1996 to \$1.3 billion in 2002 (with a peak at \$3.4 billion in 2000). Ontario has been the leading province in terms of VC disbursements from 1996 to 2002, with a 49-percent average share of total VC. This proportion has been roughly consistent with Ontario's 45-percent share of KBI firms in 2001 and its 41-percent share of GDP in 2001 (Figure 32).

However, Ontario has not been the leader in the number of VC transactions in Canada. In fact, Ontario-based firms only captured an average of 30 percent of total VC financings from 1996 to 2002. This is also reflected in the more modest growth of total VC transactions in Ontario, which increased by 17 percent between 1996 and 2002, from 189 to 222 deals (peaking at 427 in 2000). A higher share of total VC investments and fewer VC financings meant that the average VC deal size in Ontario from 1996 to 2002 (\$4.6 million) was the highest of all provinces and regions, and was well above the national average VC deal size (\$2.7 million).

Ontario ranked first in the growth in the number of active VC funds (see Table 16), growing from 50 VC funds in 1996 to 113 in 2002 (a 56-percent increase). By 2002, 40 percent of Canadian VC funds were in Ontario, slightly below the 49-percent average share of total VC investments from 1996 to 2002.

Figure 36: Ontario Venture Capital Activity Trends, 1996–2002



***Ottawa-based firms lead venture capital activity in Ontario and in Canada***

Within Ontario (and within Canada), Ottawa-based firms have played a major role in the development of the VC industry since 1996. Between 1996 and 2002, investment in the Ottawa region represented 38 percent of the total amount of VC invested in Ontario-based firms, and this investment has been the engine behind Ontario’s strong VC performance over the past several years. Over the same period, VC investment in Ottawa increased 1063 percent (from \$63 million to \$735 million), and the number of deals grew by 71 percent (from 38 to 65). The average deal size in Ottawa increased by 565 percent (from \$1.7 million to \$11.3 million) to reach an average of \$6.9 million for the seven-year period. This was largely responsible for the growth of the average deal size in Canada, which increased by 72 percent over the period (from only \$1.7 million in 1996 to \$3.2 million in 2002), for an average of \$2.7 million for the period.

**Overview of Ottawa as a Technology-Oriented City<sup>75</sup>**

- With a population of 1.2 million, it is the fastest-growing metropolitan region in Canada.
- Its 1200 technology companies collectively employed 85 000 people at the peak of the technology boom in 2000, but now employ around 70 000.
- Ottawa’s large community of scientists and technologists have created world-class R&D facilities and capabilities, so much so that 75 percent of Canada’s telecommunications R&D is conducted in Ottawa.
- The federal government’s spending on science and technology in Ottawa is conducted through the NRC, the Communications Research Centre Canada, Atomic Energy of Canada Limited and major government departments.

75. Claude Mason et al., *The Role of Venture Capital in the Development of High Technology Clusters: The Case of Ottawa* (United Kingdom: Hunter Centre for Entrepreneurship, 2002).

- Leading private sector technology companies in Ottawa include Nortel Networks, Newbridge Networks, Corel Corporation, JDS Uniphase and Mitel Corporation, while Cisco Systems, Nokia, Cadence Design Systems and others have a presence in Ottawa.
- Several of Ottawa's serial entrepreneurs are on their third or fourth start-up firm.
- Although Ottawa contains several branch operations of multinational enterprises, its technology cluster is largely "homegrown" and was built by new and growing entrepreneurial companies over the past 30 years.

***Recent situation: Ontario (particularly Ottawa) continues to lead venture capital activity in Canada***

Although VC activity declined significantly after peaking in 2000, Ontario (particularly Ottawa) continued to perform well and to lead the other Canadian provinces and regions in 2002 and the first nine months of 2003.

In 2002, Ontario captured 52 percent of total VC investments, worth \$1.3 billion (compared to 55 percent and \$2.1 billion in 2001). In 2002, Ottawa continued to drive most of Ontario's VC activity, with 57 percent (\$735 million) of the province's investments taking place there. Ottawa's dominant position is rooted in the region's strong focus on information technology, which attracted most of the foreign VC over the past few years.

The most active Canadian and foreign investors, in terms of number of companies financed in Ontario in 2002, included such Canadian investors as VenGrowth Capital Partners, Covington Capital Corporation, the BDC, Skylon Capital Corp., RoyNat Capital Inc., Genesys Capital Partners, Lawrence & Company, Ventures West Management Inc., Royal Bank Capital Partners, and Best Investment counsel. It also included foreign investors: VIMAC, Kodiak Venture Partners, Technology Crossover Ventures, Flagship Ventures, Menlo Ventures, Newbury Ventures, Morgenthaler Ventures, JK&B Capital, Synopsys, and Glynn Capital Management.

For the first nine months of 2003, Ontario lost its lead in total investment to Quebec. Indeed, Ontario-based firms attracted 39 percent of total investments (or \$362 million). Most of these investments were concentrated in Ottawa and Toronto, which attracted 43 percent and 42 percent of total VC (or \$156 million and \$153 million), respectively. While the first three quarters of 2003 suggested a significant decline in investment in Ottawa, the third quarter regained activity and saw foreign investors return, sending positive signals for the fourth quarter of 2003.

***Sectoral focus — information technology industries are driving Ontario's venture capital activity***

Despite a precipitous decline in overall VC investment in Canada and the U.S. (particularly in the information technology sector), in recent years an increasing proportion of Ontario's VC investment capital has been generated by the information technology sector, the exception being the first six months of 2003. To confirm this, the following are some trends related to sectoral investments in Ontario.

- **Information technology** — Information technology firms attracted a 77-percent average share of total Ontario VC investments from 1996 to 2002; this trend increased to 87 percent in 2001 and 81 percent in 2002. The rising share of information technology reflects both the growth in foreign VC investments in Ontario’s information technology sector and the decline in life sciences investment, discussed below. Within Ontario, information technology industries capture most of the province’s VC investments. Nationally, Ontario also attracts most of Canada’s information technology investments. In fact, Ontario attracted an average of 66 percent of all information technology VC investments from 1996 to 2002; this increased to 68 percent (\$1.8 billion) in 2001 and fell to 66 percent (\$1 billion) in 2002.
- **Life sciences** — Life sciences’ importance in Ontario has faded in recent years. In fact, between 1996 and 2002, life sciences’ average share of Ontario’s VC has consistently fallen below the average share of several provinces, and has been falling significantly in recent years, even as the amounts invested rose through to 2000. The value of life sciences VC investments in Ontario has fallen from \$248 million in 2000 to \$158 million in 2001 and \$134 million in 2002. This decline has significantly affected the position of the life sciences sector within Ontario. From 1996 to 2002, the average share of Ontario’s VC investments in life sciences was 10 percent. This share has fluctuated in recent years, from 11 percent in 1999 to 7 percent in 2000, 8 percent in 2001, and 10 percent in 2002, but has remained far below the 1996–2002 national average for the life sciences sector, which was 19 percent of total VC investments.

This relative decline in Ontario progressed as life sciences investment revived in 2001 and 2002 across North America (see Section 5) and as Ontario saw significant increases in public and private investment in life sciences, health care and research. A detailed review of regional factors for this discrepancy may be warranted.

#### **Cluster Map of Ontario**

- **Toronto** — Aerospace, financial services, business and professional services, arts and entertainment, food and beverages, apparel and textiles, automotive, information technology, new media, and tourism.
- **Ottawa** — Information technology, telecommunications, wireless technology, tourism, microelectronics, telecommunications, photonics, biotechnologies, professional services and health technologies.
- **Waterloo** — Information technologies, photonics and wireless technology.

#### ***Foreign investment: Ontario is attracting the majority***

Another distinctive recent regional trend is Ontario’s disproportionate share of foreign capital. For example, in 2002, Ontario captured 84 percent of total foreign VC investment, compared to 8 percent in Quebec, 6 percent in B.C. and 2 percent in Alberta.<sup>76</sup> Furthermore, with VC investments declining in 2001 and 2002, foreign investors’ share of Ontario’s total investments

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76. Manitoba, Saskatchewan and Atlantic Canada did not receive any foreign VC investment in 2002.



rose to 38 percent and 42 percent, respectively, compared to national levels of 29 percent and 26 percent.

The increase in disbursement dollars and market share were not limited to Ontario. In fact, foreign investors have increased from being 3 percent of Canadian VC investment in 1996 to 26 percent in 2002. While the flow of foreign VC has slowed in 2002, a pattern mirrored by other investor types, Canada (particularly Ontario) seems to have enjoyed a comparative advantage in attracting foreign VC investors in this period of stock market weakness and investment reductions. More details on trends in investor type are presented in Section 7.

While foreign investment in the Canadian VC market is undoubtedly a positive signal, we need to better understand the impact of this trend on Ontario's investment climate. For example, who are the investors and what they are investing in; why are they increasingly interested in Canada; and how are they contributing to business growth, innovation and economic development? Of particular interest is whether such investments are more likely to result in foreign acquisition and offshore product development and marketing. These issues are currently being reviewed and analyzed by Industry Canada, PricewaterhouseCoopers and Macdonald & Associates Limited. This analysis should produce useful results in the winter of 2004.

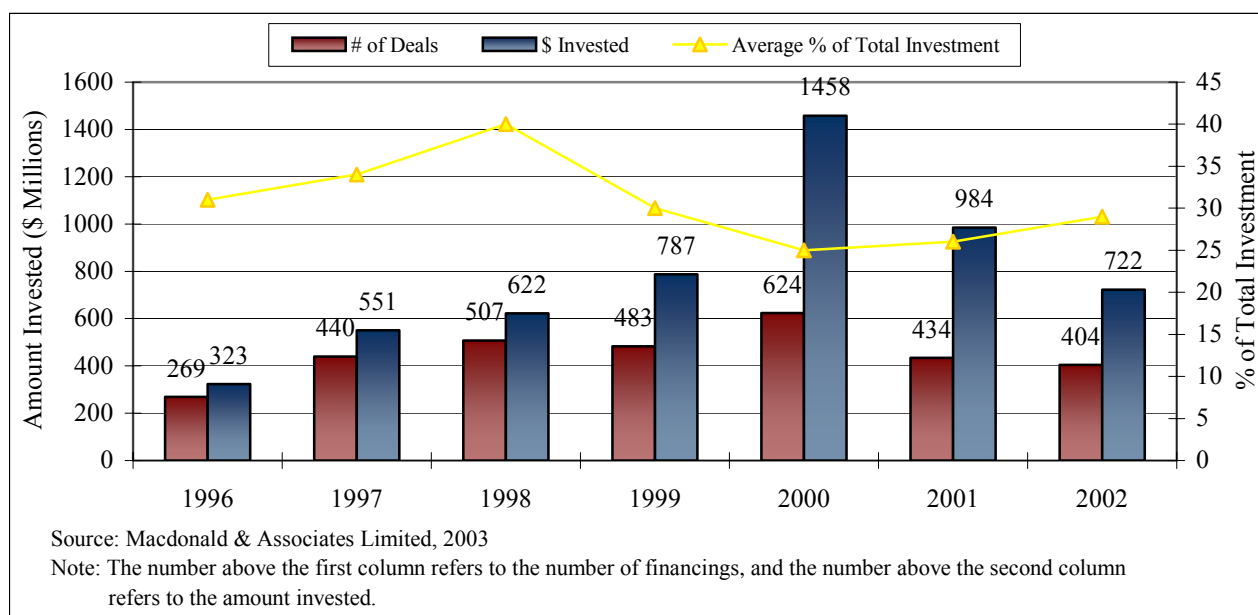
### 6.2.2 Quebec

***1996–2002 overall trends and analysis: Quebec venture capital investments are characterized by more smaller venture capital transactions, a strong focus on biotechnology, and relatively little foreign investment***

VC investment in Quebec increased 123 percent from 1996 to 2002 (from \$323 million to \$722 million). This performance was comparable to the growth in Ontario (a 165-percent increase, from \$487 million to \$1.3 billion) and B.C. (a 134-percent increase from \$107 million to \$251 million). As a result, from 1996 to 2002 Quebec was second, with a 31-percent average share of total VC investments (26 percent in 2001 and 29 percent in 2002), which is slightly higher than Quebec's share of KBI firms (20 percent) and GDP (21 percent) in 2001.

As well, Quebec dominated all regions by averaging 48 percent of total VC financings since 1996 (compared to 30 percent in Ontario and 9 percent in B.C.). This increased market share may be explained by Quebec having a 50-percent growth in VC deals between 1996 and 2002, from 269 transactions in 1996 to 404 in 2002, which is the nation's highest such increase.

Figure 37: Quebec Venture Capital Activity Trends, 1996–2002



However, with more financings and a lower share of total VC investment, Quebec’s average deal size over 1996–2002 was \$1.7 million. This was lower than the national average of \$2.7 million, and well below the averages of \$4.6 million in Ontario, \$3.3 million in B.C., and \$2.7 million in Alberta.

In terms of the number of VC funds, Quebec’s 77 funds ranked second behind Ontario’s 113 funds, and represented 27 percent of funds in Canada in 2002 (consistent with its 31-percent average share of VC investments from 1996 to 2002). In fact, the number of active VC funds increased significantly in Quebec, from 41 in 1996 to 77 in 2002, which was a 53-percent increase.

**Montréal drove Quebec venture capital activity between 1996 and 2002**

Quebec’s VC activity has been highly concentrated in the Montréal area, which captured an average of 70 percent of Quebec’s investments from 1996 to 2002. Just as Ottawa’s information technology cluster drove Ontario’s VC performance, life sciences in Montréal played a critical role in the recent strength of Quebec VC activity. Investments in Montréal increased by 124 percent from 1996 to 2002, from \$236 million to \$530 million (and peaked at \$1.1 billion in 2000). The average deal size in Montréal over the period was \$2 million, slightly higher than that in Quebec overall (\$1.6 million) but lower than the national average of \$2.7 million. This seems to support biotechnology firms’ concerns over the shortage of large amounts of capital.

**Recent situation: Quebec remains very strong in 2002 and the first nine months of 2003**

Quebec’s overall VC activity declined in both 2001 and 2002. In total, 404 financings, for \$722 million were negotiated in 2002 (compared to the 434 financings worth \$984 million concluded in 2001). While Quebec has generated less VC investment than Ontario, the number of transactions — primarily small and mid-sized deals — has remained consistently higher.

Furthermore, in the first nine months of 2003, Quebec took the lead in both investment and number of companies financed, with \$411 million invested in 262 companies (compared to \$362 million in 121 firms in Ontario).

However, the average deal size in Quebec continued to decline in 2002 and 2003, from \$2.3 million in 2001 to \$1.8 million in 2002 and only \$1.4 million in the first three quarters of 2003. This is well below the national averages of \$3.9 million in 2001, \$3 million in 2002, and \$1.8 million in the first nine months of 2003.

In 2002, the most active Canadian investors in terms of the number of companies financed in Quebec, were Quebec-based funds: the FTQ, CDP Capital, Desjardins Venture Capital, Innovatech Montréal, Innovatech Québec et Chaudière-Appalaches, FondAction, CDP Capital — Technology Ventures, Fonds régional de solidarité FTQ, the BDC, and Innovatech sud du Québec. Foreign investors active in Quebec in 2002 were Vertex Management, Seaflower Ventures, Advent International Corporation, Schneider Electric Ventures, The Artemis Group, ProQuest Investments, IDEC Pharmaceuticals Corporation, Shire Pharmaceuticals Group, BioFund of Finland, and BayTech Venture Capital.

***Sectoral focus: despite a strong life sciences sector, information technology leads venture capital investments in Quebec***

Quebec's life sciences companies, especially its biopharmaceutical sector, show interesting strength. This sector accounted for 74 percent of Quebec's life sciences activity in 2001 and 62 percent in 2002. Quebec captured an average of 40 percent of total Canadian life sciences investments between 1996 and 2002. Quebec's traditional firms also captured an average of 44 percent of Canada's traditional sector investments, while information technology firms came third, with 21 percent of Canadian information technology investments over the same period.

Even though Quebec leads life sciences VC investment in Canada, and is attracting much of Canada's traditional-sector investments, within the province the information technology sector leads Quebec's VC investments, averaging 39 percent of provincial disbursements from 1996 to 2002 (compared to 33 percent for the traditional sector, 24 percent for the life sciences sector, and 4 percent for the "other technology" sector).

**Cluster Map of Quebec**

- **Québec City** — Clothing and textiles, consulting engineering, agri-biotechnology, biopharmaceuticals, new media, photonics, and biotechnology.
- **Montréal** — Aerospace, telecommunications, photonics, pharmaceuticals, medical equipment, financial services, petrochemicals and plastics, environment, textiles, metal products, biotechnology, biomedical technologies, biopharmaceuticals, information technology, new media, and movies and television.
- **Eastern Quebec** — Oceanography, navigation, marine engineering and naval construction, commercial fishing, aquaculture and biotechnology, marine information and service technology, intermodality, and port operations.

***Foreign investments: Quebec firms attract less venture capital investment from foreign sources***

While Quebec has performed relatively well in total VC activity since 1996, with an average of 31 percent of total VC investments in Canada, it has not been able to attract many foreign VC investors. In fact, Quebec captured only 7.5 percent of the total amount invested by foreigners in Canada in 2002 (and 8.5 percent in 2001). This is significantly lower than its average share of total VC activity in Canada (31 percent).

Moreover, in recent years, foreign investment has slowed in Quebec more drastically than in the rest of Canada. Amounts invested in Quebec fell 47 percent, from \$93 million in 2001 to \$49 million in 2002, while, in Canada overall, foreign investment fell by 40 percent. This lower foreign VC investment in Quebec is significant, since foreign investment has been an increasing source of capital in Canada and will likely continue to be important to the future development of the Canadian VC industry.

A number of structural factors may explain why foreign VC investors have shown less interest in Quebec firms.

- Foreign investors tend to focus on information technology, particularly communication and networking sectors, which tend to be concentrated in the Ottawa Valley. According to Macdonald & Associates Limited, information technology investments represented more than 86 percent of total foreign VC investment in Canada in 2002. In fact, of the \$438 million disbursed by foreign investors in information technology in 2002, communications and networking accounted for 60 percent, 18 percent was directed towards semiconductors, software accounted for 14 percent, computer hardware attracted 6 percent, and Internet sectors received 3 percent. This strong focus on information technology may be one explanation for Quebec's lower share of foreign VC investments, and Quebec's strong focus on life sciences may obscure the province's information technology companies.
- Quebec's VC market tends to conclude more VC transactions, and these deals tend to be smaller. Given the size of U.S. VC funds and the average deal size in the U.S., Quebec may interest foreign investors. However, foreign investors are relatively new to the Canadian VC market. According to Macdonald & Associates Limited, new and growing firms in Quebec, particularly those in biotechnology, should eventually attract foreign VC.
- The Quebec government is more involved in the VC market, creating Innovatechs, the CDP and the Société générale de financement du Québec (SGF). This may discourage foreign investors. Hubert Manseau (President, Innovatech Montréal) has argued that Innovatech may have replaced private VC players and made private foreign investors less willing to invest in Quebec. As well, Quebec's public institutional players may take a more active role in the seed and start-ups phases, replacing or crowding out private sector VC players. As a result, Quebec's public institutions tend to avoid early and expansion financings, where the capital costs involved may be prohibitive. Furthermore, players such as the Fonds de solidarité des travailleurs du Québec have social missions that may limit their capacity to syndicate with U.S. private players, particularly at the expansion financing stage. However, the new provincial Liberal government's comprehensive review of existing programs and institutions may affect the government's participation in the VC market.

Evidently, more information on foreign VC investors’ characteristics and investment criteria would help explain the lower level of foreign investment in Quebec. The growing importance of foreign investors (and private investors) as a potential source of funding makes this a significant issue for Quebec, one that Quebec’s Réseau Capital has recognized as a key priority for the growth of Quebec’s VC market.

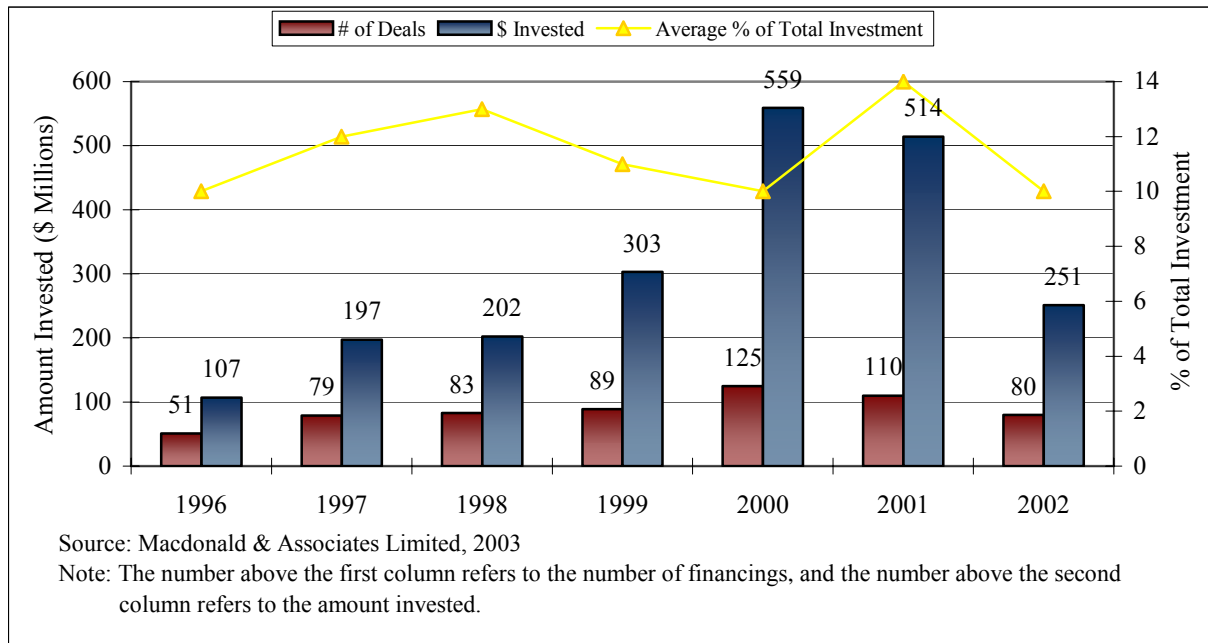
### 6.2.3 British Columbia

#### *1996–2002 overall trends and analysis: modest growth of venture capital activity*

Firms based in B.C. experienced modest but constantly growing VC investment over the past seven years, with B.C.’s VC investment increasing 134 percent, from \$107 million in 1996 to \$251 million in 2002. This growth is comparable to the overall Canadian growth of 139 percent, resulting in a relatively constant average market share of 11 percent of total VC investment from 1996 to 2002 (ranging from 10 percent in 1996 to 14 percent in 2001 and back to 10 percent in 2002). This was just slightly lower than B.C.’s 13-percent share of KBI firms and 13 percent of GDP in 2001.

A strong focus on information technology (which had a 42-percent average share of B.C.’s investments from 1996 to 2002) and life sciences (35 percent) pushed the average deal size in B.C. to \$3.3 million, which was higher than the national average of \$2.7 million. This higher average deal size is rooted in B.C.’s strong focus on large deals, which have captured a growing share of total investments, from 50 percent in 1996 to 74 percent in 2002. The number of B.C. VC funds grew considerably between 1996 and 2002, from 19 in 1996 to 43 in 2002, for a 126-percent increase. By 2002, B.C. was housing 15 percent of Canada’s VC funds.

**Figure 38: British Columbia Venture Capital Activity Trends, 1996–2002**



***Vancouver has been responsible for 94 percent of venture capital activity since 1996***

VC activity in B.C. increased by 134 percent between 1996 and 2002, from \$97 million to \$226 million. This activity was mostly concentrated in Vancouver, which attracted an average annual share of 94 percent of investments over the period (and 90 percent, or \$266 million, in 2002). Investment in Vancouver was strongly focussed on information technology and life sciences, which averaged 45 percent and 35 percent of provincial VC, respectively, between 1996 and 2002.

***Recent situation: stronger decline***

In 2002, B.C.'s VC activity declined by 51 percent (compared to a decline of 35 percent in Canada) from \$514 million in 2001 to \$251 million. As a result, B.C.'s share of total VC investment declined to 10 percent in 2002. This was lower than the 14 percent in 2001 and slightly lower than its average share of 11 percent between 1996 and 2002.

However, when we compared the VC activity level to B.C.'s share of KBI firms and GDP, the proportion was similar. In 2001, B.C. captured 14 percent of total VC activity, 13 percent of KBI firms and 13 percent of GDP. There was a similar decline in VC transactions. B.C.'s share of total deals reached 10 percent (80 deals) in 2002 and 11 percent (110 deals) in 2001, for an average of 9 percent between 1996 and 2002.

In 2002, the most active Canadian investors in B.C. were GrowthWorks, the BDC, Ventures West Management Inc., Discovery Capital Corporation, FutureFund Capital (VCC) Corp., Canadian Medical Discovery Corporation, Management Buyout, Smart Seed Equity Inc., Greenstone Venture Partners, and RoyNat Capital Inc. In terms of foreign investors, the most active ones were Kinetic Capital Partners, Pictet & Cie, Encompass Ventures, The Photonics Fund, Intel Capital, Triam Investments, Sylvan Ventures, West STEAG Partners, The Claridge/Andell Group, and BTexact Technologies.

In the first nine months of 2003, B.C.'s VC activity kept declining to only 7 percent of total VC investments and 7 percent of deals in Canada. This lower VC activity level had some impact on the average deal size in B.C., which declined from \$4.7 million in 2001 to \$3.1 million in 2002 and \$1.7 million in the first nine months of 2003, which was well in line with the \$3 million average deal size in Canada in 2002 (which was \$1.8 million in the first nine months of 2003).

***Sectoral focus: relatively balanced sectoral distribution***

The average distribution of VC investment in B.C. from 1996 to 2002 was balanced between information technology (with an average of 42 percent of the province's investments) and life sciences (with an average of 35 percent of total life science investments). However, when compared to the sectoral distribution of VC investment in Canada, B.C. more strongly emphasized life sciences (19 percent nationally compared to 35 percent in B.C.).

However, despite the importance of life sciences in overall B.C. investment activity, the overall Canadian distribution of life sciences VC investment between 1996 and 2002 reveals that B.C. has not attracted the majority of life sciences investment in Canada. B.C. ranked third, with an average of 22 percent of Canada's life sciences investments, behind Quebec (40 percent) and Ontario (30 percent). From 1996 to 2002, investment in B.C.'s traditional sector represented a

smaller proportion of provincial VC than was the case in any other province or region. Traditional-sector firms only attracted an average of 13 percent of the province's VC investment, compared to 24 percent of Canada's VC investments.

#### **Cluster Map of British Columbia**

- Fuel cells and alternative energy, life sciences (e.g. biotechnology, genomics, health sciences, medical devices), environmental technologies, information and communication technologies (e.g. new media, wireless, e-business, broadband, software, quantum computing), and ocean industries.

### **6.2.4 Prairies**

***1996–2002 overall trends: significant growth of venture capital activity, but still behind compared to its share of total gross domestic product and knowledge-based industry firms***

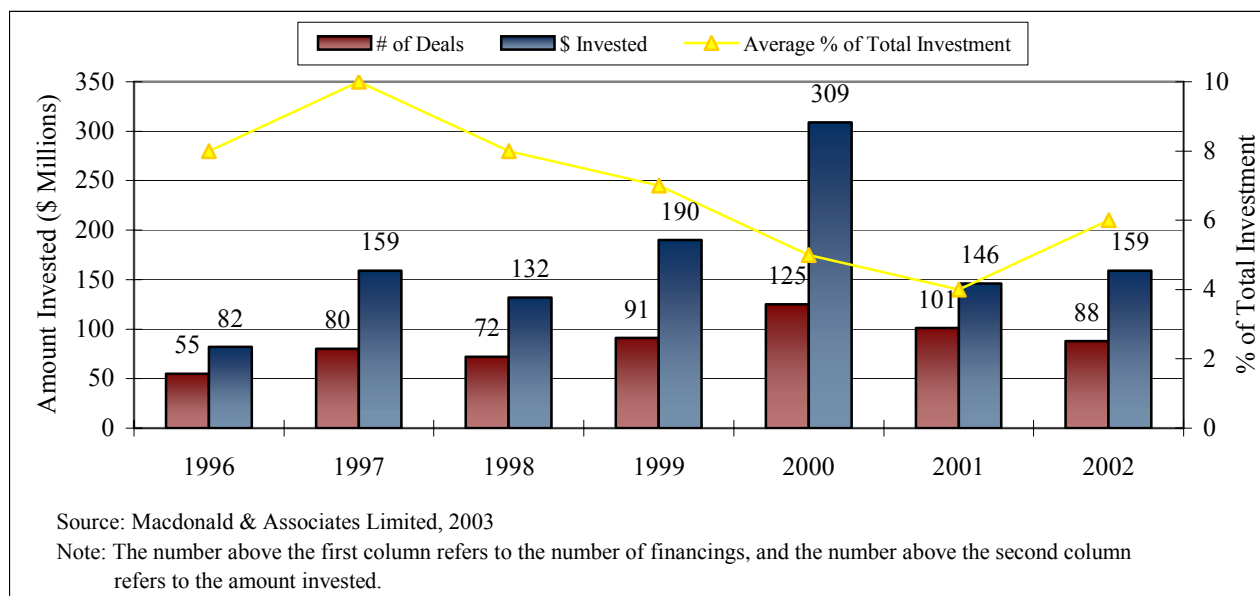
Between 1996 and 2002, VC investment in the Prairies grew by 93 percent, from \$82 million to \$159 million. However, the Prairies' share of total VC declined by 19 percent. Less VC investment has meant that the Prairies' average share of total VC activity (7 percent from 1996 to 2002, and 6 percent in 2002) has been much lower than its share of KBI firms (19 percent) and GDP (19 percent) in 2001. From 1996 to 2002, the average deal size of \$578 000 in the Prairies was considerably lower than the national average of \$2.7 million.

The Prairies' strong focus on traditional sectors (particularly in Manitoba and Saskatchewan) may account for the region's lower VC investment, but a recent study concluded that it is not true that technology clusters can only flourish where ample risk capital is available. Ottawa's developing technology cluster, for example, showed remarkable early growth without VC.<sup>77</sup>

On the other hand, there are many more VC funds in all three provinces now than in 1996. Alberta has 19 VC funds, compared to 5 in 1996 (an increase of 263 percent); Manitoba has 7 now, compared to 3 in 1996 (an increase of 43 percent); and Saskatchewan has 12 funds, compared to 7 in 1996 (an increase of 58 percent). Overall, 38 VC funds are in the Prairies, which is 13 percent of the Canadian total of 282 VC funds.

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77. Claude Mason et al., *The Role of Venture Capital in the Development of High Technology Clusters: The Case of Ottawa* (United Kingdom: Hunter Centre for Entrepreneurship, 2002).

**Figure 39: Prairies Venture Capital Activity Trends, 1996–2002*****Recent situation: relatively smaller decline of activity in 2002 and 2003***

After peaking at \$309 million in 2000, VC investments in the Prairies fell to \$146 million in 2001, but recovered to \$159 million in 2002 (roughly equivalent to investment levels in 1999) and to \$55 million in the first nine months of 2003. The Prairies' share of total VC invested in Canada increased from 4 percent in 2001 to 6 percent in 2002 (and 6 percent in the first three quarters of 2003). However, the number of deals declined 13 percent, from 101 in 2001 to 88 in 2002 (and 61 in 2003).

In 2002, VC investors in the Prairies preferred larger deals and concluded fewer transactions than had been the case in previous years. This is reflected in the 29-percent increase in average deal size, from \$1.4 million in 2001 to \$1.8 million in 2002 (except for the first nine months of 2003, which saw a significant decline in deal size to \$0.9 million).

***Sectoral focus: strong focus on the traditional sector***

A key sectoral trend in the Prairies has been the importance of the traditional sector, which averaged 46 percent of the region's VC investments from 1996 to 2002. In Canada, traditional sectors averaged 24 percent of total investment between 1996 and 2002. This strong focus on the traditional sector was most acute in Saskatchewan and Manitoba, where agriculture has traditionally accounted for significant amounts of regional economic activity.

Compared to other provinces and regions, the Prairies have had a low share of information technology and life sciences VC investments since 1996, capturing only 3 percent and 6 percent of total VC investments in each, respectively. Within the Prairies, information technology and life sciences attracted an average share of provincial VC of 20 percent and 22 percent, respectively, between 1996 and 2002.



The sectoral distribution of VC activity in the Prairies may explain this region's historical difficulty in attracting VC, since investors have recently focussed on information technology. However, new technology centres are slowly being established in some regions, such as nanotechnology in Edmonton and agri-biotechnology in Saskatoon. Promoting these nascent centres may raise awareness of them among venture capitalists and may, in turn, attract more VC investment.

Other possible explanations include the absence of tax credits for LSVCCs in Alberta, the strong mezzanine market in Saskatchewan, the lack of a critical mass of potential VC opportunities, and information asymmetry between entrepreneurs and VC investors. Further investigation would help determine why the Prairies' share of VC activity is disproportionately low compared to its share of KBI firms and GDP. The detailed analysis of government programs in these regions presented in Part III may also help to identify other potential reasons for the Prairies' perennially low levels of VC investment.

### ***Provincial overview***

Following is a short summary of VC activity in Alberta, Saskatchewan and Manitoba between 1996 and 2002. As explained previously, broad fluctuations of percentages are rooted in the relatively small base of VC activity.

#### **Alberta**

- **Overall trends** — Alberta has driven the region's VC investments, averaging 70 percent of the Prairies' VC investments over the past three years. As well, the average deal size in Alberta (\$2.7 million) is higher than the average deal size across the Prairies (\$1.8 million).
- **Sectoral focus** — Investment patterns in Alberta mirrored national growth trends from 1996 to 2002. VC activity increased by 138 percent overall, the number of transactions grew 60 percent (from 55 in 1996 to 88 in 2002), and all sectors showed solid growth.
  - *Life sciences* attracted 18 percent (\$6.5 million) of the VC invested in Alberta in 1996. While this share declined to 13 percent in 2002, the total VC invested in life sciences in Alberta increased to \$18 million, for a growth of 176 percent.
  - *Traditional sectors* followed a similar trend between 1996 and 2002. While the share of provincial allotments decreased from 65 percent to 41 percent, the amount invested increased by 110 percent, from \$24 million to \$49 million.
  - *Information technology* investment's drastic growth can be credited for much of the province's increase in VC activity. In 1996, Alberta's information technology sectors captured \$3 million, or 8.3 percent of provincial VC. In 2002 the information technology sector attracted 40 percent of provincial disbursements, totalling \$48 million, an increase of 1513 percent. While all sectors in the Prairies showed strong growth from 1996 to 2002, information technology investment clearly drove the region's VC activity.

**Cluster Map of Alberta**

- **Edmonton** — Nanotechnology, life sciences (e.g. health, biotechnology, proteomics/genomics) and agriculture.
- **Calgary** — Information technology (e.g. wireless and new media); agriculture; and technologies to support the oil and gas sector, including telecommunications, geomatics, and global information systems.

- **Regional focus** — Within Alberta, the bulk of VC activity was centred on clusters in Calgary and Edmonton. In 1996, Calgary (\$15 million) and Edmonton (\$18 million) attracted comparable amounts of VC financing. Between 1996 and 2002, investment in Calgary and Edmonton increased by 262 percent and 63 percent, respectively. In 1996, 19 percent (\$1 million) of the province’s life sciences investment was directed towards Calgary, while 81 percent (\$5 million) went to Edmonton. Calgary attracted 67 percent (\$2 million) of the province’s information technology investments, while 33 percent (\$980 000) was invested in Edmonton, in 1996. Between 1996 and 2002, the number of deals in Calgary grew by 129 percent, while the number of financings in Edmonton fell 10 percent.

In 2002, Calgary attracted \$55 million and Edmonton captured \$29 million in VC. By 2002, Calgary’s share of provincial investments in life sciences, other technology and information technology investments had increased to 53 percent (\$6 million), 47 percent (\$1 million) and 86 percent (\$39 million), respectively. Over the same period, traditional-sector investment declined in Calgary, from \$12 million to \$8 million, and gradually shifted to Edmonton.

The information technology sector drove Alberta’s growth over this period and, by 2002, 86 percent of the province’s information technology investment was invested in Calgary. The increase in VC activity in Alberta was powered by an infusion of information technology financing in Calgary. Between 1996 and 2002, information technology investment in Calgary grew from \$2 million to \$39 million, a steep increase of 1839 percent. Life sciences investments also showed strong VC activity from 1996 to 2002, increasing by 389 percent (\$1 million to \$6 million).

- **Investor profile** — The most active Canadian investors in Alberta in 2002 included AVAC Ltd., Ontario Municipal Employees Retirement System, Almasa Capital Inc., RoyNat Capital, BMO Capital Corporation, the BDC, Jefferson Partners, Pangaea Ventures Ltd., FCC Ventures, and MM Venture Partners.

**Manitoba**

- **Overall trends** — Manitoba attracted just 2 percent of total VC activity from 1996 to 2002. Moreover, the recent market downturn seems to have badly hurt VC deal size in Manitoba. From 1996 to 2002, VC investments in Manitoba declined 10 percent, from \$30 million to \$27 million, while the number of financings increased 40 percent, from 18 to 35. These two trends resulted in a 54-percent drop in the average deal size, which settled at \$1.4 million.

- **Sectoral focus** — Given the small amount of VC investment in this province, a few large deals in one sector can change the overall distribution of investment, so it is hard to isolate which factors contribute to growth or decline. However, Manitoba’s increasing difficulty in attracting VC investments may be rooted in its strong reliance on traditional industries, as 89 percent of total VC investment in 2002 went to high technology sectors. In fact, 68 percent of Manitoba’s VC investments were directed toward traditional sectors from 1996 to 2002, which may explain the decline in the amount invested in Manitoba over the past few years. However, in recent years, Manitoba has been seeing VC investments in the traditional sector drop from 37 percent (or \$16 million) in 2001 to 21 percent (or \$6 million) in 2002. There is also a trend toward investment in the life sciences sectors, which attracted 41 percent (\$18 million) of the province’s investments in 2001 but 54 percent (\$15 million) in 2002. As a result, between 1996 and 2002, this sector averaged 20 percent of provincial disbursements.

#### **Cluster Map of Manitoba**

- Aerospace, agri-food, life sciences/biopharmaceuticals, convergent media (e.g. printing and publishing, TV and motion pictures, audio), energy and environment, and information and communication technologies.

- **Investor profile** — The most active Canadian investors in Manitoba in 2002 included Crocus Investment Fund, ENSIS Management Inc., Lombard Life Sciences, Manitoba Capital Fund, the BDC, Lawrence & Company, TD Capital, Manitoba Science and Technology Fund, Richardson Ventures Inc., and ATS Automation Tooling Systems.

#### **Saskatchewan**

- **Overall trends** — Saskatchewan averaged 2 percent of total VC investment between 1996 and 2002, so it is not a major player in the Canadian VC industry. Nonetheless, VC investment in Saskatchewan increased 183 percent, from \$17 million in 1996 to \$47 million in 2002, while the number of financings increased 32 percent, from 19 to 25, so the average deal size increased by 115 percent, averaging \$1.6 million between 1996 and 2002.
- **Sectoral focus** — As in Manitoba, the small base of VC investment makes it difficult to know which factors contribute to the growth or decline of VC activity or to fluctuations in sectoral activity in any given year. However, from 1996 to 2002, Saskatchewan’s traditional sector captured an average share of 60 percent of total VC investments, and captured 54 percent (\$25 million) in 2002. The life sciences sector is important in Saskatchewan, attracting, on average, 29 percent of provincial VC since 1996. Information technology has not historically attracted much investment, averaging 7 percent of it in Saskatchewan between 1996 and 2002. VC investments in other technology firms (e.g. energy and environment) captured 29 percent (or \$5 million) of investments in 2002, suggesting interesting developments for the future.

### Cluster Map of Saskatchewan

- **Saskatoon** — Agri-biotechnology, space engineering, synchrotron technology, telehealth, animal health and vaccine technologies.
- **Regina** — Petroleum enhancement technologies and information technology.

- **Investor profile** — The top Canadian investors, in terms of amounts invested in 2002, were Crown Capital Partners Inc., Crown Investments Corporation of Saskatchewan, Prairie Financial Management, Westcap Management, GrowthWorks, Management Buyout, the BDC, Crocus Investment Fund, and Foragen Technologies Management Inc.

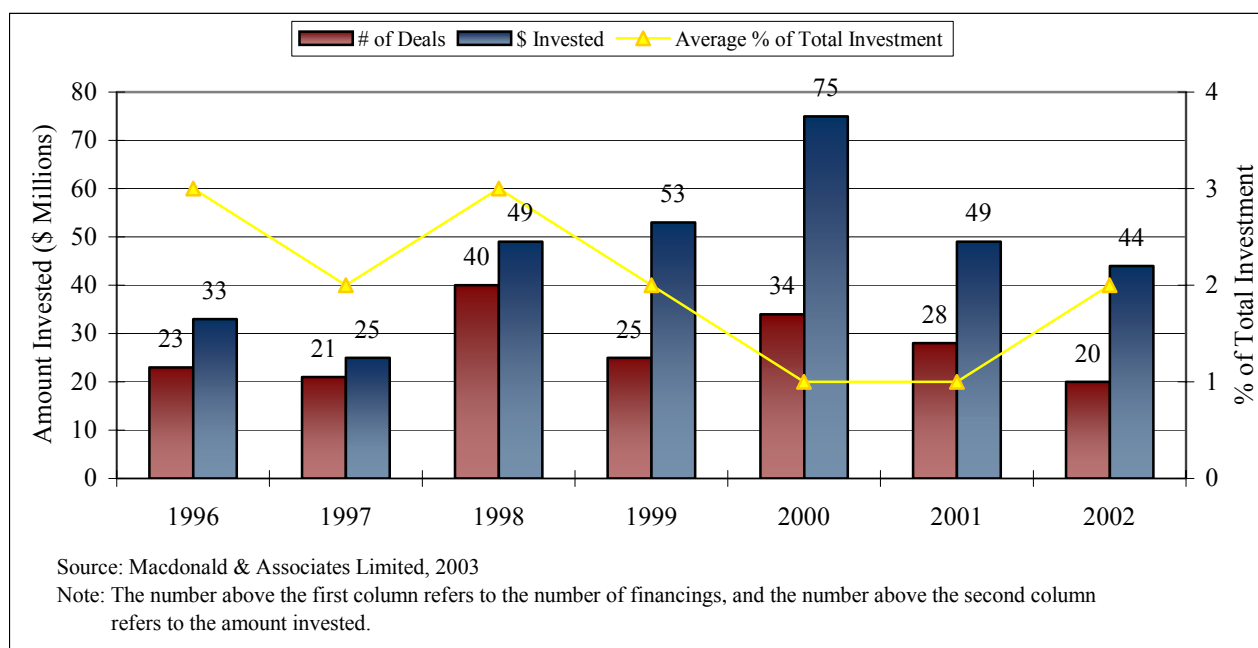
## 6.2.5 Atlantic Canada

### *1996–2002 overall trends and analysis: modest growth of venture capital activity, but relatively lower share of total venture capital investments*

From 1996 to 2002, Atlantic Canada attracted a 2-percent average share of total VC investment in Canada. This proportion was considerably lower than the region's share of GDP (6 percent in 2001) and is slightly lower than the region's 3-percent share of KBI firms in 2001, so we should see what kinds of firms are currently in Atlantic Canada, particularly in its information technology and life sciences sectors. This could show whether this lower share is related either to the region's sectoral activity or to location or (most likely) to both. This being said, there are more positive observations.

- VC investments have grown 33 percent from 1996 to 2002, from \$33 million to \$44 million.
- The number of VC deals fell by 13 percent, from 23 in 1996 to 20 in 2002.
- The average deal was smaller than the national average, but has increased by 52 percent, from \$1.4 million to \$2.2 million between 1996 and 2002, with an average deal size of \$1.7 million.
- The number of VC funds has more than doubled, from 5 in 1996 to 11 in 2002.

**Figure 40: Atlantic Venture Capital Activity Trends, 1996–2002**



***Recent situation: a relatively smaller decline of venture capital activity level in 2002 and 2003***

Atlantic Canada, on average, attracted just 2 percent of total investment in 2002. However, the region did not experience as steep a decline in VC investments as did the rest of the country, just 10 percent in Atlantic Canada (from \$49 million in 2001 to \$44 million in 2002), compared to 35 percent nationally. This trend, combined with the decrease in deals (from 28 to 20) between 2001 and 2002, drove the average deal size to \$2.2 million in 2002. For the first nine months of 2003, the region saw just 3 percent of total investment (or \$31 million in 10 companies).

The most active Canadian investors in Atlantic Canada in 2002 were Workers Investment Fund Inc., ACF Equity Atlantic Incorporated, the BDC, InNOVAcorp, Nova Scotia Business Inc., Fullarton Capital Corporation, Export Development Canada, Management Buyout, Skypoint Capital, and MedInnova Partners Inc. There were no foreign investors in 2002.

***Sectoral focus: strong focus on information technology and traditional sectors***

Just as Atlantic Canada captured little national VC investment from 1996 to 2002, it also captured a small share of Canada’s information technology and traditional sector, just an average of 3 percent of total VC investment and 2 percent of total life sciences investment. These trends confirm that Atlantic Canada has little VC activity and suggest a relative imbalance compared to the regional sectoral VC activity trends.

While the traditional sectors continue to attract a significant 28-percent share of Atlantic Canada VC activity, information technology firms attracted the most, averaging 51 percent of total Atlantic VC investments between 1996 and 2002. Life sciences-sector firms came in third, with 21 percent of the region’s VC investments. To better understand this low level of activity and the

challenges faced by information technology and life sciences firms in this region, we should most closely compare VC activity trends to the regional sectoral activity and types of firms. Doing so will help us find ways to further encourage VC investment in the region.

### Cluster Map of Atlantic Canada

- **New Brunswick** — Aquaculture, information technology, food and beverages, and forest products.
- **Nova Scotia** — Information technology and life sciences.
- **Prince Edward Island** — Aerospace, aquaculture, information technology, and food and beverages.
- **Newfoundland and Labrador** — Aquaculture, information technology, oil and gas, and ocean technology.

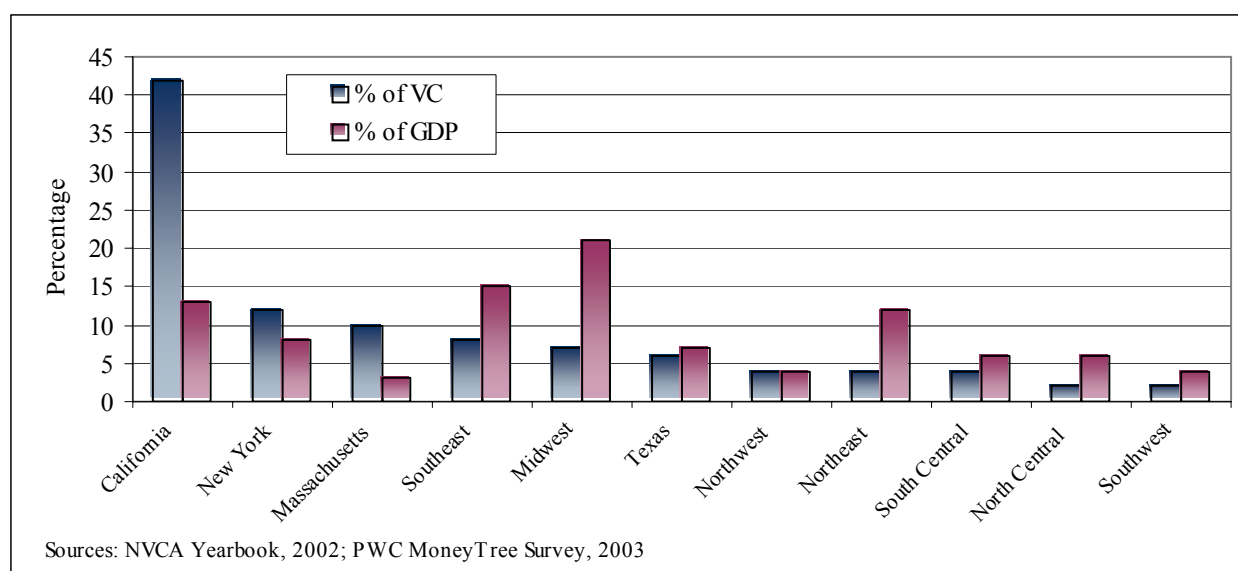
## 6.3 International Comparison

### 6.3.1 Comparison: Canada–United States

#### *Regional concentration of venture capital activity also observed in the United States*

VC investment may be concentrated in a few regions in Canada, but regional concentration is more pronounced in the United States, particularly in California, New York, Massachusetts and the Southeast. These regions attracted 72 percent of total VC investments in 2002, a much higher percentage than their 39-percent share of GDP in 2002. Other regions, such as the Midwest and Northeast U.S., have a higher share of GDP, but attract little VC activity. As a result, when compared to Canada (see Figure 41), more U.S. regions get little attention from VC investors.

**Figure 41: Regional Distribution of Venture Capital Investment and Gross Domestic Product in the United States, 2002**



### 6.3.2 Comparison: Canada–Organisation for Economic Co-operation and Development Countries

Like Canada, OECD countries are marked by regional concentrations that have persisted through the years. Regional clustering of VC investment is common across OECD nations, and tends to centre on areas with high technology, manufacturing and services close to financial centres, such as Silicon Valley and Massachusetts in the U.S., and London in the U.K. This illustrates the difficulty in achieving regional balance in VC activity in most countries. VC goes where there is a critical mass of high-growth-potential firms, and where entrepreneurial culture flourishes.

## 7. Venture Capital Investment Trends by Investor Type

As explained in Part I, the VC industry is a complex, interdependent market. This complexity arises from this market's composition and structure (e.g. number and type of players) and from its operation (e.g. fundraising versus investments, investment criteria, decision-making processes). These factors have shaped the evolution and performance of the VC industry in Canada.

The evolution of the VC industry in Canada has been influenced by the number and the changing nature of the suppliers of capital and VC investors who participate in the market.

1. **Suppliers of capital** are the sources of capital for VC funds. They are primarily individuals, corporations, private and public pension funds, endowments, life insurance companies, and mutual funds. These suppliers provide capital to Canadian VC funds based on expected risk-adjusted returns and predetermined investment criteria, but they do not invest directly in Canadian firms.
2. **VC investors** raise funds from the different suppliers of capital and then invest in Canadian and foreign high-growth-potential companies. In Canada, there are seven categories of VC funds.<sup>78</sup>
  - *Labour-sponsored venture capital corporations* (LSVCCs) are VC funds sponsored by labour unions and capitalized by individual shareholders who receive federal and/or provincial tax incentives in exchange for long-term capital commitments, usually exceeding eight years.
  - *Private independent funds* are structured as limited partnerships and related vehicles.
  - *Institutional funds* are VC funds within large institutions, such as pension funds, insurance companies or endowments. In Canada, some of these institutional funds have indirectly supplied capital. Others have been directly involved as VC investors.<sup>79</sup>
  - *Corporate funds* include subsidiaries of industrial or financial corporations.

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78. This grouping of investors is used by Macdonald & Associates Limited in their annual review of the Canadian VC industry.

79. In the U.S., institutional investors have been, primarily, indirectly involved as suppliers of funds.

- *Government funds* include BDC, FCC Ventures and EDC VC funds, as well as provincial government funds (e.g. SGF, Innovatechs).
- *Foreign investors* are non-resident private VC funds or corporations active in Canada.
- *Other investors* include mutual funds and other institutional investors with interests in specific private equity deals but without a permanent market presence.

In the U.S. VC market, private independent investors dominate VC investment, providing 83 percent of capital under management in 2002, compared to the 23 percent provided in Canada by private independent funds. Fundraising and investment in the Canadian VC market is led by LSVCCs, which rely heavily on tax incentives. The significance of private independent investors changes the basis of comparison, since their mandates are different from those of some LSVCCs and private independent investors (see Subsection 7.2.1).

The principle sources of funds is another major difference between the Canadian and U.S. VC markets (which explains, in large part, the dominance of LSVCCs in Canada). In Canada, individual investors provide 56 percent of total commitment in 2002, compared to 9 percent in the U.S. In the U.S., institutional investors are the main sources of capital, providing more than 85 percent of total commitment in 2002 (pension funds provide 42 percent, endowments and foundations provide 21 percent, and financial and insurance provide 26 percent of total investments). In Canada, institutional investors provide only 18 percent, a low participation rate that has influenced the evolution and growth of the Canadian VC market. While private independent and institutional investors have not been major players in the history of the Canadian VC market, their potential contribution will be essential to the growth of the VC industry.

Another complicating feature of the VC market is the internationalization of the market through increased capital inflows (investments made by foreign investors in Canadian firms) and increased capital outflows (investments made by Canadian investors in foreign firms). See Section 8 for a detailed review of Canadian VC investments made abroad.

This two-way flow of investment, particularly with the U.S., has brought significant benefits to the Canadian market and to Canadian SMEs. Foreign investments enable Canadian VC firms to build stronger networks with experienced venture capitalists in other countries; to provide diversification opportunities for Canadian VC firms; and to earn potentially higher returns for their investors (by investing in the best opportunities regardless of location). As well, foreign participation in the Canadian VC market provides additional sources of capital, which increases funding in Canada and, thus, meets specific needs of Canadian SMEs. Moreover, this increased inflow and outflow of capital fosters competition in the Canadian and U.S. VC markets and provides improved networks and strategic partnerships with more experienced VC investors, which develops the Canadian VC market. Indeed, in recent years, more deals are being syndicated in Canada, partly because foreign investors have been investing alongside Canadian investors.

To better understand how these domestic and foreign participants have shaped the Canadian VC market, this section presents key trends and observations related to VC fundraising trends



and VC investments trends by type of investor from 1996 to 2002.<sup>80, 81</sup> It also briefly reviews the relative importance of the different suppliers of capital to VC funds managers.

Overall, the analysis shows that, over the past seven years, LSVCCs, government funds and foreign investors have played major roles in fundraising and investment, while institutional and private independent investors have approached VC relatively cautiously. These trends raise important questions and concerns about these investors' impact on the growth of the VC industry — which we will discuss, along with foreign investment, throughout this section, in Section 9, and in Part IV.

### ***7.1 Overview of 1996–2002 Venture Capital Fundraising Trends and Analysis***

As explained previously, VC funds (usually the general partner in the case of a limited partnership investment vehicle) first raise new capital from different suppliers and then invest in high-growth-potential Canadian and foreign SMEs. VCs generally raise funds every two or three years, depending on their investment activities. In fact, strong fundraising throughout 2002 and 2003 indicates that VC investment activity should increase soon.

VC fundraising must be examined within the proper context. Accordingly, this section looks at fundraising trends (the amounts of new capital raised by each VC investor type); at the source of new capital raised (the origin of new capital); and at capital under management trends (the total capital being managed by each investor type).

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80. VC funds raise new capital from domestic investors (e.g. individuals, corporations, pension funds, endowment, governments, insurance companies, mutual funds) and foreign investors.

81. VC funds can be LSVCCs or corporate, foreign investors, government, institutional, or private independent funds. They disburse their funds in Canadian and foreign high-growth-potential businesses, based on predetermined investment criteria.

**Table 16: Summary of Venture Capital Funds Raised, Capital Under Management and Capital Available by Investor Type, 1996–2002**

	Funds Raised (\$ Millions) (percent)			Capital Under Management (\$ Millions) (percent)			Capital Available for Investment (\$ Millions) (percent)		
	1996	2002	Total Growth	1996	2002	Total Growth	1996	2002	Total Growth
<b>LSVCCs</b>	1 221 (70)	1 754 (54)	43	3 061 (47)	8 199 (36)	167	1 264 (50)	1 847 (24)	46
<b>Private Independent</b>	221 (12)	1 126 (34)	409	1 445 (22)	5 315 (23)	267	535 (21)	2 165 (29)	304
<b>Institutional</b>	80 (4)	0 <sup>a</sup> (0)	-	358 (5)	4 281 (19)	1 095	146 (5)	1 831 (24)	1 154
<b>Corporate</b>	208 (12)	53 (1)	-74	1 119 (17)	2 633 (11)	135	407 (16)	1 206 (16)	196
<b>Government</b>	0 (0)	315 (9)	-	461 (7)	2 041 (9)	342	167 (6)	391 (5)	134
<b>Total</b>	1 730 (100)	3 248 (100)	88	6 444 (100)	22 469 (100)	248	2 519 (100)	7 440 (100)	195

Source: Macdonald & Associates Limited, 2003

The data from 1996 to 2002 (see Table 16 and figures 42, 43 and 44) suggest the following conclusions.

***Fundraising trends — labour-sponsored venture capital corporations dominate fundraising activities; private independent funds are increasing fundraising***

From 1996 to 2002, LSVCCs have led fundraising activities (and VC investments) in Canada, raising an annual average share of 46 percent of total new funds (and 54 percent in 2002) (see Figure 42). However, private independent funds have gained market share in recent years, raising 34 percent of total funds in 2002, up from only 12 percent in 1996 (the highest increase among investor types, with a growth of 409 percent in capital raised since 1996). The performance of private independent funds in recent years is linked to pension funds' increasing contribution of new funds (see information under the "Source of new capital trends" heading that follows).

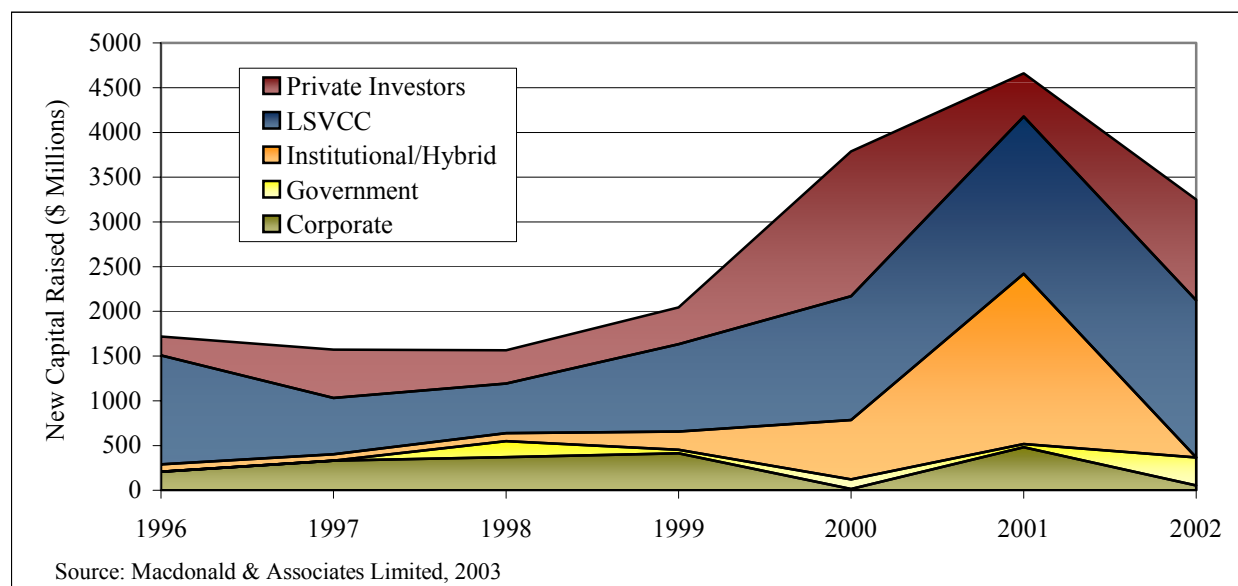
Government-owned funds, which raised no funds in 1996, raised \$315 million in 2002, through several newly established government funds, mostly the BDC (e.g. BDC seed, specialized funds), as well as through funds in Quebec.

Corporate funds have been less active in 2002, raising only 1 percent of new capital, which was a 74-percent decline in fundraising activities, from \$208 million in 1996 to \$53 million in 2002.

a While institutional investors have not raised any capital in 2002, pension funds have made their largest contribution to private independent funds with \$510 million. As a result, pension funds have increased their indirect contribution as a source of new capital raised (see Figure 42).

Finally, institutional investors have shifted from direct to indirect participation in the VC market. Their fundraising activities declined from 4 percent of new funds raised in 1996 to 0 percent in 2002. However, institutional investors have not disappeared from the VC market, as their role as suppliers of capital has increased significantly in recent years (see information under the “Source of new capital trends” heading that follows).

**Figure 42: Fund-Raising Trends by Investor Type, 1996–2002**



***Source of new capital trends — individuals are still the main source of new capital raised; pension funds are providing indirect funds to private independent funds***

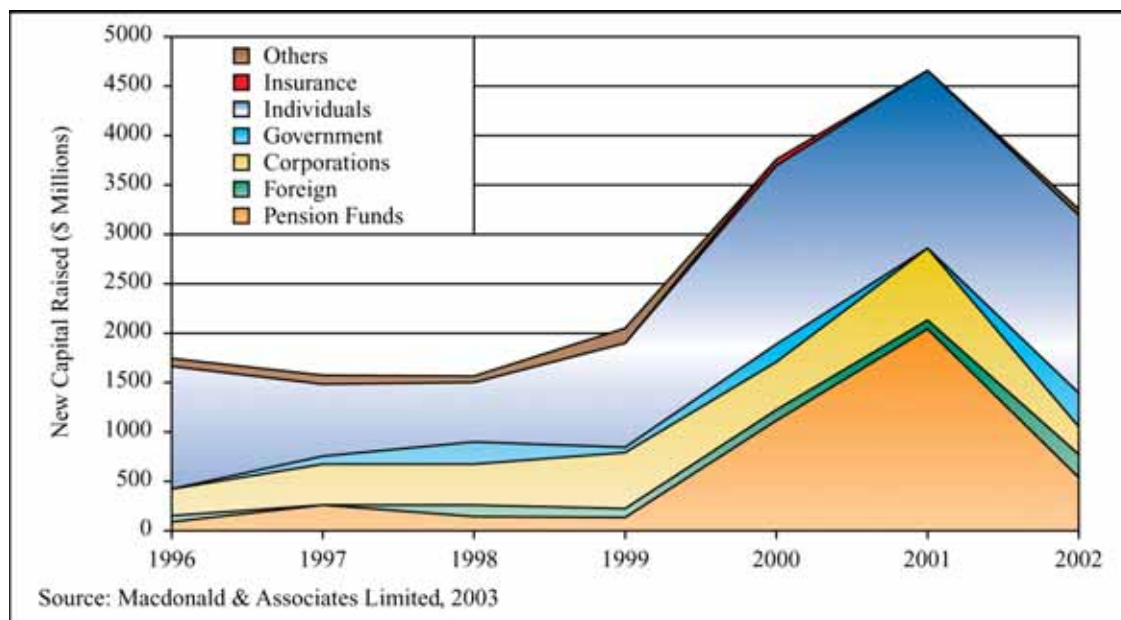
As shown in Figure 43, individuals were the main source of new capital from 1996 to 2002, raising 51 percent of total funds. In 2002, however, while individuals provided 56 percent of new capital, the balance shifted. Pension funds (in particular, the Canada Pension Plan Investment Board and Bimcor Inc.) have increased indirect contributions to private independent funds. While their overall share of total capital raised remained stable in 2002 (16 percent in 2002, compared to an average of 18 percent between 1996 and 2002), pension funds provided the largest amount of capital to private independent funds: their \$510 million represented 45 percent of funds raised by private independent funds in 2002.

This is an important and positive development in the market, as pension funds have historically been reluctant to make indirect contributions to private independent funds. According to Macdonald & Associates Limited, other institutional investors, such as endowment funds and mutual funds, are also starting to increase their indirect contributions to the VC market.

In the first nine months of 2003, however, funds raised just \$1.3 billion, suggesting that Canadian funds may not match the \$3.2 billion raised in 2002. According to Macdonald & Associates Limited, several Canadian private limited partners are raising funds and are preparing to announce final closings. Among these are Royal Bank Technology Ventures Inc., Milestone Medica Corporation in partnership with Boston-based VIMAC Ventures LLC and BTG

Ventures, and Primaxis Technology Ventures Inc. in partnership with Silicon Valley-based Draper Fisher Jurvetson. These strategic partnerships should attract institutional investors to the Canadian VC market.

**Figure 43: New Capital Raised by Source, 1996–2002**



***Capital-under-management trends — labour-sponsored venture capital corporations and private independent funds are the largest investors in terms of capital under management; institutional investors have experienced the largest increase since 1996***

LSVCCs and private independent funds have dominated the distribution of capital under management (see Figure 44), managing an average of 43 percent and 24 percent of total, respectively, from 1996 to 2002 (and 36 percent and 23 percent in 2002).

In terms of the growth of capital under management, however, institutional investors ranked first among investor types, with a steep increase of 1095 percent, from only \$358 million in 1996 to \$4.3 billion in 2002 (compared to the overall increase of 248 percent for all investor types). As a result, institutional investors' market share has grown from 0 percent in 1996 to 19 percent in 2002. This confirms that institutional investors were almost absent from the Canadian VC market before 2000.

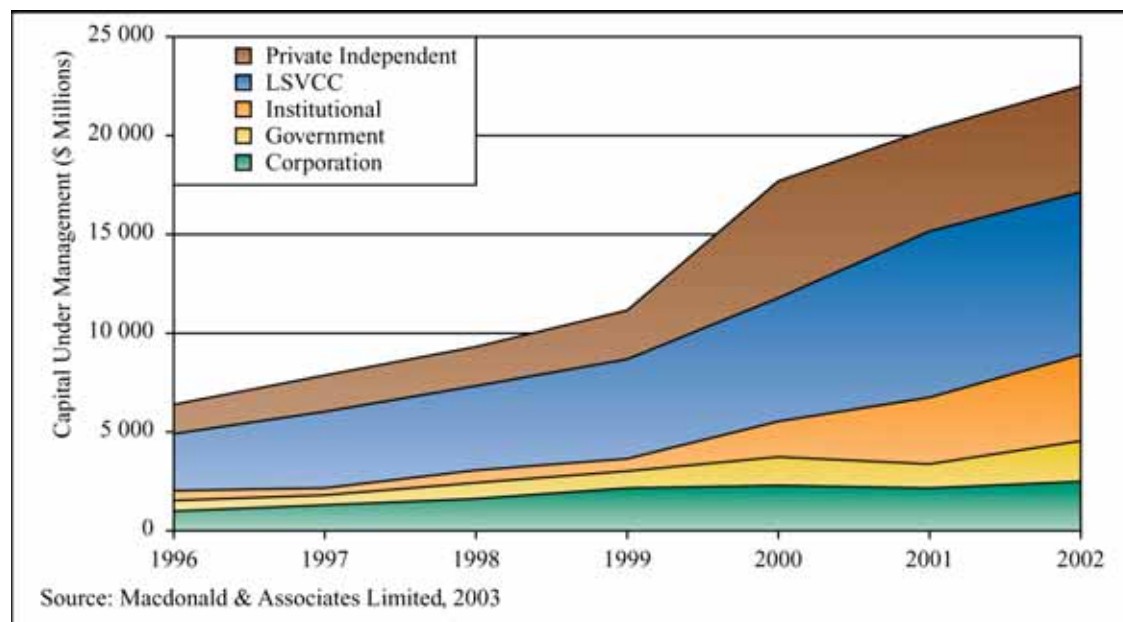
Government funds' capital under management grew by 342 percent over the period, from \$461 million to \$2 billion. However, government funds' average share of capital under management from 1996 to 2002 amounted to 7 percent of the total.

Corporate funds experienced the lowest increase of capital under management, 135 percent over the period, growing from \$1.2 million to \$2.6 billion, resulting in a decline in market share to 11 percent in 2002. Nonetheless, they still lead government-owned funds in total capital under management.

While this increase of capital under management by the Canadian VC industry is positive, the Canadian VC market remains relatively small compared to U.S. and international markets. In

fact, data since 1999 show an increasing size gap in capital under management as a percentage of GDP between Canada and the U.S. This gap may impair the relative performance and development of the Canadian VC industry.

**Figure 44: Capital Under Management by Investor Type, 1996–2002**



## 7.2 Overview of 1996–2002 Venture Capital Investment Trends and Analysis

Once VC funds have raised funds, they invest in Canadian and foreign firms, based on predetermined investment criteria and funding milestones. Each category of VC investor, through different legal frameworks, mandates, and investment criteria and practices, serves a specific segment of the VC market based on the size, sector, stage and regional characteristics of their investments.

While the distribution of fundraising activities has remained relatively constant across VC investor types, the distribution of VC investments by investors changes yearly, since market forces can affect the dynamics that determine investment patterns. The ebb and flow of VC investor types can lead one to confuse lasting trends with short-term aberrations. Bearing this in mind, the following information summarizes VC investment trends by type of investor from 1996 to 2002. Section 7.3 presents a more detailed statistical review of investor-type trends by deal size, sector, stage of development, and region. Figure 45 and Table 17 show the following:

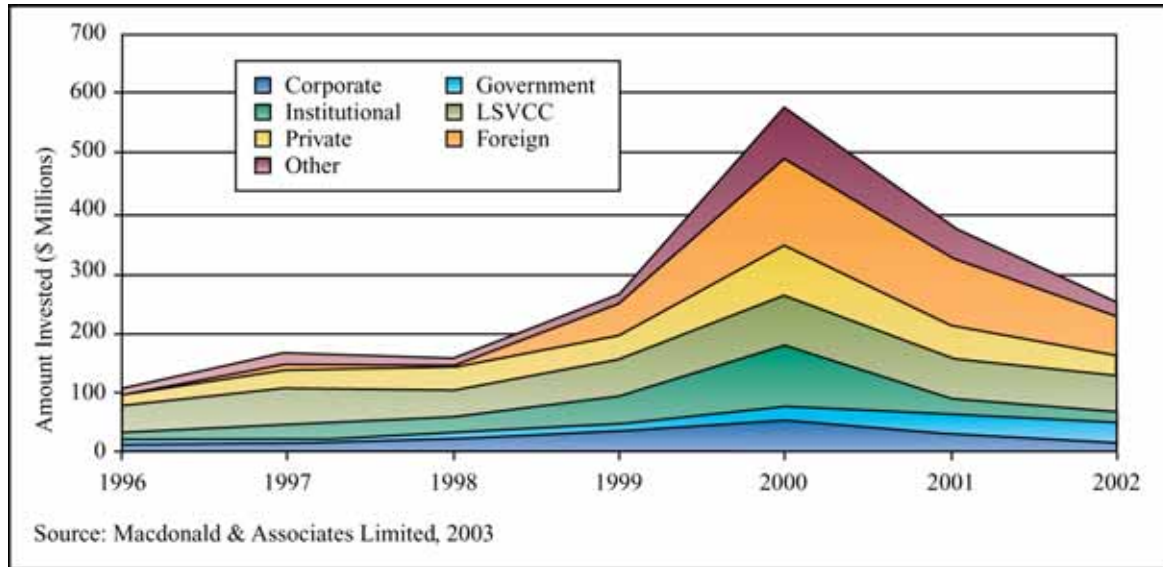
- **LSVCCs** have been, and remain, the main players in Canadian VC investment, with the largest annual average share of total disbursement, at 27 percent from 1996 to 2002. However, their relative importance has been declining, from 40 percent of total investment in 1996 to 25 percent in 2002. While they remained the most active investor class, LSVCCs have not driven the growth of VC investment in Canada since 1996. Their investments

increased by 53 percent over this period (from \$410 million to \$627 million), compared to 139 percent for VC investment as a whole in Canada (for all investor types).

- **Foreign investors** have become major players in the Canadian VC industry since 1999, averaging an annual share of 16 percent of total VC investments from 1996 to 2002. In fact, in 2000, 2001 and 2002, foreign investors were the most important players in the market, averaging 25 percent, 29 percent and 26 percent of total investments in Canada in these years, respectively. Foreign investors' average share of total VC grew 788 percent, from 3 percent in 1996 to 26 percent in 2002. This was the result of the 2021-percent growth of foreign VC investment, from \$31 million in 1996 to \$650 million in 2002, with a peak at \$1.5 billion in 2000. It remains to be seen whether this influx of foreign capital is a lasting trend or an anomaly caused by recent market turmoil. Nonetheless, the drastic increase in foreign investment accounts for most of the Canadian VC industry's recent growth and vitality.
- **Private independent** funds have fallen to third place among Canadian VC investors, with an average annual market share of 17 percent over the period. This share dropped by 34 percent, from 19 percent in 1996 to 13 percent in 2002. However, market share fell because of the dramatic growth of foreign investments, not because private independent investment fell. Private independent funds have demonstrated some dynamism, today investing 58 percent more than seven years ago (\$198 million compared to \$313 million), an increase comparable to that of LSVCCs (53 percent).
- **Institutional investors** (mostly large public sector pension funds) have declined by 52 percent, from 15 percent of total investments in 1996 to 7 percent in 2002 (averaging 14 percent over the period), while most other investor types have gained market share. This decline occurred despite a 15-percent growth in amounts invested, from \$159 million in 1996 to \$183 million in 2002, and an 11 percent increase in financings, from 70 to 148.
- **Corporate investors** have contributed a small portion of total investment since 1996. While their investments rose 34 percent over the period, from \$108 million to \$144 million, corporate investors captured an average annual share of 9 percent. This represented a 44-percent decline in market share, from 10 percent in 1996 to 6 percent in 2002.
- **Government** investments grew by 433 percent, from \$62 million in 1996 to \$329 million in 2002. This was the second-largest increase among investor types since 1996, after foreign investments, which increased by 2021 percent. Government investments' market share increased by 123 percent, from 6 percent in 1996 to 13 percent in 2002, with a 7-percent annual average over the period. While government funds still represented a small share of total VC investments in 2002, their sharp increase in investments (along with the increase in foreign investment) contributed to the VC activity growth of 139 percent since 1996.

- **Other investors** increased disbursements by 231 percent (from \$66 million in 1996 to \$219 million in 2002), and increased the number of companies financed by 196 percent (from 52 in 1996 to 154 in 2002). From 1996 to 2002, this class of investor provided 10 percent of total VC.

**Figure 45: Total Amounts Invested by Investor Type, 1996–2002**



**Table 17: Distribution of Venture Capital Investments for Each Type of Investor (Average Percentage), 1996–2002**

	LSVCCs	Foreign	Private Independent	Corporate	Government	Institutional	Others
<b>Average Share of Total:</b>							
VC Investments	27	16	17	9	7	14	10
<b>Distribution of VC Investments by Investor Type by:</b>							
<b>Sector</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Information Technology	40	75	58	47	46	50	17
Life Sciences	21	15	20	19	35	18	49
Other Technology	4	8	3	6	5	5	5
Traditional	35	3	20	28	14	27	29
<b>Stage of Firm</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Early-stage	37	43	47	37	51	33	42
Later-stage	63	57	53	63	49	67	58
<b>Deal Size</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
< \$500k	4	1	5	2	7	3	2
\$500–999k	5	1	7	4	9	4	3
\$1000–4999k	39	7	34	32	32	28	26
> \$5000k	51	91	55	62	52	64	69
<b>Region</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Ontario	52	56	51	45	12	32	48
Quebec	33	18	20	21	68	57	21
British Columbia	8	24	14	22	11	6	16
Prairies	6	2	13	9	7	2	12
- <i>Alta.</i>	1	2	8	5	2	2	4
- <i>Sask.</i>	1	0	1	1	5	0	3
- <i>Man.</i>	4	0	4	3	0	0	5
Atlantic Canada	1	0	1	2	2	3	2

Source: Macdonald & Associates Limited, 2003



### ***7.3 Detailed Venture Capital Investment Trends by Investor Type — 1996–2002***

This section complements the overall investor-types trends described, and provides a more detailed review and analysis of VC investment trends for each type of investor between 1996 and 2002 and in the first nine months of 2003.

#### **7.3.1 Labour-Sponsored Venture Capital Corporations**

As mentioned previously, LSVCCs have shaped the Canadian VC industry since their inception in the mid-1980s, when they were introduced to fill a void left by the retrenchment of pension plans and other institutional investors as sources of VC financing.

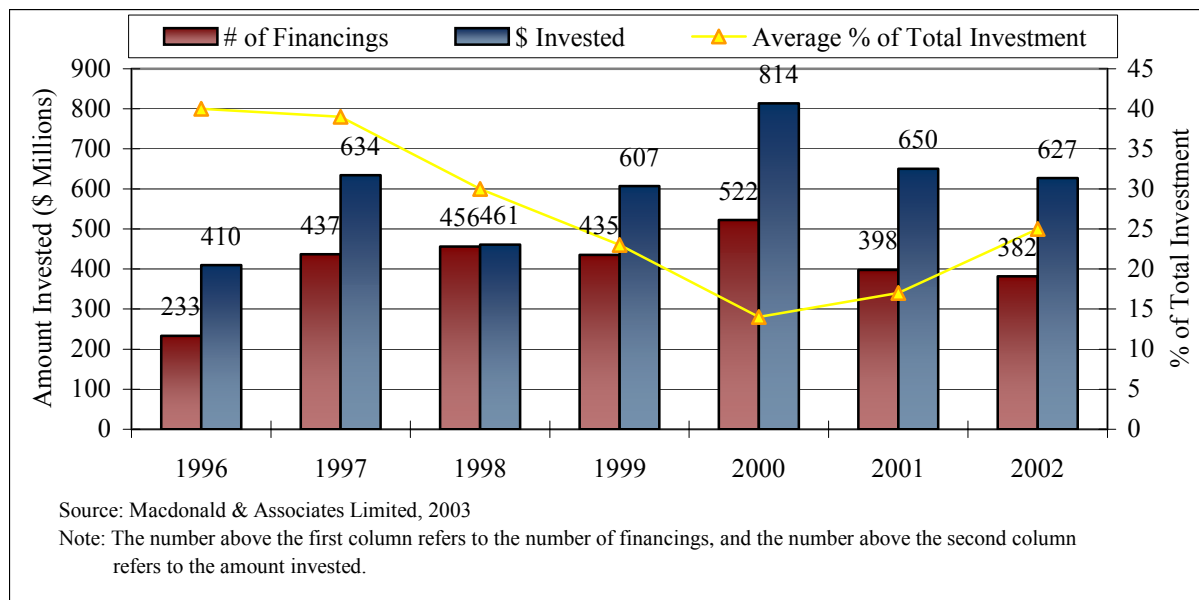
- In 2002, LSVCCs represented estimated tax expenditures of more than \$500 million (about \$320 million for the federal government, and \$200 for the provincial governments of Quebec and Ontario).
- As the Canadian VC market evolved, some LSVCCs, like the Solidarity Fund, maintained a strong social mandate, which has limited their returns. Other LSVCCs have adopted strategies similar to private independent funds, which emphasize the highest returns for their suppliers of capital. The great diversity of LSVCCs' operations, structures and mandates makes it difficult to compare their returns performance. LSVCCs have also faced private sector criticism in recent years, since there is a perception that these investors can get lower-cost capital and crowd out private VC investment. See Section 9 for more details on policy issues related to LSVCCs.
- Nevertheless, LSVCCs continue to play a significant role in the Canadian VC market. In 2002, there were 21 LSVCCs across Canada, managing \$8.2 billion and 36 percent of Canadian VC, making them first among investor types. Their investments amounted to \$627 million in 319 companies, or 25 percent of total VC investment in Canada in 2002.
- In 2002, the most active LSVCCs, in terms of number of companies financed in 2002, were FTQ, GrowthWorks, FondAction, VenGrowth Capital Partners, Covington Capital Corporation, Fonds régional de solidarité FTQ, Skylon Capital Corp., Crocus Investment Fund, Fullarton Capital Corporation, and Lawrence & Company.

#### ***1996–2002 overall venture capital investment trends and analysis: despite labour-sponsored venture capital corporations continued lead, their relative importance is declining***

From 1996 to 2002, LSVCCs were the most active investors in the Canadian VC market, averaging 27 percent of total amounts invested over the period. However, LSVCCs' investments grew at a much slower rate than the growth of VC investments overall, 53 percent (from \$410 million in 1996 to \$627 million in 2002) versus 139 percent. Consequently, LSVCCs' market share has declined as other investor types increased investments. LSVCCs' average annual share of total VC investments declined by 36 percent, from 40 percent in 1996 to 25 percent in 2002 (with a low of 14 percent in 2000).

LSVCCs concluded the largest number of financings over the period. In 2002, LSVCCs invested in 382 deals, a 64-percent increase from 233 deals in 1996 (with a peak of 522 in 2000).

**Figure 46: Amounts Invested and Number of Financings by Labour-Sponsored Venture Capital Corporations, 1996–2002**



**Investment focus**

- **Average deal size** — LSVCCs increasingly prefer large deals (above \$5 million), which accounted for an average of 51 percent of total investments between 1996 and 2002, compared to 9 percent for deals below \$1 million. This divide was even more pronounced in 2002, when 60 percent were large deals and only 5 percent were deals under \$1 million. Despite the 160-percent increase in the amount invested in large deals, the larger number of LSVCC transactions means that the average deal size of LSVCC investments fell 7 percent over the period, to reach \$1.5 million in 2002, which was well below the \$2.7-million average in Canada.
- **Stage of firms** — The data for 1996–2002 show that LSVCCs shifted focus from later-stage firms in 1996 (75 percent of total investment, or \$308 million) to early-stage firms in 2002 (51 percent, or \$320 million). This shift is consistent with the overall trends toward early-stage deals observed since 2002 in Canada. However, despite this increasing importance of early-stage deals, nearly two thirds of LSVCC deals from 1996 to 2002 were still later-stage financings.
- **Sectoral focus** — From 1996 to 2002, LSVCCs invested 35 percent of their capital in traditional sectors (compared to 24 percent for all the other investors) and 40 percent in information technology (compared to 53 percent in Canada). However, since 1996, LSVCCs’ sectoral preferences (along with those of other investors), have shifted from the traditional sector to information technology. In 1996, traditional-sector firms attracted \$165 million, or 40 percent of LSVCCs’ total investments. By 2002, this trend had reversed. Information technology attracted 48 percent of total investment, and life sciences captured 27 percent. In

fact, when compared to the VC industry's overall distribution of investments by sector in 2002 (65 percent for information technology, 19 percent for life sciences, and 11 percent for the traditional sector), LSVCCs have been relatively more active in life sciences and traditional sectors than have other VC investors (27 percent for life sciences and 19 percent for traditional sectors).

In terms of focus, LSVCCs have invested more in traditional-sector firms than have other investors (averaging 35 percent of total investments). However, the information technology boom increased LSVCCs' investments in information technology and life sciences firms, despite their strong focus on traditional sectors. The investment focus of LSVCCs is similar to that of most other investors. Their investments are mostly concentrated in deals above \$1 million, in later-stage firms, and in Ontario and Quebec.

- **Regional focus** — Some LSVCCs were designed with a social mandate, such as creating or maintaining jobs, and a requirement to register, raise capital, and invest in their home province, typically Quebec or Ontario. There are no LSVCC tax credits in Alberta, and only one LSVCC in Atlantic Canada (in New Brunswick). As such, from 1996 to 2002, Quebec and Ontario received more than 85 percent of LSVCC investment (52 percent and 33 percent, respectively). B.C. and the Prairies attracted a relatively stable share, with about 8 percent and 7 percent, respectively, between 1996 and 2002, while Atlantic Canada accounted for less than 1 percent. Six LSVCCs in other regions of Canada are eligible for the federal and provincial tax credits but do not have offices in Atlantic Canada.

***Recent situation: labour-sponsored venture capital corporations re-emerged as the leader of venture capital investments in 2002 and 2003***

Despite LSVCCs' declining market share from 1996 to 2002, the market contraction in 2002 and the first nine months of 2003 has allowed LSVCCs to re-emerge among front-running industry players, behind only foreign investors, who have had the lead since 2000. In 2002, LSVCCs approached foreign investors in terms of dollars invested, with \$627 million, compared to \$650 million for foreign investors; and in terms of market share, with 25 percent, compared to 26 percent for foreign investors.

LSVCCs' recovery continued in the first nine months of 2003, when they led VC activities, with 28 percent of aggregate investments (or \$262 million), 42 percent of financings (or 217 financings) and 43 percent of companies funded (or 208 firms).

This trend may be linked to LSVCCs' statutory requirements, such as investment pacing rules, which keep the fund active even when other investor groups reduce activity or withdraw from the market altogether.<sup>82</sup> Furthermore, LSVCCs raise funds mostly from individual investors through RRSPs, which may also have contributed to the relative strength of their VC activities.

In that context, LSVCCs have performed a strong countercyclical role. While these funds in many respects mirrored industry trends in 2001 and 2002, their number of transactions and

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82. However, investment pacing rules also require that LSVCCs keep large amounts of capital available, and this capital is not necessarily available for immediate investment in new ventures.

disbursement streams declined less than those of several other cyclically sensitive investor types. In other words, LSVCCs brought some stability to both the supply and activity sides of the Canadian VC industry, an influence that has been most significant in Quebec and Ontario.

Despite LSVCCs' important role in the Canadian VC industry, they are unlikely to rally the industry's growth. LSVCCs' growth has levelled: the amount invested increased by 53 percent (compared to an increase of 139 percent in Canada), and the share of total investment declined by 36 percent, between 1996 and 2002. Moreover, it is highly unlikely governments will offer more fiscal incentives, given growing criticism that LSVCCs crowd out private investment. See Section 9 and Part IV for details on policy issues and research related to LSVCCs.

Consequently, institutional investors and private independent funds must participate for the Canadian VC industry to keep growing. Increased institutional funding (particularly from pension funds) would benefit Canadian private independent funds and increase available capital in the Canadian VC industry. See Section 9 for more details on policy issues related to institutional investors and private independent funds.

### **7.3.2 Private Independent Funds**

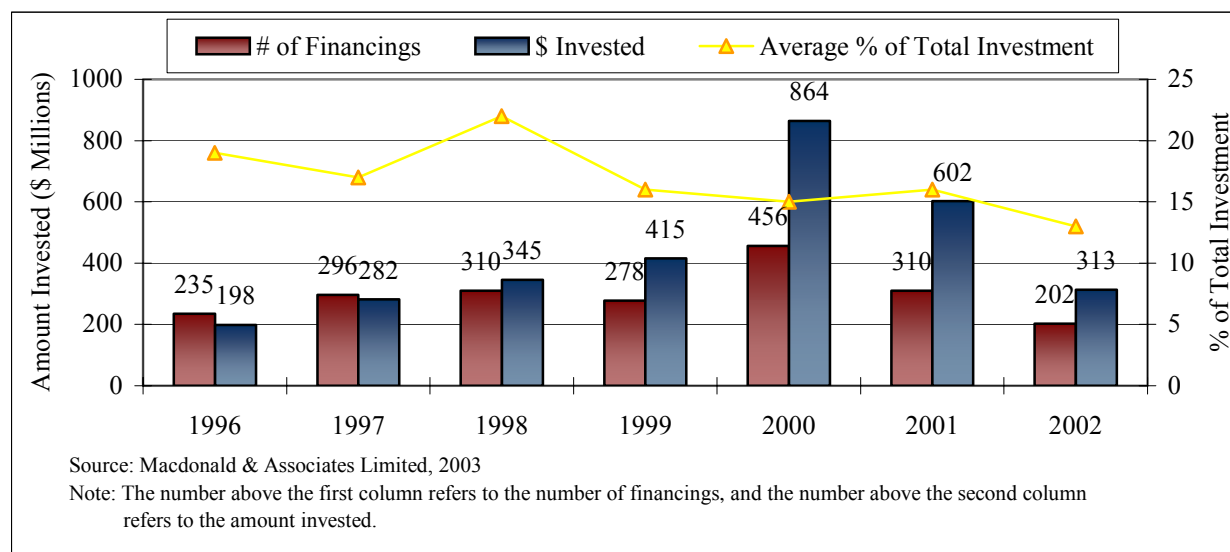
Private independent funds are generally structured as limited partnerships or other related vehicles. In Canada, the most active private independent funds, in terms of number of companies funded in 2002, were Ventures West Management Inc. (B.C.), GrowthWorks (B.C.), T2C2 Capital (Quebec), Lawrence & Company (Ontario), MM Venture Partners (Ontario), Primaxis Technology Ventures Inc. (Ontario), GTI Capital (Quebec), VenGrowth Capital Partners (Ontario), Venture Coaches (Quebec), and TechnoCap Inc. (Quebec).

Following are the key investment trends for private independent funds from 1996 to 2002 and the first nine months of 2003.

#### ***1996–2002 overall venture capital investment trends and analysis: declining share of total investment for private independent funds***

From 1996 to 2002, private independent funds were the second-most important players in the VC industry, averaging 17 percent of total investments (compared to 27 percent for LSVCCs and 16 percent for foreign investors). However, despite the 58-percent growth of private independent funds' investments, from \$198 million in 1996 to \$313 million in 2002, their market share declined by 34 percent, from 19 percent in 1996 to 13 percent in 2002.

Private independent funds' declining share of the market may be attributed to the steep increases among other investor types, such as foreign investors and government-owned funds (see the following information), and also to the 14-percent decrease in the number of financings, from 235 in 1996 to 202 in 2002.

**Figure 47: Amounts Invested and Number of Financings by Private Independent Funds, 1996–2002****Investment focus**

- **Average deal size** — Between 1996 and 2002, private independent funds focussed on investments above \$5 million, which captured 66 percent of total investment in 2002, up from 26 percent in 1996. Smaller deals (less than \$1 million) captured an average of 5 percent in 2002, down from 22 percent in 1996. This trend pushed the average deal size from \$843 000 in 1996 to \$1.5 million in 2002 (but back to \$1 million in the first nine months of 2003), for an average of \$1.4 million over the period. While the increasing average deal size is a positive trend, this average remains significantly lower than the national average of \$2.7 million.
- **Stage of firms** — Along with government funds, private independent funds have driven the trend toward early-stage firms in recent years. In 1996, private independent funds directed 33 percent (or \$65 million) of their investments to early-stage firms, compared to 61 percent (or \$201 million) in 2002. As a result, early-stage firms attracted an average of 47 percent of the total amount invested by these investors, placing them second behind government funds (51 percent). However, while the importance of later-stage investment has declined over the period (from 67 percent in 1996 to 39 percent in 2002), private independent funds directed 53 percent of their investments to later-stage investments over the 1996–2002 period.
- **Sectoral focus** — While private independent funds were equally focussed on traditional (39 percent) and information technology firms (38 percent) in 1996, their preferences have shifted toward information technology over the past few years. In 2002, 78 percent (or \$242 million) of private independent funds' investments went to information technology firms (an average of 58 percent over the period), compared to only 6 percent for traditional firms. Along with foreign investors, private independent funds have been the leading investors in information technology in Canada. Private independent funds' investments in life sciences remained relatively stable over the period, averaging 20 percent of total investments, similar to the national average of 19 percent.

- **Regional focus** — As with other investor types, private independent funds have invested mostly in Ontario firms. From 1996 to 2002, Ontario averaged more than 50 percent of private independent fund investments, compared to 20 percent for Quebec, 14 percent for B.C., and 8 percent for Alberta. The average distribution of investments remained relatively stable over the period, despite an increasing concentration in Ontario and B.C. and a diminishing focus on Quebec. Generally, these proportions coincide with the regional proportions of total VC activity, total economic activity and KBIs, as shown in Section 6.

***Recent situation: despite the continued decline of venture capital investments, private independent funds have been relatively active***

Private independent funds' ability to raise and invest capital was constrained by the difficult market environment since 2001. In 2002, private independent funds invested \$313 million in 202 financings, for 13 percent of VC investments (down from \$602 million in 310 financings in 2001). In terms of fundraising, however, private independent funds remained active; of the \$3.2 billion in new capital commitments to the Canadian VC industry in 2002, 35 percent (or \$1.2 billion) was raised by private independent funds. If Canadian private independent funds are able to sustain fundraising levels, they should achieve significant levels of VC activity.

In the first nine months of 2003, private independent funds invested \$124 million (or 13 percent of total) in 112 companies, confirming the persistence of difficult investment conditions. Nonetheless, some major private institutional funds were able to raise capital and close their funds, which should soon result in new investments.

### **7.3.3 Institutional Investors**

Institutional investors consist of private and public pension funds, insurance companies, and mutual funds or endowments managed by large institutions. In 2002, the most active institutional investors in Canada were CDP Capital, CDP Capital — Technology Ventures, CDP Capital — Communications, CDP Capital — Americas, Teachers' Merchant Bank, OMERS, Manulife Capital, the British Columbia Investment Management Corporation, the New Brunswick Investment Management Corporation, and the Columbia Basin Trust Venture Capital Corp.

Following is a detailed review of institutional investors' investment trends from 1996 to 2002 and in the first nine months of 2003.

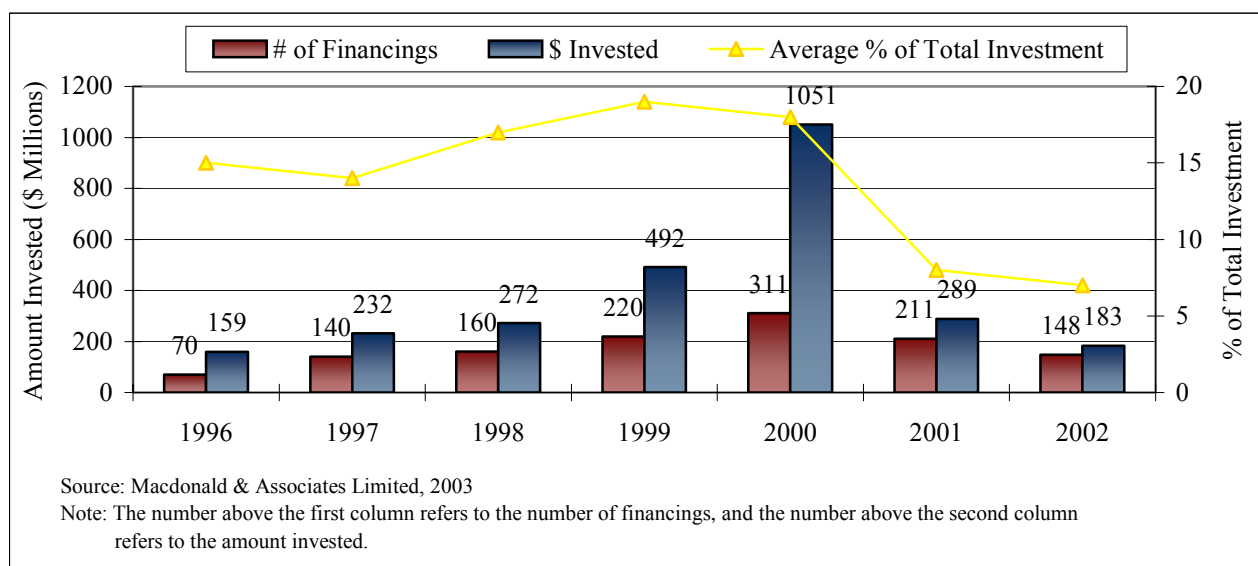
***1996–2002 overall venture capital investment trends and analysis — declining importance of institutional investors in terms of investments, but increase in number of financings***

Through the late 1980s and the first half of the 1990s, pension funds avoided VC investments. Beginning in 1999, large, public sector pension plans began to include indirect and direct VC investments in Canadian SMEs as part of their overall investment activities. However, with the market decline since 2001, institutional investors have shifted from direct to indirect participation, which may explain their declining market share.

- From 1996 to 2002, institutional investors increased their indirect participation in the Canadian VC market. They led the supply of new capital in 2002, with 45 percent of capital raised (or \$510 million), up from 5 percent (or \$78 million) in 1996.

- Institutional investors have played a relatively small and declining direct role in the Canadian VC industry. Their investment levels grew by 15 percent, from \$159 million in 1996 to \$183 million in 2002 (peaking at \$1.5 billion in 2000). This growth resulted in a 52-percent decline of their average share of total investments, from 15 percent in 1996 to 7 percent in 2002. Despite this decline, institutional investors still increased their number of deals by 111 percent, from 70 in 1996 to 148 in 2002 (peaking at 311 deals in 2000).

**Figure 48: Amounts Invested and Number of Financings by Institutional Funds, 1996–2002**



**Investment focus**

- **Average deal size** — Institutional investors directed 64 percent of their investments to deals above \$5 million from 1996 to 2002 (compared to 91 percent for foreign investors). Deals between \$1 million and \$5 million attracted an average of 28 percent of their VC investments over the same period. Deals under \$1 million averaged 7 percent of their VC investments over the period. Despite this trend toward larger deals, the significant increase in the number of deals (111 percent over the period) resulted in a 46-percent decline in the average deal size, from \$2.3 million in 1996 to \$2 million in 2002 (with an average of \$2 million for the period). This was lower than the national average deal size of \$2.7 million.
- **Stage of firms** — Contrary to the overall industry trend toward early-stage firms, institutional investors directed 67 percent of their investments to later-stage firms over the period (from 77 percent in 1996 to 74 percent in 2002), and 33 percent to early-stage financing. This is a significant difference from other investor types, who have focussed increasingly on early-stage financings.
- **Sectoral focus** — Institutional investors followed the overall VC industry trend towards information technology firms, which rose from making up 23 percent of their investments in 1996 to 77 percent in 2000. However, since the technology bust in 2001, institutional investors have adopted a more balanced approach, directing 45 percent of their investment to information technology firms in 2002, 29 percent to life sciences, and 24 percent to traditional sectors. While institutional investors’ preference for traditional investments has

declined significantly over the past seven years — from 38 percent of investments in 1996 to 22 percent in 2002 — they were more active in life sciences (29 percent) and traditional sectors (24 percent) than other investor types were in 2002.

- **Regional focus** — Institutional investors are, along with government funds, concentrated in Quebec, where they put, on average, 57 percent of their investment from 1996 to 2002 (behind the 68 percent by government funds). Since 2001, however, this focus has been declining. In 2002, institutional investors directed less than half of their investment to Quebec (compared to 58 percent in 2001). This strong concentration in Quebec can be attributed to the presence of the CDP, which, through its subsidiaries (e.g. CDP Capital, CDP Capital — Technology Ventures, CDP Capital — Communications, and CDP Capital — Americas), plays a major role in Quebec's economy; these were the top five institutional investors in 2002. Ontario captured an average share of 32 percent of institutional investments, moving from 24 percent in 1996 to 67 percent in 2000 and back to 22 percent in 2002. This can probably be attributed to the relatively high level of activity by OMERS. These investors have been very active in Atlantic Canada, particularly in New Brunswick, through the New Brunswick Investment Management Corporation. In 2002, New Brunswick captured 6 percent of total institutional investments. In the Prairies only Alberta attracted institutional investments, attracting 2 percent of it from 1996 to 2002, and 10 percent in 2002.

#### ***Recent situation: cautious institutional investors***

Since 2001, institutional investors have adopted a more cautious and balanced approach. They reduced their investments from \$289 million in 2001 to \$183 million in 2002. However, they became the main supplier of new capital to private funds, providing \$510 million (or 45 percent of new capital raised) in 2002. In the first nine months of 2003, institutional investors remained cautious, investing \$96 million (or 11 percent of the total) in 88 companies.

As mentioned previously, the low participation of institutional investors as suppliers of VC raises significant concerns from the Canadian VC industry and other industry players and government. This is particularly so given the potential contribution that they could make to the Canadian VC industry, in light of the remarkable contribution they have made to the U.S. VC industry.

Recent federal budgets measures, new Canadian-grown funds of funds (e.g. TD Capital, EdgeStone Capital Partners and the BDC Fund of Funds) and the recently published performance benchmarks should encourage institutional investors' long-term participation in the VC industry. See Section 9 and Part IV for more details on policy issues and research projects related to institutional investors.

### **7.3.4 Corporate Funds**

Corporate VC funds are mostly subsidiaries of industrial or financial companies. In Canada, the most active corporations, in terms of the number of companies financed in 2002, were Desjardins Venture Capital, RoyNat Capital, Royal Bank Capital Partners, TD Capital, BMO Capital Corporation, Hydro-Québec CapiTech, Trudell Medical, CIBC Capital Partners, BCE Capital, and TELUS Ventures Fund. Since these are mostly financial corporations based in and around Toronto, most corporate VC investment went to Ontario firms.



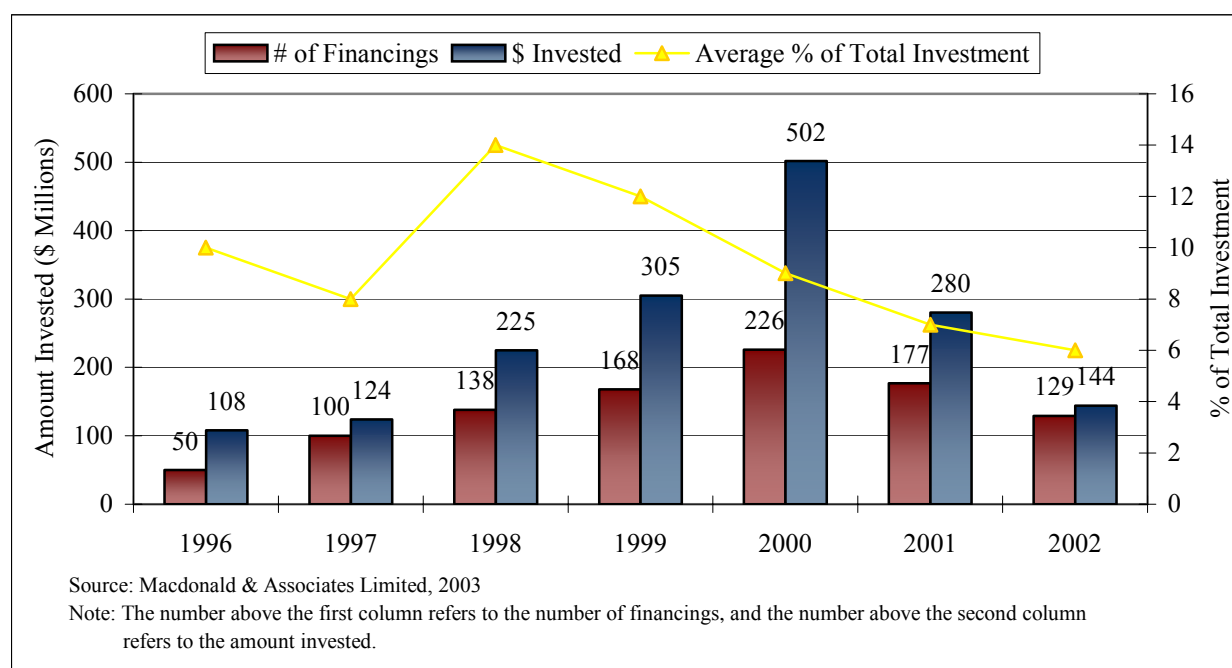
Following are more details on corporate investors’ trends between 1996 and 2002 and in the first nine months of 2003.

**1996–2002 overall venture capital investment trends and analysis — declining market share for corporate funds**

From 1996 to 2002, corporate funds played a minor role in the Canadian VC market. Corporate investments grew by a modest 34 percent, from \$108 million in 1996 to \$144 million in 2002 (with a peak at \$502 million in 2000). The number of financings increased by 158 percent, from 50 deals in 1996 to 129 deals in 2002.

This increase in the number of deals compared to the amount invested has resulted in a decline of corporate funds’ relative share of total VC investment, from 10 percent of total investments in 1996 to 6 percent in 2002, for an average share of 9 percent over the period.

**Figure 49: Amounts Invested and Number of Financings by Corporations, 1996–2002**



**Investment focus**

➤ **Average deal size** — From 1996 to 2002, corporate VC investors invested 32 percent of their capital in deals worth between \$1 million and \$5 million, and invested 63 percent in deals worth more than \$5 million. This trend toward very large deals was even more pronounced in 1996 and 2001, when mid-sized deals attracted 24 percent and 22 percent and large deals attracted 73 percent and 72 percent. Smaller investments have represented a very small proportion of corporate investment since 1996, suggesting that corporate funds may not be a significant source of funding for small firms or for firms seeking small amounts of capital.

- **Stage of firms** — As was the case for most investor types, early-stage financings increased by 266 percent from 1996 to 2002 (compared to 2 percent for later-stage investments). As a result, early-stage firms' share of total corporate investments grew from 20 percent in 1996 to 60 percent in 2001 and 46 percent in 2002, for an average of 37 percent over the period. Nonetheless, corporations remained focussed on later-stage investments, which accounted for an average of 63 percent of total corporate investments over the period. Along with LSVCCs, corporate funds devote the highest proportion of their investments to later-stage firms.
- **Sectoral focus** — As with most investor types, corporate VC funds have shifted investment from the traditional sectors to information technology. Corporate VC investors increased investments in information technology by 124 percent, from \$42 million in 1996 to \$94 million in 2002 (compared to a decline of 5 percent for traditional sectors). As a result, information technology firms' share of corporate investment increased from 39 percent in 1996 to 65 percent in 2002, an average of 47 percent over the period. Despite this trend, traditional-sector investments (28 percent of total) outpaced investments in life sciences (19 percent of total), at exactly the national average.
- **Regional focus** — From 1996 to 2002, corporate investments were mostly concentrated in Ontario (45 percent of total), B.C. (22 percent of total) and Quebec (21 percent of total). Corporate investors were more interested in B.C.-based firms than were any other investor types (11 percent of total). However, this trend has softened in recent years. In 2002, Ontario (51 percent) and Quebec (31 percent) were the main recipients of corporate funds, while B.C. attracted 7 percent. Across Canada, the distribution of corporate investments is consistent with the overall distribution of VC by all investors. The Prairies attracted 9 percent of total corporate investments, and Atlantic Canada received 3 percent.

***Recent situation: corporate investors remain cautious***

In 2002, corporate investors followed other investor types and adopted a cautious approach, investing only \$144 million (compared to \$279 million in 2001 and \$502 million in 2000). In the first nine months of 2003, however, corporate investments approached the total amounts invested in 2002 (\$102 million versus \$144 million), which suggests that corporate investments have remained stable compared to those of other investors.

### **7.3.5 Government-Owned Funds**

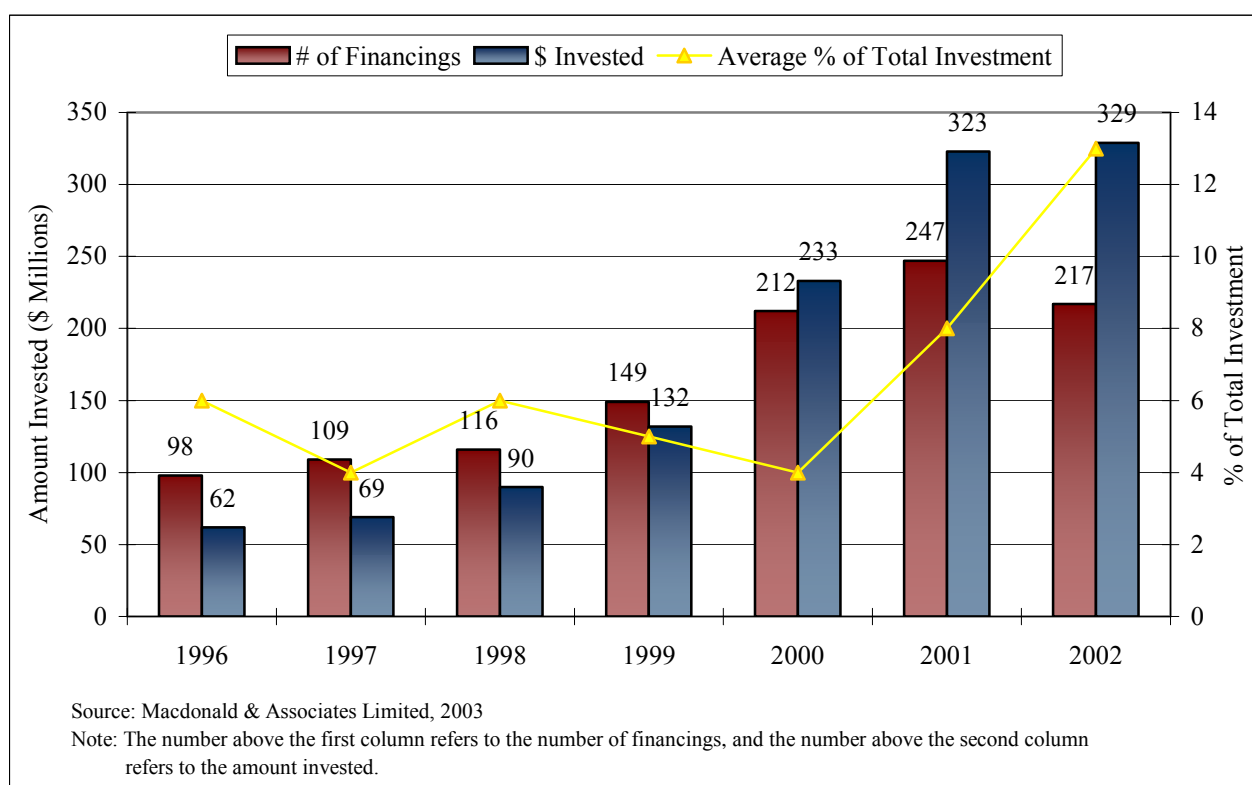
Governments create funds to fill or reduce a gap in the market. In 2002, the main government-owned funds, in terms of number of firms funded, were the BDC, Innovatech Montréal, Innovatech Québec et Chaudière-Appalaches, Innovatech sud du Québec, Investissement Québec, Société générale de financement (SGF), the Crown Investments Corporation of Saskatchewan, Crown Capital Partners Inc., InNOVAcorp, and the Société de diversification économique de l'outaouais.

Following are more details about government-owned funds' investment trends and preferences from 1996 to 2002 and for the first nine months of 2003.

**1996–2002 overall venture capital investment trends and analysis: despite a small share of total investments, government funds were, along with foreign investors, the main driver of venture capital activity growth in Canada**

Government-owned funds, along with foreign investors, have been key drivers of the growth of VC activity since 1996. Investment by such funds increased 433 percent, jumping from \$62 million in 1996 to \$329 million in 2002. The number of financings grew by 121 percent, from 98 in 1996 to 217 in 2002. As a result of this growth in capital and deals, the average annual share of total VC investment (7 percent from 1996 to 2002) grew by 123 percent, from 6 percent in 1996 to 13 percent in 2002.

**Figure 50: Amounts Invested and Number of Financings by Government-Owned Funds, 1996–2002**



**Investment focus**

- **Average deal size** — Despite the predominance of deals worth more than \$5 million, government funds balance investments between mid-sized and large deals. From 1996 to 2002, the average distribution of government funds by deal size was 46 percent for deals above \$5 million; 26 percent for deals between \$1 and 5 million; 5 percent for deals between \$500 000 and \$1 million; and 4 percent for deals under \$500 000. The overall focus on deals above \$5 million was not as pronounced as was the case for other investors. With a large proportion of investments made in deals above \$5 million, the average deal size increased by 141 percent, from \$630 000 in 1996 to \$1.5 million in 2002, averaging \$1 million over the period.

- **Stage of firms** — Government funds' investments have been relatively well distributed between early-stage and later-stage investments. From 1996 to 2002, the average share of total investments was 51 percent for early-stage firms and 49 percent for later-stage firms — the highest average proportion attributed to early-stage financings among all investor types.
- **Sectoral focus** — Compared to the other investors, government funds have focussed on life sciences investments. From 1996 to 2002, 35 percent of government funds' investments went to life sciences firms. However, this trend has reversed over the past two years, with the number falling from 41 percent of total (or \$25 million) in 1996 to 28 percent of total (or \$92 million) in 2002. This strong focus on life sciences is likely linked to the high concentration of government investments in Quebec, which is home to a significant number of biopharmaceutical companies (see further in this section). Information technology firms accounted for an average of 46 percent of total government VC over the period, a larger proportion than life sciences firms attracted but still below information technology firms' importance to other investor types.
- **Regional focus** — Government-owned funds have been concentrated in Quebec, where you would find, on average, 68 percent of them between 1996 and 2002. Ontario attracted 12 percent of them over the period. This concentration in Quebec is related to the number of significant government funds in Quebec, whereas the role of provincial government-owned funds varies greatly in the other provinces. For example, in the 1960s, 1970s and 1980s, several of these government funds — such as SGF, the Innovatech Montréal, Innovatech Québec et Chaudière-Appalaches, and Investissement Québec — were created in Quebec to spur private sector economic development in that province. The presence of these funds, which were all among the most active funds in Canada in 2002, partly explains this strong focus of government funds' investments in Quebec.<sup>83</sup>

***Recent development: government-owned funds are the only investor type that did not experience a decline of investments after 2001***

In 2002, government-owned funds were the only investor type to maintain investment levels, totalling \$329 million in 217 financings (compared to \$323 million in 247 financings in 2001).

This stability likely explains government funds' market share rise to 13 percent in 2002 (up from 8 percent in 2001), which was higher than the 7-percent average from 1996 to 2002. As well, government funds' specific mandates (such as to support early-stage financings or regional investments) may also explain the relative stability of their investments during periods of difficult market conditions. See Part III for more details and analysis of government programs and funds.

In the first nine months of 2003, government-owned funds accounted for 14 percent of total VC investment, with \$129 million in 136 companies, and 27 percent of the total number of financings (141 deals). We need more data and analysis before we can tell whether these trends will continue.

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83. The new provincial Liberal government (2003) is reviewing all of its investment funds and programs, and may shift to a more private sector approach.

### 7.3.6 Foreign Investors

Foreign investors are non-resident private VC funds or corporations that invest in Canada. Most foreign investors (close to 95 percent) in Canada in recent years were from the U.S. — more specifically, from Massachusetts and California.

In 2002, the most active foreign investors included VIMAC, Kodiak Venture Partners, Morgenthaler Ventures, Technology Crossover Ventures, Flagship Ventures, Pilgrim Baxter; Norwest Venture Partners, Prism Venture Partners, Menlo Ventures, and Kinetic Capital Partners.

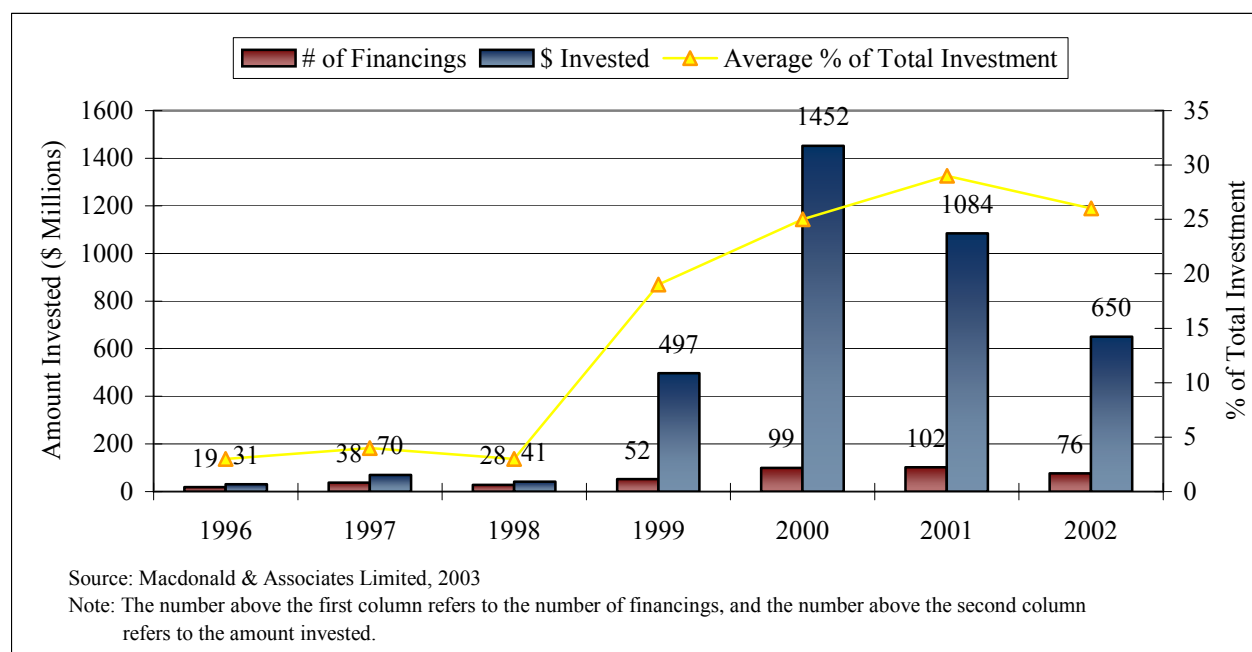
Following is an overview of foreign investment trends in Canada from 1996 to 2002 and for the first nine months of 2003. Before 1999, foreign investors were virtually absent from the Canadian VC market, and, as a result, some of the trends presented for the past seven years are somewhat diluted by the 1996–1998 period.

#### ***1996–2002 overall venture capital investment trends and analysis: foreign investors emerged as the main venture capital investors in Canada since 1999***

The most notable recent development in the Canadian VC market has been the increasingly significant role played by foreign, mostly U.S., investors. Indeed, the data show that foreign investment has driven Canadian VC activity growth. The amount invested from 1996 to 2002 increased from \$31 million to \$650 million, for a growth of 2021 percent.

This trend gathered strength in 1999, when foreign venture capitalists invested more than 10 times the amount deployed in 1998 (\$497 million, up from \$41 million), and in 2000, when foreign investments reached a peak of \$1.4 billion. Since 2000, foreign investors have remained the most important players in the Canadian VC market. Their average share of total VC investment grew by 788 percent, from 3 percent in 1996 to 29 percent in 2001 to 26 percent in 2002 (for a total average of 16 percent from 1996 to 2002).

This surge of investment may be linked to several factors, including, among others, the increasing use of co-investment or syndication of deals by Canadian and U.S. firms; the increasing success of Canadian information technology firms, particularly in Ottawa; the increasing awareness of Canadian opportunities; and the relative saturation of the U.S. market since 2000.

**Figure 51: Amounts Invested and Number of Financings by Foreign Investors, 1996–2002****Investment focus**

- **Average deal size** — Foreign investors targeted very large transactions. More than 99 percent of their investments in 2002 were channelled into deals worth more than \$5 million, as were 91 percent of their investments from 1996 to 2002. Foreign investors have pushed the increase in the average deal size in Canada from 1996 to 2002. Indeed, the average deal size of foreign investments increased by 430 percent, from \$1.6 million in 1996 to \$8.6 million in 2002 (with a peak at \$14.7 million in 2000), for an average of \$6.8 million from 1996 to 2002. Deals under \$1 million attracted less than 2 percent of foreign investments from 1996 to 2002.
- **Stage-of-firms focus** — While the average deal size indicates an interest in later-stage firms, the data show that foreign investors (like other investor types) are investing more in early-stage firms in recent years. Since 1999, early-stage financings have attracted an increasing share of foreign investments, from 31 percent in 1996 to 43 percent in 2000 to 52 percent in 2001 and 70 percent in 2001. Nonetheless, in 2002, and from 1996 to 2002, later-stage financings attracted an average of 67 percent and 57 percent of total foreign investment, respectively.
- **Sectoral focus** — Foreign investors have been mainly interested in information technology firms, which have received 75 percent of foreign investment over the past seven years. This trend was more apparent in 2000, when these firms attracted 93 percent of total foreign investment. Foreign investors' concentration on information technology meant that they virtually ignored other sectors. Life sciences attracted an average of 15 percent of total foreign investment from 1996 to 2002 (6 percent in 2002), and other technologies attracted an average of 18 percent over the period (4 percent in 2002). Foreign investors tended not to

target traditional sectors, investing just \$15 million in 2002, for a 2-percent share. This strong focus on information technology explains the regional distribution of foreign investments.

- **Regional focus** — Foreign investors invested an average of 56 percent of their investments in Ontario — from only 44 percent in 1996 to 80 percent in 2002. Unlike most investor types, foreign investors also targeted B.C.-based firms, who attracted an average of 24 percent of foreign investment from 1996 to 2002. Recently, however, foreign investors have shifted focus to Ontario-based firms, resulting in a declining share for B.C. firms, from 33 percent in 1996 to only 11 percent in 2002. While Quebec-based firms captured an average of 29 percent of total investment in 2002, they only attracted 7 percent of foreign investments. Several potential factors account for this trend, including foreign investors' focus on information technology rather than life sciences; the lack of foreign investors' awareness of opportunities in Quebec or other provinces; the strong presence of government-owned funds in Quebec; its distance relative to Ontario; and the language barrier. Some of these factors may also explain why foreign investments were almost absent from Alberta (average of 2 percent), and completely absent from Atlantic Canada, Saskatchewan and Manitoba.

### **Recent situation: the importance of foreign investors may be temporary**

In 2002, foreign VC investments peaked at 26 percent of total VC activity in Canada, with \$640 million invested. Foreign investors also concluded the largest deals in 2002, averaging \$9 million. Despite the decline in market share from 29 percent in 2001, foreign investors continued to account for a substantial portion of total VC investments in 2002.

However, foreign investors almost vanished from the Canadian VC market in the first six months of 2003, although they have re-emerged in the third quarter. In the first nine months of 2003, foreign investors disbursed \$124 million to 31 companies (representing 13 percent of total investment and 6 percent of financings).

While foreign investors have played a vital role in the growth and stability of the Canadian VC market, their participation is relatively recent. We do not know if their shift to the Canadian VC market is permanent or whether it is the result of special circumstances that developed in the U.S. before the collapse of the technology sector. It could be argued that this situation was simply the result of a capital overflow from the U.S. VC market due to market saturation in the late 1990s and U.S. VC firms' attempts to extend and diversify their portfolios.

Nevertheless, we should examine the uncertainty of foreign investment and its importance to the Canadian industry, particularly in terms of its role in providing expansion-stage investment and in terms of its impact on Canadian businesses. Foreign investment increases the supply of capital to Canadian firms; builds strategic networks and partnerships with more experienced venture capitalists; increases specialization of Canadian VC funds; and increases competition for SMEs seeking funding. However, foreign investment may also tempt (or force) Canadian firms to move all or part of their operations abroad.

To better understand foreign VC investment in Canada, PricewaterhouseCoopers reviewed foreign VC investment in Canada to profile foreign investors who have invested in Canada and

Canadian companies funded by foreign investors. Next, it will assess foreign investors' impacts on Canadian firms — specifically, on firms' R&D spending, sales, location and job creation. This study should provide a more complete picture of foreign VC investment in Canada, and should inform policies that will support a viable and independent VC industry.

#### ***7.4 Comparison: Canada–United States***

As discussed previously, international comparisons are somewhat problematic, especially when applied to types of VC investors in different countries, as VC investment vehicles vary from country to country. This diversity of fund structures is generally linked to two factors:

- National taxation and regulatory regimes and policies differ internationally, reflecting different mandate and public policy objectives. For example, in Canada, government's involvement in the VC industry over the past 10 years was aimed at an infant industry, while the more mature U.S. industry may not have needed the same kind of support.
- The availability of investor-ready firms needing VC investment differs in various countries with cultural and economic factors, including education systems, R&D conditions, and tax and regulatory frameworks conducive to creativity, innovation, risk taking and entrepreneurship.

Furthermore, different countries adopt their own national standards of methodology and categorization, which further complicates cross-border comparisons. One of the key differences between the Canadian and U.S. markets is that, compared to the U.S., the Canadian VC industry reports both fundraising and investment activities by investor types, while in the U.S. only fundraising (or commitment) activities are reported. VC investments made by type of investor are not reported. Therefore, it is extremely difficult to compare international investment trends by investor type, unless you compare fundraising trends and sources of capital.

#### ***Government direct and indirect involvement: Canada versus the United States***

In general, while government participation in the VC market is more limited in the U.S. than it is in Canada, the Canadian government is less involved than often believed. As mentioned in Part III, there is an important distinction between direct and indirect involvement.

Canadian government-owned funds' VC direct investments accounted for an average of 7 percent of total VC investment in Canada between 1996 and 2002, compared to 8 percent in the United States. The Small Business Investment Companies (SBIC) program is the principal U.S. government body involved in the VC market and can be compared to several Canadian government-owned funds.<sup>84</sup> These SBICs range from small, local firms to large, publicly traded companies, and can be owned by other financial institutions, such as banks.

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84. The SBIC program was created in 1958 to fill the gap between the availability of VC and the needs of small business in start-up and growth stages. SBICs are privately owned and managed investment firms that use their own capital, as well as funds borrowed at favorable rates with the Small Business Administration (SBA) guarantee, to make VC investments (often including a debt component) in small businesses. SBICs are licensed



However, the major difference between the two governments' involvement in the VC market is their indirect participation. As explained previously, Canada's VC industry has a unique structure, with the LSVCCs being the most significant VC fundraisers and investors from 1996 to 2002. LSVCCs accounted for an average of 46 percent of total new funds raised between 1996 and 2002 (and 54 percent in 2002), and an average of 27 percent of total VC investments over the period (and 25 percent in 2002).

As explained in subsection 7.3.1 on LSVCCs, while LSVCCs play a significant role in the structure and development of the Canadian VC industry, they are unlikely to drive that industry's growth, as their importance has been declining over the past seven years (from 40 percent of total in 1996 to 25 percent in 2002). Consequently, as discussed under the next heading, institutional investors must participate in providing capital to private independent funds.

To improve our understanding of the importance and future role of LSVCCs in the Canadian VC market, Industry Canada is extensively reviewing their structure, operation, and investment trends and performance.

### ***Institutional investors participation: Canada versus the United States***

Another major difference is the relatively low participation of Canadian institutional investors in the Canada VC market. By contrast, U.S. institutional investors, particularly pension funds, have been the key drivers of U.S. VC industry growth since 1996. In the U.S., pension funds tend to finance private independent VC firms by investing in funds of funds rather than by investing directly in companies. Through this mechanism, they provided about half (46 percent) of all new capital invested in the VC industry from 1996 to 2002. Moreover, in 2002, institutional investors provided more than 80 percent of the new commitments to the U.S. VC industry. Among these institutional investors, pension funds (42 percent) and endowments and foundations (22 percent) accounted for the largest shares.

While Canadian pension funds have been steadily increasing their funding to Canadian private independent VC funds over the past few years, particularly in 2002, these types of investors in Canada have a long way to go before they can achieve comparable levels of institutional support. From 1996 to 2002, Canadian pension funds provided an average of 18 percent of the total new capital raised (and 16 percent in 2002), compared to 46 percent (42 percent in 2002) in the U.S. In contrast to historic trends, institutional investors accounted for 45 percent of new capital raised in 2002 by private independent funds.

The historic shortfall in Canadian pension funds' funding of private independent VC firms has been partly offset by increasing levels of direct VC investment by large Canadian public sector pension funds. Indeed, institutional investments represented an average of 14 percent of total VC investments in Canada from 1996 to 2002 (and 11 percent, or \$96 million, in 2002).

As presented in Section 9 and in Part IV, the lower participation of institutional investors in the Canadian VC market, and the way in which pension funds participate in the Canadian VC

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and regulated by the SBA. They are profit-motivated businesses that provide equity capital, long-term loans, debt-equity investment and management assistance to qualifying small businesses.

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market, will keep affecting the growth of the Canadian VC industry, particularly the growth and size of private independent VC funds and of the average deal size of Canadian VC deals. Both are significantly lower than in the U.S. market. The strong participation of U.S. institutional investors has resulted in U.S. private independent funds being relatively better funded and larger than their Canadian counterparts. In fact, U.S. private independent funds accounted for an average of 81 percent of capital under management in the U.S. from 1996 to 2002, compared to only 24 percent for Canadian private independent funds.

To better understand the investment practices of both Canadian and U.S. institutional investors and current barriers to Canadian institutional investments in private equity, Macdonald & Associates Limited is surveying Canadian and U.S. institutional investors, at the request of Industry Canada and several provinces. The final report will, among institutional investors, raise awareness of barriers and opportunities in the Canadian VC market.

## **8. Canadian Venture Capital Investments Outside Canada**

As explained previously, VC investments consist of:

- investments made by Canadian and foreign VC investors in Canada (directly or in partnership with other Canadian or foreign VC investors); and
- investments made by Canadian VC investors outside Canada (directly or in partnership with foreign VC investors).

Before 2002, Canadian investments abroad were reported as part of overall VC activity, regardless of whether they were destined for Canadian firms. Macdonald & Associates Limited refined its methodology in 2002 to separate Canadian investments abroad from domestic investments, having been spurred by the recent 546 percent growth in Canadian investments abroad from 1999 to 2002, and by the need to understand the impact of these investments on the Canadian economy. This new methodology, which has been applied to previous years' data, is now more consistent with that used in the U.S., and it has improved the accuracy and relevance of Canada–U.S. comparisons.

This section presents the overall trends in Canadian VC investments abroad since 1996. This review clarifies the trend toward the globalization of VC markets in North America, which is reflected in the increased inflow and outflow of U.S. capital since 1999. This section will pay special attention to the investment focus (average deal size, new versus follow-on, stage of firms, and sectoral and regional distribution) of financings by Canadian investors abroad, compared to the parallel phenomenon of foreign investment in Canada. See also Section 7, which presents foreign investments in Canada. Section 9 reviews and analyzes key policy issues and implications flowing from these trends.

### ***8.1 1996–2002 Overall Trends and Analysis***

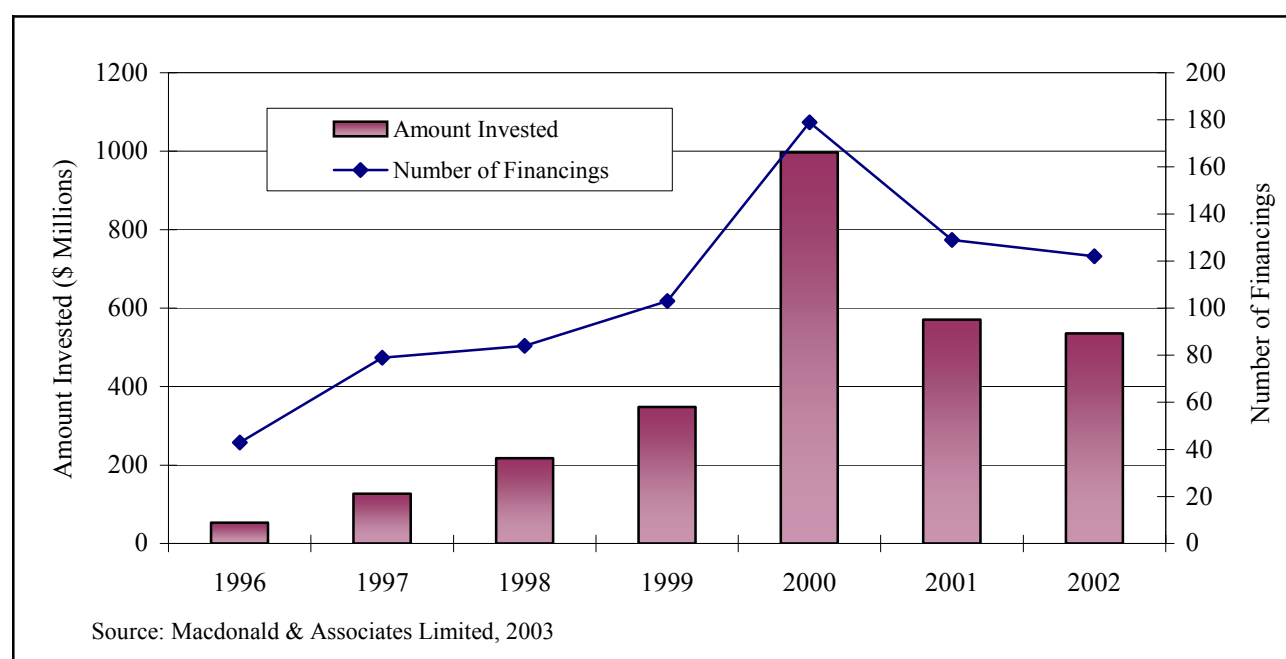
Canadian VC firms have increased investments abroad by 757 percent since 1996 — from \$62 million in 1996 to \$347 million in 1999 to \$997 million in 2000 and \$536 million in 2002. In fact, before 1999, there was little foreign investment in Canada, probably due to a less active VC

industry, less-developed networks and ample opportunities south of the border. The subsequent increase in activity was also reflected in the 184-percent growth in the number of financings concluded outside Canada, from 43 financings in 1996 to 179 in 2000 and 122 in 2002.

While these investments have been growing less robustly than have foreign investments in Canada (757 percent for Canadian investments made abroad, against 2021 percent for foreign investments in Canada over the 1996–2002 period), the value of investments made outside Canada in 2002 (\$536 million) was similar to the value of investments made in Canada by foreign investors (\$650 million). In 2002, the number of financings abroad (122) exceeded the number of foreign-investor financings in Canada (76), which reveals that the average size of foreign VC financings is generally smaller than the average size of investments by foreign sources in Canada.

However, the investment patterns of these two forms of VC investment must be examined in greater detail to determine whether the investment preferences of Canadian investors abroad parallel those of foreign investors in Canada, and to identify associated issues and impacts.

**Figure 52: Canadian Venture Capital Investments Outside Canada, 1996–2002**



**Investments focus**

- **Average deal size** — Since Canadians investing outside Canada have focussed on information technology firms, it is not surprising that their deals have generally been large financings. In 1999, large deals represented 68 percent (\$237 million) of the total number of deals made outside Canada; in 2002, this share grew to 83 percent (\$446 million). Large deals (which averaged \$8.3 million) drove the average size of investments made outside Canada to \$4.4 million in 2002. While the average deal size of these investments was larger than the average deal size in Canada in 2002 (\$3 million), it remained lower than the average deal size of foreign investments in Canada (\$8.6 million in 2002 and \$6.9 million from 1996

to 2002). This confirms the general observation that the average size of Canadian investments — in Canada and abroad — has fallen short of U.S. domestic investments (which averaged C\$11.2 million in 2002).

- **New versus follow-on** — The average 60:40 ratio in favour of follow-on investment between 1996 and 2002 in Canada was also evident in Canadian investments abroad (60:40 in 1996, 58:42 in 1999 and 57:43 in 2002). In 2002, however, Canadian VC investments abroad had a greater affinity for new deals (43 percent of the total, or \$233 million) than Canadian VC investments in Canada (26 percent of the total, or \$647 million). Canadian investors abroad did not avoid new investments, as did foreign investors in Canada (who favoured follow-on investment, with a ratio of 92:8 in 2002). This raises an important question. Why have Canadian firms preferred new financings for foreign firms rather than for Canadian firms?
- **Stage of firms** — While 81 percent (or \$51 million) of Canadian investments abroad went to early-stage firms in 1996, this trend shifted toward later-stage firms in 1999. In 1999, 70 percent (or \$243 million) of these investments went to later-stage firms; in 2002, later-stage firms attracted 62 percent (or \$334 million) of these investments. The preference for later-stage financing was also observed, to a lesser degree, in investments by foreign investors in Canada. Foreign investors directed 72 percent (or \$469 million) of their investments to later-stage firms in 2002. This is consistent with the average ratio of early-stage to later-stage investment from 1996 to 2002 (40:60) and for 2002 (42:58) for investments made in Canada by both Canadian and foreign investors. In other words, later-stage firms have been the focus of all VC investments, including VC investments in Canada, investments abroad and investments in the U.S.
- **Sectoral focus** — Canada's foreign investments were relatively balanced between information technology (39 percent, or \$208 million) and life sciences (35 percent, or \$187 million) in 2002. These investments initially focussed on information technology firms, which captured 45 percent (or \$28 million) of total investments in 1996, 69 percent (or \$239 million) in 1999, and 59 percent in 2000 and 2001 (for an average of 51 percent from 1996 to 2002). Only in 2000 did investments outside Canada start to flow to life sciences firms (23 percent of investment in 2000 and 27 percent in 2001, for an average of 29 percent over the period).
- **Key investors investing outside Canada** — As measured by the number of companies financed in 2002, the key Canadian investors investing in the U.S. included CDP Capital — Technology Ventures, MDS Capital Corp., Royal Bank Capital Partners, Hydro-Québec CapiTech, CDP Capital — Communications, OPG Ventures Inc., GeneChem Technologies Venture Fund, Jefferson Partners, CDP Capital — Americas, and Greenstone Venture Partners. As well, those companies investing in other foreign countries included CDP Capital — Technology Ventures, CDP Capital — Communications, Fonds de solidarité des travailleurs du Québec (FTQ), Skypoint Capital, T2C2 Capital, and OPG Ventures Inc. Interestingly, while Quebec has attracted a small proportion of foreign investment (8 percent of foreign investments in 2002), investors in Quebec (e.g. CDP Capital, FTQ) have been among the main investors abroad.

## 9. Conclusions — Key Strengths, Weaknesses/Challenges and Related Policy Issues

The previous sections demonstrated that between 1996 and 2002 the Canadian VC industry experienced solid growth and improved high-growth-potential SMEs' access to VC.<sup>85</sup> If the industry can sustain these growth trends, the Canadian VC sector should remain a vital component of the business and investment landscape, encourage innovation and productivity, and promote new job and wealth creation.<sup>86</sup> However, despite the positive signals from the industry's growth over the past seven years, the Canadian VC market must overcome some structural and practical challenges to meet its potential.

Based on the VC activity trends presented in previous sections, this section concludes Part II with a summary of the current strengths, weaknesses, challenges and central policy issues related to the structure and function of the Canadian VC market. These policy issues will then be analyzed in detail in Part IV to identify gaps or imperfections in the market, to determine the federal government's role in addressing these gaps, and to form policy options that will underpin a more coherent government approach to VC.

Generally, the economics of VC can be analyzed in three components:

1. **The environment and structure of the VC industry** — The efficiency and continued growth of the Canadian VC industry depends principally on the general environment surrounding the business and VC communities (e.g. tax and regulatory environments) and on the structure of the Canadian VC industry (e.g. number, size and type of players). The structure and function of other risk capital markets (e.g. angel and IPO markets) are interdependent, and may have strong impacts on the VC market.

**The demand for VC** — While the surrounding environment is critical to the development of an efficient private sector VC industry, strong demand for VC financing ensures a growing flow of capital to VC funds, and increasing levels of VC investment. Without enough quality investment opportunities (i.e. businesses that present high returns potential), investors will avoid this asset class or redirect their funds to other types of investments with higher returns and lower risks. Accordingly, the quantity and quality of the demand for VC merits serious consideration.

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85. Trends must be distinguished from the current situation. The strengths and weaknesses presented in this section are based on the VC investment trends observed from 1996 to 2002. They do not take into account the continued decline of VC activity in the first six months of 2003. As a result, current market conditions may present a less positive situation.

86. According to the Goodman and Carr LLP, and McKinsey & Company *Report on the Canadian Private Equity Market in 2002*, the growth of the private equity market in Canada should continue because of Canada's attractive fundamentals (e.g. strong forecasted economic growth, less competition for deals, advantageous valuations and continued exit opportunities) and institutions' growing realization that private equity — as an asset class and in Canada — could offer attractive returns.

Unfortunately, the demand for VC investment (and for risk capital in general) has not been studied adequately in Canada or in other countries.<sup>87</sup> The lack of data on SMEs' requirements for VC and on the approval rates of businesses seeking investment has meant that the demand side of the equation has been neglected in most analyses. As a result, government policy has not considered demand-side issues.

However, demand must be analyzed to ensure an efficient VC market and to help high-growth-potential SMEs access VC, particularly since Canadian venture capitalists report that their biggest challenge is the lack of viable investment opportunities, rather than the availability of capital. In fact, several U.S. VC funds have recently returned funds to their investors because of the lack of viable investment opportunities.<sup>88</sup> Venture capitalists evaluate investment opportunities based on high-returns potential, skilled and experienced management teams, solid technology and product leadership, and large market potential.

2. **The supply of VC**—The Canadian VC industry expanded from 1996 to 2002, whether measured by the number of funds (from 130 to 282), the supply of new capital (from \$1.7 billion to \$3.2 billion) or total VC investments (from \$1 billion to \$2.5 billion). This growth demonstrates the Canadian VC industry's dynamism over the past seven years. However, the lack of information on the demand for VC makes it impossible to determine whether there is a real shortage of VC in Canada (see Part IV for a more detailed analysis).

In addition to the need to improve the quantity and quality of demand-side data, the lack of critical information on supply necessitates the development of policy that can sustain the rates of growth in supply and investment evident over the past seven years. A number of relevant issues emerged from the review of the VC industry between 1996 and 2002, suggesting that despite such remarkable growth, the supply of VC could be enhanced through more reliable and transparent information about the industry, better performance benchmarks, higher returns, more skilled and experienced venture capitalists, and the increased participation of institutional investors and private independent funds. Addressing these could stimulate the growth of the Canadian VC industry.

Accordingly, the key strengths, weaknesses, challenges, and related policy issues are presented in tables 18 and 19.

### ***9.1 Key Strengths***

Gathering the analyses from previous sections, the following table summarizes the principal strengths related to Canadian VC activity trends since 1996.

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87. Josée St-Pierre and Claude Mathieu, *Venture Capital Financing: Evolution of Knowledge Over the Last Ten Years and Research Avenues* (Laboratoire de recherche sur la performance des entreprises, Institut de recherche sur les PME, Université du Québec à Trois-Rivières, 2003).

88. The Goodman and Carr LLP, and McKinsey & Company *Report on Private Equity Canada 2002* argued that the U.S. market recognizes that supply exceeds demand, leading some fund managers there to return limited partnership commitments.

**Table 18: Key Strengths Related to Canadian Venture Capital Activity Trends, 1996–2002**

Strengths	Details
<b>Environment and Structure of the VC Industry</b> – <i>These factors have helped the Canadian VC market and Canada’s innovation performance.</i>	
<b>Strong economic performance – past and forecasted</b>	Over the past five years, Canada’s economic growth (3.8 percent of real GDP) has outperformed that of the other G8 nations. As well, for 2003–07, Canada’s forecasted real GDP growth of 3.1 percent exceeds that of most G8 nations (except Russia and the U.S.). <sup>a</sup>
<b>Improved regulatory and tax environments</b>	Measures announced in recent federal budgets (e.g. the reduction of capital gains tax, revisions to Qualified Limited Partnership rules, changes to foreign property rules and the gradual elimination of the capital gains tax) should foster an increasingly competitive tax and regulatory environment, which in turn should lead to increased VC investment by foreign and institutional investors ( <i>see Appendix E for more details on recent tax changes</i> ).
<b>Significant angel investments market</b>	While estimates are far from precise (and do not necessarily capture the most recent downturn in most markets), anecdotal evidence points to a relatively dynamic angel investment market in Canada, which could be as important as the VC market. Available information about this market has grown significantly in recent years as a number of angel networks and associations have developed. In collaboration with angels and key researchers, Industry Canada is studying ways to better measure actual and potential angel investment in Canada. This information should lead to policy options that will improve Canadian SMEs’ access to angel investment.
<b>Solid private equity market in Canada<sup>b</sup></b>	As reported by Goodman and Carr LLP and McKinsey & Company, <i>Private Equity Canada 2002</i> , <sup>c</sup> despite slower economic conditions, Canadian private equity funds continued to raise significant amounts of new capital and to make material investments in portfolio companies. As a result, the private equity market in Canada was estimated at \$49 billion in 2002. Of this amount, 50 percent (or \$20.2 billion) was held for VC; 41 percent (or \$16.7 billion) for buyouts; and 9 percent (or \$3.6 billion) for mezzanine financing. An estimated \$8.5 billion was not captured by the survey.
<b>The Demand for VC</b> – <i>These positive factors helped build a critical mass of quality demand for VC, which is essential to attracting VC funds and investments.</i>	
<b>Strong entrepreneurship base</b>	According to the OECD and Global Entrepreneurship Monitor, Canada has a relatively strong entrepreneurial base and a high rate of entrepreneurship compared to other OECD countries. This is crucial to healthy levels of VC investment, since venture capitalists only invest in quality investments that can produce high returns. Less demand for VC investment means less VC activity, so entrepreneurial shortcomings can hurt the development of SMEs, VC investment and innovation. Unfortunately, the lack of information on the demand for VC (and for other types of risk capital) makes it impossible to conclude whether there are demand-side gaps in the VC market.
<b>Significant support of research and development</b>	Federal government initiatives have supported university research in Canada. The recent federal budget reinforced this financial support, as part of the Innovation Agenda. For example, the federal government has established a framework agreement with the Association of Universities and Colleges of Canada, in which the universities agree, among other things, to triple their commercialization efforts. <sup>d</sup> Encouraging R&D supports innovative firms, which in turn feeds VC investments.

a Global Insight forecast, as of March 2003.

b Private equity market includes VC, mezzanine and buyout financing.

c These data are from a survey that Macdonald & Associates Limited conducted from October 2002 to March 2003.

d Additional information is available at [www.aucc.ca](http://www.aucc.ca).

**CANADIAN VENTURE CAPITAL ACTIVITY: AN ANALYSIS OF TRENDS AND GAPS 1996–2002**

Strengths	Details
<b>The Supply of VC</b> – <i>These positive VC activity trends were observed from 1996 to 2002.</i>	
<b>Solid overall growth of VC activity between 1996 and 2002</b>	The Canadian VC market has enjoyed solid growth between 1996 and 2002 and has remained relatively strong since 2001 despite difficult market conditions in both the VC and public markets in 2001, 2002 and 2003 ( <i>see section 1 for detailed data</i> ). This growth has been driven by strong overall economic performance in Canada and by the emergence of successful high technology companies, particularly information technology firms in Ottawa and life sciences firms in Montréal.
<b>Canada’s VC performance has been comparable to that of the American VC market between 1990 and 2002</b>	The Canadian and American VC industries have performed comparably, in terms of relative VC under management and VC investments as a percentage of GDP since 1990. In Canada, the VC industry has developed more gradually and smoothly than has the American industry. Canada’s VC market did not experience the same remarkable explosion in 1999 and 2000, but it has remained more stable since 2001. In fact, the gaps in VC investments as percentages of population and GDP between the two markets have narrowed significantly since 2001 and currently rest at levels not seen since before the technology boom. As a result of the steep decline of American VC activity and the relative stability of Canada’s VC market, Canada is several years ahead of schedule in meeting its target to raise VC investments per capita to U.S. levels, a target which had been projected for 2010 ( <i>see section 1 for detailed data</i> ). Nonetheless, significant structural and logistical disparities remain between the two markets, particularly in terms of the participation of institutional investors and private independent funds and the discrepancy in the average deal size ( <i>see the weaknesses discussed below</i> ).
<b>Canada is among leading OECD countries</b>	Considering North America’s strong focus on VC investments, it is not surprising that Canada is among OECD leaders in VC investment as a percentage of GDP, particularly for early-stage and expansion financing. However, such international comparisons are limited by the lack of common definitions and methodologies.
<b>Increasing trends toward larger deals and larger average deal size</b>	The average size of VC financings in Canada expanded considerably from \$1.7 million in 1996 to \$3 million in 2002 (with a peak of \$4.3 million in 2000). <sup>e</sup> This increase was fuelled by the significant rise in available capital and by the growing number of transactions in Canada. However, the prime factor behind the consistent increase in deal size has been the high capital needs of high technology firms. Despite the increasing deal size trend, the average deal size in the U.S. has remained double or triple that of Canadian deals ( <i>see the weaknesses below for more details</i> ). A smaller average deal size may represent a meaningful gap for high technology companies and medium-sized firms. However, a higher average deal size also implies that the industry prefers larger deals, which may limit the financing of smaller companies, due to high due diligence and transactions costs. Nonetheless, despite the increasing trend toward larger deals between 1996 and 2002, the Canadian VC industry remained relatively active in financing very small and mid-sized Canadian SMEs ( <i>see section 2</i> ).

<sup>e</sup> With the decline of VC activity since 2001, the average deal size has contracted significantly from \$3.9 million in 2001 to \$3 million in 2002 and to \$1.5 million in the first six months of 2003.



Strengths	Details
<p><b>Increasing access to VC by early-stage firms</b></p>	<p>In recent years, Canadian VC investment has focussed on early-stage firms. Since 1996, the amount invested has grown by 255 percent, the number of deals by 100 percent and the average share of total investments by 49 percent. These figures prove that Canadian venture capitalists have an appetite for high-risk ventures. Early-stage investment has changed from 29 percent of the total in 1996 to 61 percent in 2001 and to 42 percent in 2002, for an average of 40 percent from 1996 to 2002. By contrast, the equivalent American numbers are 44 percent in 1996 and only 21 percent in 2002, for an average of 28 percent from 1996 to 2002. Other OECD countries do not exhibit this trend. This suggests that while some impediments to VC flow remain for early-stage firms (particularly in 2002), these firms have attracted a growing proportion of total VC activity over the past several years (49 percent in the first six months of 2003). Despite current market conditions and a cooling investment climate, Canadian venture capitalists have not become exceptionally averse to the risk of investing in early-stage firms. However, is this level of early-stage financing adequate? If so, is the level of funding provided to later-stage firms also adequate? (<i>See section 4.</i>)</p>
<p><b>Focus on high technology sectors (e.g. information technology and life sciences)</b></p>	<p>As explained in Part I, VC fund managers seek to maximize returns. Since few high-growth-potential firms offer substantial returns on investment, few attract VC financing. Traditional financial institutions prefer less risk, and choose investments based on the potential for high growth, technology focus and potential returns as high as 30–35 percent within three to five years. Because of the high-risk nature of these firms and the financing challenges they face (especially in high technology sectors), VC is critical to their development and growth. Indeed, the sectoral trends observed since 1996 confirm that the emergence of high-growth-potential and KBI firms, particularly in information technology and life sciences, has fuelled the growth of the Canadian VC industry. These trends also confirm that VC has played a major role in supporting the recent success of Canadian information technology and life sciences firms.</p> <p>This symbiotic relationship between high technology firms and VC has led to the creation of industry clusters; information technology in Ottawa and biotechnology in Montréal. The development of these clusters further encouraged the overall growth of the VC industry and remains central to Canada’s innovation performance. The strong relationship between high technology firms and VC activity in a few regions has been even more pronounced in the U.S., with the Silicon Valley and the Boston/New York area attracting the majority of VC investments. As a result, it is not surprising that information technology investments drove most of the VC activity in both countries from 1996 to 2002 (<i>see section 5</i>).</p>
<p><b>Increased VC activity in all regions and continued concentration in Ontario, Quebec and British Columbia</b></p>	<p>In absolute terms, there has been a significant increase in total VC investment and in the number of VC funds across all regions since 1996. This increase suggests some dynamism in all regions, particularly in those with a higher proportion of KBI firms. However, a relative analysis comparing the regional concentration of KBI firms, GDP and VC reveals that the Prairies and the Atlantic provinces have attracted a lower proportion of VC compared to their levels of GDP and KBI firms (<i>see section 6 for detailed statistics</i>). The lower share of VC activity in these regions (and in other areas outside Ottawa, Montréal and Vancouver) raises challenges and concerns for regional economic development (<i>see the weaknesses and policy issues below</i>).</p>

Strengths	Details
<p><b>Evolution in the role and participation of the different investor types</b></p>	<p>The nature and role of different types of VC investors in Canada have evolved in lock step with the overall economic environment and the development of the VC market over the last 7 years.</p> <ul style="list-style-type: none"> <li>➤ <i>LSVCCs</i> regained their status as main players in 2002, providing 25 percent of total VC investment (average of 27 percent from 1996 to 2002). However, their relative importance declined significantly in 2000 and 2001, suggesting that LSVCCs have performed the counter-cyclical role for which they were established. Their participation in the VC market slowed significantly in 2000 and 2001 (from 40 percent in 1996 to 14 percent in 2000 and 17 percent in 2001) when the VC market was strong, and they regained market share during the slowdown in 2002 (back to 25 percent of total investment) and in the first six months of 2003 (with 31 percent of total investment).</li> <li>➤ <i>Foreign investors</i> have become major players in the Canadian VC industry, accounting for most of the recent expansion of VC activity. Since 1999, foreign investors' capital contributions have grown 2021 percent and the number of deals has increased 300 percent. Since 1996, the average share of total investments has grown 766 percent, from only 3 percent in 1996 to 26 percent in 2002. Foreign investors' increased investment in Canada, mostly in the form of direct investments and partnerships with Canadian venture capitalists, has contributed to the vitality and stability of the Canadian VC market since 1999. Foreign investors favoured information technology firms, particularly those in the Ottawa region, suggesting that this cluster has benefited from a strong entrepreneurial base and that these firms have been particularly successful in promoting their new technologies and offering high returns — and this without much government intervention. Foreign investors were also responsible for most of the increase in the average deal size in Canada since 1999 — the average size of foreign deals was \$11 million between 1999 and 2002 (compared to an average of \$3.5 million in Canada over the same period). The increased interest of foreign investors in Canadian opportunities is clearly an important development for the Canadian VC market. Presented below are a number of issues and concerns raised by the impacts of these investments on Canadian firms and on the Canadian economy.</li> <li>➤ <i>Government funds</i> have played an increasingly significant role in recent years. Between 1996 and 2002, the amounts invested increased 433 percent, the number of deals grew 121 percent and the average share of total VC investment expanded 123 percent. The increased participation of government funds can be attributed to the creation of a number of programs and funds, such as the BDC VC funds and BDC seed funds (<i>see Part III for more information on government programs</i>).</li> <li>➤ <i>Institutional investors</i> increased their contribution to the supply of VC by 15 percent from 1996 to 2002. Nonetheless, they have played a limited role in investment, with a declining share of total VC from 15 percent in 1996 to 7 percent in 2002. However, these investors should soon be participating more, given that the past two years have seen an inflow of capital, new tax measures announced in recent federal budgets and the recent publication of performance benchmarks. The weaknesses related to the participation of institutional investors are discussed below.</li> <li>➤ <i>Private independent funds</i> did not play a major role in the Canadian VC market between 1996 and 2002. Although the amounts invested grew by 58 percent, private independent investors saw a 14 percent decline in the number of deals and a 34 percent drop in the average share of total investment. However, since these funds increased their contributions to the supply of capital, this group will probably increase their investment activity. The weaknesses related to the participation of private independent funds are discussed below.</li> </ul> <p>(<i>See section 7 for detailed statistics on the participation of each investor type.</i>)</p>

Strengths	Details
<p><b>Increasing VC activity of Canadian investors abroad</b></p>	<p>As with the trend toward increased foreign investment in Canada, Canadian investors invested 757 percent more VC abroad between 1996 and 2002, with most of this growth occurring since 1999. The increasing level of Canadian VC investment abroad and investment from foreign countries (mostly negotiated through syndicates between Canadian and U.S. venture capitalists) suggests two positive developments for Canadian venture capitalists, which bodes well for the continued growth of the VC industry.</p> <ul style="list-style-type: none"> <li>➤ First, the North American VC market is globalizing. According to the CVCA, an increasing number of venture capitalists no longer consider distance to be a significant barrier to investment. In fact, VC dollars are increasingly flowing to the strongest investment opportunities, regardless of location. However, as Porter (1998) has shown, a critical mass of high technology firms and financial networks is a significant determinant of VC activity and this explains why some clusters or regions have been so successful in attracting VC. Therefore, the continued growth and vitality of the Canadian VC industry depends of the ability of venture capitalists and SMEs in Canada to build on existing clusters and to take advantage of the global VC market. Continued foreign investment in Canada and Canadian investment in successful technology firms abroad can encourage and strengthen these linkages and networks.</li> <li>➤ Second, according to Macdonald &amp; Associates Limited (2003), syndicating deals with foreign investors is helping Canadian venture capitalists and SMEs by establishing and solidifying networks of communication, expertise and finance between Canadian and American VC investors. These networks allow Canadian stakeholders to learn from the experience of American venture capitalists and to gain technical knowledge of VC investment processes in the largest and most successful VC economy in the world. By bringing in substantial sources of foreign capital, including major players in the American VC industry, networks also help Canadian SMEs by making larger financing amounts available. The weaknesses and challenges related to these inflows and outflows of VC are discussed below.</li> </ul>

## 9.2 Key Weaknesses/Challenges and Related Policy Issues

As shown in previous sections, the Canadian VC industry has become an expanding, dynamic sector in its own right. Canadian policy-makers should ensure that this sector continues to grow independently as a private industry. To this end, the following table reviews and analyzes the remaining weaknesses, challenges and policy issues related to the structure and function of the Canadian VC market. These represent significant impediments to the VC industry’s future growth and ability to support high-growth-potential SMEs.

Part IV will analyze these weaknesses, challenges and policy issues in greater detail; determine whether there are gaps or outstanding issues in the market that need to be addressed; review the respective roles of the private sector and the federal government; and discuss policy questions.

**Table 19: Key Weaknesses and Challenges and Related Policy Issues**

Weaknesses/Challenges	Explanation and Related Policy Issues
<b>Environment and Structure of the VC Industry</b>	
<p><b>Lower performance returns compared to the U.S. and lack of information about industry</b></p>	<p>Returns are the most important driver of VC activity. In fact, performance returns prompt investors to fund venture capitalists, who then invest in high-growth and high-returns-potential firms. Without reliable and transparent industry information and appealing returns (compared to other investment options such as the public market), capital will not (and should not) flow to VC funds.</p> <p>Until 2002, there were no data on the performance (e.g. rate of returns) of Canadian VC funds.<sup>a</sup> Therefore, it was impossible for investors, particularly institutional investors unfamiliar with VC, to assess the performance of this asset class and to make informed decisions about VC investments.</p> <p>Compared to the American VC market, this lack of reliable VC returns data represents a significant gap for the Canadian VC industry. According to Goodman and Carr LLP and McKinsey &amp; Company, <i>Private Equity Canada 2002</i>, the lack of timely and exhaustive returns information could hinder investor perceptions about the Canadian private equity market’s attractiveness or viability compared to the American or EU markets. In the U.S., VC and institutional investors have used performance returns data to establish benchmarks since the early 1990s. In Canada, returns data were first published in 2002 by the CVCA, in collaboration with Réseau Capital and Macdonald &amp; Associates Limited. However, there are no consistently applied valuation and reporting standards used by venture capitalists. Without transparent and comparable information, investors may continue to resist allocating assets to VC in favour of more traditional investment strategies.</p> <p>Moreover, the continued growth of VC activity may depend on more than industry information. The VC market needs to demonstrate attractive returns to attract more capital and new suppliers of capital. The CVCA data can be significantly improved, but the existing data reveal that American VC funds outperform Canadian funds over one-, three- and five-year periods. While this can be partially explained by the recent market decline, the data raise significant structural challenges for the Canadian VC industry. Lower returns may send negative signals about the quality of Canadian investment opportunities and the calibre of Canadian VC fund managers.</p>

a Before 2002, performance data were only available for LSVCCs. However, these represent a particular subset of Canadian VC funds, one that is supported by government tax credits and has a social mandate (e.g. job creation and returns). As a result, their returns data do not necessarily represent the performance of the Canadian VC industry as a whole.

Weaknesses/Challenges	Explanation and Related Policy Issues
	<p>As a result, the future of VC in Canada will depend on the industry’s ability to provide investors with solid and credible risk-adjusted rate-of-return benchmarks and other industry information. Otherwise, it will be increasingly hard to raise money for VC, especially from institutional and foreign sources.</p> <p>The Canadian VC industry is aware of this information challenge and its importance for the future growth of the Canadian VC industry. In fact, the CVCA published improved performance benchmarks in October 2003 and is also developing guidelines to help VC funds to value and report their investments.</p> <p>The importance of industry and returns information raises critical policy issues and questions that need further consideration.</p> <ul style="list-style-type: none"> <li>• What explains the lower performance of Canadian VC funds? Is it the lack of quality investment opportunities, the poor quality and unreliability of the valuation and reporting of Canadian VC funds, the lack of expertise of Canadian VC fund managers or the lower performance of a group of VC funds such as LSVCCs?</li> <li>• What are the long-term impacts of these lower returns on the VC market?</li> </ul> <p>What should the government do to help the VC industry develop and disseminate credible and reliable industry and returns information?</p>
<p><b>Improvements to tax system</b></p>	<p>The federal and provincial governments have recognized the VC industry’s importance to the creation and development of high-growth-potential firms, to innovation, to the creation of wealth and to overall economic activities. Indeed, recent federal budgets have announced several measures to eliminate tax and regulatory barriers to the flow of VC, and measures to further encourage VC activity in Canada.</p> <p>While some of these measures have yet to be legislated, the VC industry has generally lauded these developments. The CVCA predicted that these measures would make Canada’s private equity market more attractive to both domestic and foreign institutional investors, which in turn would help support the continuous growth of the Canadian VC industry. See Appendix E for a summary of the recent changes and additional revisions requested by the CVCA.</p> <p>However, the CVCA feels that these positive developments take too long to implement and that further improvements to the tax system are required to remove some technical bottlenecks and improve the flow of capital from both institutional and foreign investors to high-growth-potential firms in Canada.</p> <p>Given the recent changes and measures announced by the Department of Finance Canada, what other improvements to the tax system might still be needed to ensure the continued growth of the Canadian VC industry?</p>
<p><b>Relatively smaller and younger VC industry and Canadian VC funds have less VC management expertise compared to the U.S.</b></p>	<p><b><i>Size and maturity of the Canadian VC industry</i></b></p> <p>Despite the comparable levels of VC investment as a percentage of GDP in Canada and in the U.S. since 1990, the Canadian VC market is, overall, less mature and sophisticated than the American VC market.<sup>b</sup> Canadian VC funds are younger, smaller and have showed lower growth rates.</p> <ul style="list-style-type: none"> <li>• The number of Canadian VC funds (282 in 2002) increased by 117 percent between 1996 and 2002 compared to growth of 140 percent in the U.S., for a total of 1798 VC funds in 2002.</li> <li>• The average capital under management per Canadian VC fund was C\$79.8 million in 2002 versus C\$210 million per VC fund in the U.S.<sup>c</sup></li> </ul>

b According to Goodman and Carr LLP and McKinsey & Company, *Private Equity Canada 2002*, compared to other major markets, the Canadian private equity market is relatively young. Many Canadian Gross Products (GPs) have short track records; investors have fewer products to select from; limited returns information exists to compare performance against the rest of the world; and gathering industry data is relatively difficult.

c These were calculated as total capital under management divided by the total number of VC funds in 2002.

Weaknesses/Challenges	Explanation and Related Policy Issues
	<ul style="list-style-type: none"> <li>The average Canadian VC firm is 5 years old, while the American average is 11 years (with the median at 4 and 9, respectively). While the Canadian VC industry has developed significantly since 1996, the industry’s relative youth may hinder its capacity to appropriately fund Canadian SMEs. This may be particularly true for seed and start-up firms in a number of key industries, and for companies in the continuous expansion and growth phases, which typically require large capital injections. As a result, to grow and become successful, some of these Canadian firms may have to seek VC financing in the United States.<sup>d</sup> This tendency, if meaningful, may affect the continued growth of the Canadian VC industry, as viable companies needed to feed the Canadian VC industry may relocate to the United States. Not only could this limit the Canadian VC industry’s growth, it could reinforce the “brain drain” and damage Canada’s future innovation performance and economic growth.</li> </ul> <p><b><i>Too few venture capitalists with management experience and industry knowledge</i></b>            Canadian venture capitalists also find it harder to recruit skilled and experienced VC fund managers than American venture capitalists. This may be because of the relative youth of the Canadian VC market (e.g. fewer and smaller VC funds and less total capital invested), as well as the lack of serial entrepreneurs, and, thus, fewer good potential venture capitalists. It may also be that successful Canadian venture capitalists are being recruited by Americans. The Canadian private equity market is also relatively young — according to Goodman and Carr LLP and McKinsey &amp; Company, <i>Private Equity Canada 2002</i>, it is mainly composed of VC (50 percent) and buyouts (41 percent). Many Canadian private equity firms were established recently; many Canadian general partners (also referred to as VC fund managers) have shorter track records and less experience than their American counterparts. This can make it difficult to convince new and existing investors to supply capital for VC investments. While only time and experience (e.g. several business and investment cycles) can address this lack of expertise and maturity, the key policy question is:</p> <ul style="list-style-type: none"> <li>What should the private sector or the government do to further support the growth of Canadian VC funds and develop VC funds managers’ skills and experience?</li> </ul> <p>For example, improving industry information and returns data, or further streamlining of the tax system, would help Canadian VC funds raise capital from institutional and foreign investors. As well, training, mentoring and educational initiatives could be investigated as ways to develop VC skills and expertise (<i>see Part IV</i>).</p>
<b>Ensuring a strong angel investment market</b>	<p>Before seeking VC, most new firms secure funding through informal channels. Business angels can impart broader visions and goals to entrepreneurs and can provide management expertise and experience. Some start-up companies remain with business angels throughout their life cycle, while others eventually turn to formal VC. Studies show that in the U.S., business angels work with the formal VC sector by seeking out and screening new projects, which stimulates start-ups and increases deal flow for VC firms. In fact, studies have found that more than half of all VC-funded high technology projects</p>

d No solid statistics exist on the number of Canadian firms seeking foreign VC because these firms were unable to secure enough VC in Canada. However, a recent PricewaterhouseCoopers study, *Foreign Investments in Canada* (June 2003), for Industry Canada revealed that the distribution of investments across companies seeking investments of different sizes varied considerably between foreign investments and the average VC investment. Where the average VC investment in Canada was distributed across companies securing investments of all sizes, foreign VC investments were concentrated among firms raising over \$5 million. Hence, foreign investors are a key source of financing for larger deals, accounting for about 35 percent of investments in companies of over \$5 million. Conversely, domestic venture capitalists are the primary source of financing for smaller deals, accounting for over 95 percent of investments of less than \$5 million. The study also explains that the concentration of foreign VC investments in larger deals probably happens because American venture capitalists, the dominant foreign investors in Canada, typically invest in larger deals than is the case in Canadian VC investments, on average.

Weaknesses/Challenges	Explanation and Related Policy Issues
	<p>in the U.S. had business angel participation, and that this proportion was even higher among smaller and newer firms. The presence of a highly regarded and well-connected business angel in a previous financing deal may allay the fears of VC investors and promote further rounds of investment.</p> <p>Considering the importance of angel investment to high-growth-potential SMEs and the lack of information about angel activities in Canada, Industry Canada’s SME Financing Data Initiative has studied angel investments in Canada<sup>e f g h</sup> to improve the overall understanding of this market. In addition, a National Angel Organization study for Industry Canada<sup>i</sup> revealed a number of issues and concerns common to many angel investors in Canada, such as the need for risk-adjusted tax treatment and new tax incentives, and better networking with venture capitalists. Given the important linkages among angels, VC and IPOs, these markets must be reviewed in parallel as part of an overall government approach to improve high-growth-potential SMEs’ access to capital. In other words, VC should not be the only focus of government attention.</p> <p>In particular, one of the key challenges facing policymakers is the lack of information on the actual and potential size of the angel investment market in Canada. Industry Canada is developing a research protocol with Statistics Canada and the Department of Finance Canada to measure the amount of actual and potential angel investment in Canada. The results of this research should illuminate potential gaps in the market and point to possible policy actions to encourage informal investment in Canada and provide more quality investment opportunities for VC investors.</p>
<p><b>Ensuring a strong IPO market</b></p>	<p>As explained in Part I, VC financing serves as a bridge between the informal financial sector and the public capital markets. As a transitional phase in financing, VC will likely be most efficient in the presence of a strong informal capital market that screens, evaluates and finances new deals and provides good exit potentials, preferably through IPOs or mergers and acquisitions.</p> <p>Due to their potential to influence the development of the VC industry, the public markets must also be evaluated. A recent Industry Canada study by Carpentier, Kooli, Suret<sup>j</sup> on the performance of Canadian IPOs revealed a mixed story about the Canadian IPO market. Going public is less expensive in Canada than it is in the U.S. and, paradoxically, traditional IPOs are less expensive than junior capital pools. However, the Canadian IPO market is characterized by very small issues, averaging just \$2.5 million, and in recent years small companies that have gone public have performed poorly. Companies generally have gone public too early and few survive.</p> <p>In light of these findings, the authors recommend the re-evaluation of all policies, regulations and programs that encourage small businesses’ access to public capital. Government policies should be as neutral as possible and should not push small businesses to IPOs until they can demonstrate a solid track record and are large enough to have reasonable chances of survival. However, to achieve this, the capital market must be able to provide the financing support required through the pre-IPO stages. See below for the weaknesses and policy issues related to improving the supply of VC in Canada.</p>

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- e Alan Riding, *Informal Equity Capital for SMEs: A Review of Literature* (Equinox Management Consultants Ltd., 2001).
  - f A. Ellen Farrell, *A Literature Review and Industry Analysis of Informal Investment in Canada: A Research Agenda* (2001).
  - g Alan Riding, *Practices and Patterns of Informal Investments* (Equinox Management Consultants Ltd., 2001).
  - h Alan Riding, *Value Added by Informal Investors: Findings from a Preliminary Study* (Equinox Management Consultants Ltd., 2001).
  - i National Angel Organization, *Angel Investment in Canada: A Regional and National Perspective*, 2003.
  - j Cecile Carpentier, Maher Kooli, Jean-Marc Suret, *Primary Issues in Canada: Status, Flaws and Dysfunctions* (Université Laval, 2003).

Weaknesses/Challenges	Explanation and Related Policy Issues
<p><b>Securities regulations reform</b></p>	<p>In Canada, there are 13 sets of rules and regulations administered by 13 different provincial and territorial regulators. Several groups, such as the TSX, the University of Toronto, the Ontario Government and the federal government, argue that this creates a red-tape nightmare for Canadian companies. The Canadian Securities Administrators (CSA) is promoting a uniform securities law for Canada, which would reduce complexity, increase protection from fraud, improve efficiency in Canada’s capital markets and encourage investment. The current debate about securities regulations reform is far from resolution and some provincial regulators oppose such reform. Nonetheless, regulatory issues and burdens related to the public markets can affect all risk capital markets, including angels, the VC industry and IPOs.</p> <p>However, very little research is available on the regulatory reform issue, its impact on the angel and VC markets, and how it would affect SMEs’ access to risk capital. While the recent Carpentier, Kooli, Suret<sup>k</sup> study did not specifically address securities regulations reform issues, it examined the regulatory environment surrounding the Canadian IPO market and studied its impact on Canadian firms and on the risk capital market. The study explained that the direct costs of issuing an IPO are determined by regulatory costs (e.g. preparation of a prospectus, the payment of fees and the work of various professionals) and by the commission paid to an underwriter. The authors found that these direct costs in Canada were lower than the equivalent American costs and that the underwriter’s commission was, on average, lower in Canada. However, because these are fixed costs, they remain very cumbersome, especially for small businesses. Paradoxically, the authors noted that junior capital pool companies, for whom the IPO process is meant to be simplified and cheaper, actually pay a higher percentage of the transaction value to issue an IPO than do traditional IPO SMEs of comparable size (22.95 percent compared to 15.98 percent). Finally, given the relatively poor performance (measured in terms of survival rate of Canadian IPOs reviewed), the study concluded that all regulations should be reviewed so that they encourage companies to delay IPOs until they are more likely to survive and become successful. Given the strong links between the public markets and VC, the provincial and federal governments should examine securities regulations reform, and assess current regulations governing Canadian firms’ access to the IPO market.</p>
<p><b>Demand for VC</b></p>	
<p><b>Too few investor-ready firms</b></p>	<p>Venture capitalists reported that the lack of quality investment opportunities was one of the major impediments to VC investment. In other words, while many firms may be seeking VC financing, few are ready or appropriate for such investment, at least in the eyes of venture capitalists. In fact, the literature suggests that venture capitalists are attracted by high returns and fast-growing, high-growth-potential business opportunities. Given these criteria, the growth of VC activity will require a critical mass of quality firms ready for VC investments. Unfortunately, angels and venture capitalists report that many potential investee firms are weakened by the lack of management skills and are unwilling to share ownership. The SME Attitude Survey<sup>l</sup> reinforced this finding. Most business owners surveyed would not give up enough ownership of their firms to attract investment capital. The survey found that SMEs think that venture capitalists avoid risks and that their investment criteria and requirements are too stringent.</p> <p>These concerns, from both venture capitalists and entrepreneurs, raise a few key policy issues and questions.</p> <ul style="list-style-type: none"> <li>• Does Canada have the infrastructure in place to build enough quality demand for more VC investment? For example, are Canadian SMEs well-supported by government programs in their quest for growth capital?</li> </ul>

k Ibid.

l Université du Québec à Trois-Rivières, *SME Attitude Survey* (2000).



Weaknesses/Challenges	Explanation and Related Policy Issues
	<ul style="list-style-type: none"> <li>• How can Canadian SMEs best be informed about the VC market? How can their expectations about VC be made more realistic?</li> <li>• What is the role of government (if any) in developing the management skills of Canadian SMEs?</li> <li>• How can government help Canadian firms become investor-ready?</li> </ul> <p>Entrepreneurship by itself will not ensure a vibrant VC sector without the necessary institutional and regulatory framework (<i>see below for more details</i>). However, since the SME sector is a source of economic dynamism, its development should be promoted by building the necessary program and policy framework, which means considering such issues as personal and corporate taxes, the regulatory environment and the growth of VC market support structures.</p>
<b>Lack of information about the demand for VC (and other types of risk capital financing)</b>	<p>For most firms, debt, leases, retained earnings and investments by the owners will satisfy the demand for capital. However, as explained in Part I and above, VC is limited to very young high-growth-potential firms that feature new or adapted innovative products for which there is no current market or no well-developed market. Hence, it is very difficult to collect and discuss information on SMEs' requirements for VC and on the overall rates of approval and rejection. This lack of information makes it hard to assess the VC industry's ability to provide risk capital to high-growth-potential SMEs across Canada. Part IV presents a number of options to address this information gap.</p>
<b>Supply of VC</b>	
<b>Relatively low participation of domestic and foreign institutional investors<sup>m</sup> in Canadian VC market compared to the U.S.</b>	<p>As shown in section 7, Canadian institutional investors have not played an active direct role in the VC market since 1996, although their recent increased contribution to new capital raised (about 18 percent in 2002)<sup>n</sup> should lead to more investment. In terms of direct investments, institutional investments grew by only 15 percent between 1996 and 2002, which is far below the 139 percent growth of VC investment over the same period. Institutional investors' investments had the lowest growth of any investor type; foreign investments grew by 2021 percent and government funds' investments by 433 percent. Furthermore, institutional investors' share of the market has declined by 52 percent over the period, from 15 percent of total investments in 1996 to 7 percent in 2002.</p> <p>The low participation of institutional investors (particularly pension funds) is probably one of the most significant differences between the Canadian and American VC markets. In the U.S., institutional investors contributed 89 percent of new capital raised in 2002 (compared to 18 percent in Canada).<sup>o</sup> Given the importance and size of institutional investors, and based on the American experience, the growth and vitality of the Canadian VC industry will depend on the increased participation of institutional investors and private independent funds. For example, if institutional investors allocated a small portion (3–5 percent) of their portfolio to the VC asset class (preferably by funding Canadian private independent funds or through funds-of-funds), the impact on the Canadian VC market could be extremely positive. However, a number of barriers identified by institutional investors need to be overcome.<sup>p</sup></p> <ul style="list-style-type: none"> <li>• Investors need critical VC market information against which to measure the long-term performance and the inadequacy or unreliability of financial returns.</li> <li>• Problems with the tax and regulatory environment must be addressed, which raises some technical issues, particularly related to the foreign property rule.</li> </ul>

m Institutional investors include private and public pension funds, insurance companies, mutual funds, endowments and charitable foundations.

n In Canada, this investor type includes private and public pension funds (16 percent of new capital raised in 2002), insurance companies (1 percent), and endowments and mutual fund companies (2 percent).

o In the U.S., this investor type includes private and public pension funds (42 percent of total capital committed in 2002), endowments and foundations (21 percent), and financial and insurance companies (26 percent).

p Kirk Falconer, in co-operation with PIA of Canada, *Prudence, Patience and Jobs* (1999).

Weaknesses/Challenges	Explanation and Related Policy Issues
	<ul style="list-style-type: none"> <li>• More VC investment specialists are needed among institutional investors.</li> <li>• Trustees should support activity and institution-friendly infrastructures, such as gatekeepers and funds-of-funds. In the U.S., gatekeepers and funds-of-funds are used by pension funds as advisors and vehicles for private equity investments. This practice has addressed organizational barriers to investment and has given institutional investors substantial exposure to private equity. In Canada, until recently, there were no such funds-of-funds (and there are still no gatekeepers). However, in 2002, three funds-of-funds<sup>q</sup> were created to help Canadian pension funds invest in VC. While this represents a positive development for the Canadian VC industry, awareness and confidence in these new instruments must be raised.</li> <li>• It takes too much money and time to review proposals and perform due diligence.</li> <li>• There is a high risk of high-profile business failures and liabilities.</li> </ul> <p>Given these barriers and the increasing importance of VC financing to growing and innovative firms, Industry Canada (in partnership with the provinces of Ontario, Quebec, Alberta, Manitoba, Prince Edward Island and Nova Scotia) has asked Macdonald &amp; Associates Limited to survey about 75 Canadian and American institutional investors. This survey will analyze institutional investors' awareness of private equity and their current investment strategies and processes, as well as the remaining barriers to private equity investment. The results of this study, to be published in fall 2003, will raise Canadian institutional investors' awareness of private equity and VC investment opportunities. The results will also help develop policy options that should make the Canadian private equity market more efficient.</p>
<p><b>Relatively low funding and participation of Canadian private independent funds compared to the U.S.</b></p>	<p>As shown in section 7, private independent investors have supported the growth of the VC industry in Canada since 1996. Private independent investors accounted for 35 percent of new capital raised in 2002, but have contributed less than other investor types, such as LSVCCs, foreign investors and government-owned funds. While private independent investors invested 58 percent more (from \$198 million in 1996 to \$313 million in 2002), the number of deals declined by 14 percent (from 235 to 202) and the average share of total VC investments declined by 34 percent to reach 13 percent of total investments in 2002.</p> <p>To ensure the sustained development and growth of the Canadian VC industry, and to provide a significant proportion of VC investment, private independent funds must continue to grow and expand their fund-raising activities. For this to happen, these funds must be able to attract more capital from institutional and foreign investors, as is the case in the United States. In that context, removing barriers to the participation of institutional investors would contribute indirectly to the increased participation of private independent firms. In other words, the recent creation of funds-of-funds, the publication of improved and reliable VC performance benchmarks, and the review of additional barriers to institutional investments should help private independent funds to raise money. Furthermore, if private independent funds can establish a stable, long-term source of funding from pension plans, they could develop expertise and management skills and then undertake a larger volume of ongoing VC financings. This would provide these firms with the critical mass (in terms of size, funding and management skills) that they need to make a wider range of VC investments and to accept higher risk thresholds. These developments would allow them to become more competitive in the Canadian VC market and to provide more financing to SMEs at competitive costs.</p>

q The three recently created Canadian funds-of-funds are Edgestone Venture Capital Fund of Funds, TD Capital Private Equity Investors Fund of Funds and the BDC Fund of Funds. These funds-of-funds have helped leverage some enhanced institutional participation and should exert even more influence in the future.

Weaknesses/Challenges	Explanation and Related Policy Issues
<p><b>Limited interest in new financing<sup>r</sup></b></p>	<p>As demonstrated in section 3, most VC investment since 1996 has come in the form of follow-on financing and at the expense of new investments. This trend has been even more apparent since the 2001 market downturn, which has forced venture capitalists to become more cautious in their investment decisions.</p> <p>While this phenomenon appears natural in more difficult market conditions, it does raise significant concerns for young high-growth-potential firms seeking first-time VC financing. Indeed, many of these firms are at a critical stage in their development and without access to VC, they will be left with narrow financing options and limited chances of success. Since the financing of new investments is critical to developing innovative and competitive Canadian firms, the increasing preference of VC firms for follow-on financing raises key policy questions, which may be linked to the trends toward increasing deal size and later-stage financings.</p> <ul style="list-style-type: none"> <li>• What barriers (if any) face VC investors in funding new investments?</li> <li>• Does government have a role to play in supporting first-time financings?</li> <li>• Can public policy help investors overcome some of these barriers?</li> </ul>
<p><b>Limited capacity to finance very large deals</b></p>	<p>Deal size is a significant issue from a policymaking perspective, since it is the main determinant of whether a project is financed. Deal size also determines whether a company garners enough financing to support its survival and growth.</p> <p>Canadians have been relatively successful in financing larger deals in recent years. Indeed, as mentioned in the previous section, large deals drove most of the VC industry's growth between 1996 and 2002. The amount invested in large deals grew more than any other deal size — by 274 percent between 1996 and 2002, compared to 28 percent for mid-sized deals, 5 percent for small deals and 26 percent for very small deals. This tendency toward large transactions is linked to the increase in capital available for investment and the emergence of high-growth-potential firms in innovation-oriented sectors, such as information technology and life sciences, which tend to have higher capital needs and which have successfully attracted the interest of VC investors. This has increased the average deal size from \$1.7 million in 1996 to \$4.3 million in 2000 and to \$3 million in 2002.</p> <p>Nonetheless, there is still a significant deal size gap compared to the U.S., where the average deal size has consistently remained double or triple the Canadian average. In 2002, the average deal size was C\$3 million in Canada and C\$11.4 million in the U.S. The lower average deal size in Canada raises an important concern about the Canadian VC industry's capacity to support and fund mid-sized and large firms that require large capital injections. In fact, the limited capacity of the Canadian VC industry may significantly affect Canadian firms trying to secure the capital they need to grow and expand.<sup>s</sup> In the absence of appropriate funding, some firms may have to seek funding in the U.S. and may eventually move part of their business operations abroad. This is addressed below in the discussion of foreign VC investment.</p> <p>The lower average deal size in Canada raises several policy issues and questions.</p> <ul style="list-style-type: none"> <li>• How does the average deal size fill the demand for VC by Canadian firms in different sectors and regions? Is there a real deal size gap in Canada?</li> </ul>

r New financing refers to the first round of VC financing secured by an investee firm, whereas early-stage financing refers to the stage of development of the investee firm.

s This deal size issue may be more significant for life sciences firms, which face particular challenges in securing appropriate financing. However, the challenges faced by life sciences firms in accessing VC may be explained by several factors, including the costs and time required to conduct research and development, challenges related to commercializing new products, a lack of knowledge by venture capitalists about the kinds of products being developed, and structural issues (e.g. size, management skills) related to the Canadian biotechnology sector in general.

Weaknesses/Challenges	Explanation and Related Policy Issues
	<ul style="list-style-type: none"> <li>• What factors, if any, prevent the achievement of a higher (or optimal) deal size in Canada?</li> <li>• Does the Canadian VC industry have the resources to raise enough funds to sustain the continuous increase in the average deal size?</li> <li>• Will deal size continue to grow without increased access to institutional investment pools?</li> <li>• Is the average deal size only a reflection of venture capitalists' decisions or does the demand for VC play a role?</li> <li>• What role does conditions on access to public capital markets play in the growing focus on larger transaction sizes?</li> </ul>
<p><b>Continued challenges for seed and early-stage firms</b></p>	<p>It is often alleged that Canada's capacity to commercialize university research results and incubate high technology and biotechnology firms is constrained by a lack of seed or start-up investment capital, including angel investment and VC. But it is difficult to determine whether there is a gap in the supply of and the demand for capital. First, it is hard to calculate the demand for seed capital in Canada. Not all VC financing requests represent commercially viable investment proposals and it is difficult for investors to identify firms seeking seed and start-up financing. In fact, VC investors may not know about seed firms looking for VC investment. University researchers face significant hurdles in developing and commercializing new ideas, but these challenges are often related to a lack of management expertise, which is a separate policy question. Second, it may be difficult to evaluate and control challenges related to the structure of the VC industry and to the overall market environment. Venture capitalists require high-return potential, a defined market, a solid business plan and an experienced management team, so seed firms' difficulties in accessing VC are not unexpected.</p> <p>Despite these difficulties, the situation does not appear to be disastrous. Indeed, the stronger focus on early-stage development in recent years can be attributed to the remarkable increase of seed and start-up investments, which grew by 546 percent and 262 percent between 1996 and 2002. This was higher than the 255 percent growth of early-stage investment as a whole and the 126 percent growth of expansion financing. In other words, the data for 1996 to 2002 reveal a significant improvement in seed and start-up firms' access to VC.</p> <p>However, despite seed and start-up firms' improved access to VC, there remains a need to develop these firms' management skills and preparedness for VC investments, which will ensure the Canadian VC industry's continued support. Furthermore, current conditions in the public markets have led to fewer exit potentials and a shift in the focus of VC investments toward follow-on investments. This tendency may have a significant impact on companies seeking seed financings and first-time VC, as venture capitalists have been more conservative about due diligence and investments.</p>
<p><b>Importance, impact and future role of LSVCCs</b></p>	<p>As shown in the historical highlights in section 1.1 and in Part III, governments in Canada have used indirect and direct measures and programs to help the Canadian VC industry establish itself and grow. Key government initiatives in the VC market include tax incentives favouring individual investment in LSVCCs to fund VC activities and support job creation.</p> <p>Created in 1984 during difficult economic conditions, LSVCCs have undoubtedly played a critical role in developing the VC industry in Canada, especially considering the withdrawal of pension plan funding from the VC industry in the early 1990s. This was particularly true in 2002, when LSVCCs regained their status as major players in the market (with 26 percent of total VC investments).</p>

Weaknesses/Challenges	Explanation and Related Policy Issues
	<p>However, a recent study from Douglas J. Cumming and Jeffrey G. MacIntosh<sup>t</sup> argued that LSVCCs limit the expansion of the aggregate pool of VC in Canada, that LSVCCs' mandates, which require that their capital be invested over a certain period, could result in companies being financed at higher valuation, potentially producing lower returns. They also found that the large pool of capital recently raised by LSVCCs may act as an overhang in the VC market and potentially limit the growth of new VC funds. Based on these findings, Goodman and Carr LLP and McKinsey &amp; Company, <i>Private Equity Canada 2002</i>, suggested that, while LSVCCs were designed to play an important role in stimulating the growth of SMEs in Canada, it may be time for industry participants to collaborate with the federal government to identify a more effective role for LSVCCs, one which would ensure that the Canadian VC market continues to attract new institutional capital.</p> <p>Given the significant participation of LSVCCs and the recent opposition to them, Industry Canada is assessing the importance of LSVCCs, including their impact on and their future role in the Canadian VC industry. In particular, the study will examine the following issues and questions:</p> <ul style="list-style-type: none"> <li>• What is an LSVCC? What are their investment strategies and regulatory requirements (e.g. fund-raising, reserve, location, level of risk usually accepted, expected returns, diversification, timing of investments) and what are their average returns on investments?</li> <li>• What is the importance of LSVCCs' activity in the Canadian VC industry and what are their investment practices or preferences in terms of stage of firms, sectors and regions?</li> <li>• Does the Canadian government play a larger role in the Canadian VC industry than the American government does in its VC market? If so, can this difference be justified?</li> <li>• What are the impacts of LSVCCs on the Canadian VC industry? How do they compare to the impacts of SBICs in the United States?</li> <li>• What are the benefits (e.g. amounts invested) and costs (e.g. loss of tax revenues, impacts on VC industry) of LSVCCs?</li> </ul> <p>The results of this review, expected in winter 2004, will improve analyses of LSVCCs and provide solid analytical information for the development (if necessary) of actions to improve the efficiency of the Canadian VC industry.</p>
<p><b>Importance, impacts and future role of foreign investment in Canada</b></p>	<p>The growing participation of foreign venture capitalists in the Canadian VC market since 1999 has been an important element in the ongoing growth and stability of the VC industry in Canada. Foreign investors accounted for most of the growth in overall VC investment since 1996, with an increase of 2021 percent of the amount invested in Canada (compared to 433 percent for government funds, 58 percent for private independent, 53 percent for LSVCCs and 139 percent for overall VC investments). While foreign capital has been crucial to the relative strength of the Canadian VC industry, its benefits and drawbacks are not fully understood and these could raise significant policy issues for Canadian firms. Foreign investment is a relatively recent phenomenon and may be the result of specific market factors associated with the burst of the technology bubble or other structural dynamics.</p> <p>Furthermore, foreign investors' penchant for high technology sectors has led to regional concentrations of financings, particularly in Ottawa and other clusters of high technology firms. According to a recent study from PricewaterhouseCoopers,<sup>u</sup> foreign investment</p>

t Douglas J. Cumming, School of Business, University of Alberta, and Jeffrey G. MacIntosh, Toronto Stock Exchange Professor of Capital Markets, Faculty of Law, University of Toronto, *Crowding Out Private Equity: Canadian Evidence* (2003).

u PricewaterhouseCoopers, *Foreign Venture Capital Investment in Canada: A Profile of Foreign Investors and Domestic Investors* (to be published in fall 2003).

Weaknesses/Challenges	Explanation and Related Policy Issues
	<p>(which comes primarily from the U.S.) may pressure Canadian investee companies to move to the U.S., either directly or through mergers and acquisitions.</p> <p>In fact, some of the Canadian companies funded by American investors, most of which depend on the American market to sell their products and to find experienced management personnel, find it easier to expand their markets by moving the entire company or some of its decision-making components to the United States. Such practices benefit American VC investors by easing the process of value-added support to their investee companies (through more active management support and recruitment) and by streamlining exit opportunities (through acquisitions of their Canadian investee companies).</p> <p>With the potential loss of successful or promising companies to the U.S., Canada would lose the benefits of the longer term growth of these companies, particularly if they were to grow into world-class leaders in their industries. As a result, investment in Canadian companies by American VC firms, although beneficial to the overall strength of the Canadian VC industry, can have a downside over the longer term if these companies migrate to the U.S. This impact would be diluted if American investors, such as pension fund managers, invested in Canadian VC funds or invested as part of a syndicate in which the Canadian VC fund maintained some control.</p> <p>From a policy perspective, it could be better for Canada to encourage inflows of foreign capital, from private independent or pension funds to Canadian VC funds, rather than to promote direct VC investment. To achieve this, the Canadian VC industry, particularly Canadian private independent VC firms, would have to be profiled and promoted to American pension funds and other investors. Canadian embassy and consular facilities in the U.S. could help by organizing and sponsoring trade shows and other promotional events, and in general by increasing the profile of Canadian VC investment opportunities. However, since foreign investment is relatively new, Industry Canada has asked PriceWaterHouseCoopers to study the issue, culminating in the release of a profile of foreign investment in Canada in the fall of 2003; a second report on the impact of foreign investment on Canadian firms and on the Canadian economy is planned for 2004.</p>
<p><b>Sectoral preference and vulnerability</b></p>	<p><b><i>Importance of sectoral performance data</i></b></p> <p>Performance data from the U.S. indicate that the sectors that attract the majority of VC investments (e.g. information technology and life sciences) also yield higher rates of return. While the recently published Canadian VC performance data do not provide sectoral breakdowns, VC investments generally flow to firms in sectors that offer higher rates of return. For this reason, Canadian performance benchmarks must be improved to attract VC investment in Canadian high-growth-potential firms and to increase institutional and foreign investors' participation in the Canadian risk capital market.</p> <p><b><i>Sectoral vulnerability</i></b></p> <p>While emerging and high technology firms have benefited greatly from VC investments in recent years, these firms are also more vulnerable to the cyclical nature of VC, to the reality of difficult public markets and to increasingly tight exit avenues. For example, it may be harder for these firms to access new VC financings, as the investment focus has favoured follow-on transactions. Moreover, some sectors may depend on declining foreign investment. Thirty percent of information technology VC came from foreign investors from 1996 to 2002, but these levels have been dropping in 2002 and 2003. It must be determined whether these structural vulnerabilities during difficult market conditions merit long-term policy actions. While VC is critical to high-growth-potential innovative firms, some sectors may need to address structural and operational issues. However, some of these issues may be unrelated to the VC industry and some may fall outside the scope of government intervention. Below are some considerations for each sector.</p> <p><b><i>Information technology</i></b> – While information technology firms have been relatively well-served by the VC industry over the past seven years (compared to other sectors), past strength is an unreliable indicator of future vitality. A more detailed analysis of the</p>

Weaknesses/Challenges	Explanation and Related Policy Issues
	<p>demand and supply of capital to each subsector would help determine prospective vulnerabilities. A comprehensive analysis would show how to further improve the supply of capital to these high-growth-potential and innovative firms, particularly from institutional and foreign investors.</p> <p><b>Life sciences</b> – Life sciences firms attracted a growing amount of VC investment. They have captured a significant and relatively stable share of total VC activity from 1996 to 2002 and an average share of 19 percent of total VC investments from 1996 to 2002. However, these firms faced financing challenges, particularly given the smaller Canadian VC deals (around C\$11 million in the U.S. compared to C\$2.7 million in Canada). Life sciences firms also faced structural challenges; venture capitalists generally seek quick returns on investment, while life sciences firms often require more development and commercialization time before they become profitable.</p> <p>A variety of factors may inhibit increased VC investment in biotechnology companies:</p> <ul style="list-style-type: none"> <li>• the structure of the biotechnology industry, which involves higher R&amp;D costs and a longer period to profitability;</li> <li>• the limited managerial skills of biotechnology firms; and</li> <li>• the Canadian VC industry’s relatively low level of specialization, which may compromise its ability to understand and assess the potential of new biotechnology products.</li> </ul> <p>In that context, government programs need to reflect the shift toward developing and commercializing biotechnology. Many Canadian biotechnology companies are moving into the developmental stages of their research, some have reached the commercialization point, and many newer entrants continue to focus on the research and predevelopment stages. Can government work with the private sector to help firms develop and commercialize biotechnology in Canada? What further policy actions would encourage VC investment in this sector?</p> <p><b>Other technology</b> – While firms in other technology sectors have not captured a significant share of total VC investments in the past, they could offer good potential investment opportunities. For example, the Kyoto Protocol may stimulate demand for new technologies, such as environmental technologies, which could lead to more investment in these sectors.</p> <p>The VC industry must be made aware of these new potential opportunities to encourage venture capitalists to take on investment in new sectors. Fortunately, the past two or three years have seen VC investments to other technology sectors increase by 56 percent.</p> <p><b>Traditional sector</b> – The drastic growth of high technology firms and the growing interest of VC investors in these sectors have meant that companies in traditional sectors have attracted less VC investments. VC activity clearly follows the highest potential return and over the past seven years, the highest returns have come from high technology investment.</p> <p>The financing of high-growth-potential traditional sector SMEs merits further study. Some of these traditional sector firms may offer high-growth potential, but because they are not in the high technology sectors, they may not attract the attention of venture capitalists. While policy options may not include reorienting VC investments toward this sector, supporting these firms to better market themselves and find appropriate forms and suppliers of risk capital could be considered. As well, there may be some connection between investment in traditional sectors and regional VC strengths. The Prairies and Atlantic Canada, as well as rural areas of some other provinces, are traditionally oriented and new technology sectors need time to evolve.</p>

Weaknesses/Challenges	Explanation and Related Policy Issues
<p><b>Regional concentration of VC activity in a few regions or provinces</b></p>	<p>The regional distribution of VC activity is important, but, for several reasons, is difficult to analyze.</p> <ol style="list-style-type: none"> <li>1) It refers to the unresolved debate about whether the presence of VC leads to the creation of firms in specific regions or sectors, or whether the presence of the kinds of firms that secure VC results in the creation of VC funds and VC investments?</li> <li>2) There are no measures or precise benchmarks to calculate the “optimal” or “appropriate” amount of VC investment for an economy or region.</li> </ol> <p>However, several conclusions about the regional distribution of VC activity are possible.</p> <p><b><i>The regional concentration of VC activity is not unique to Canada</i></b></p> <ul style="list-style-type: none"> <li>• VC activity in Canada is concentrated in three provinces. Between 1996 and 2002, Ontario, Quebec and British Columbia captured average shares of 49 percent, 31 percent and 11 percent of total VC activity.</li> <li>• In the U.S., the majority of VC investment is concentrated in four states. California attracted an average share of 42 percent of total VC between 1996 and 2002, followed by Massachusetts with 10 percent, and Texas and New York with 6 percent each.</li> </ul> <p>The concentration of VC activity in Canada might represent VC investors’ preference for certain types of firms that are concentrated in certain regions, rather than a structural issue or a gap.</p> <p><b><i>Compared to all regions or provinces, the Prairies and Atlantic Canada attract relatively little VC activity</i></b></p> <p>Several benchmarks can be used to examine the regional distribution of VC within Canada: VC investment as a percentage of population, economic activity (GDP), or proportion of KBI firms. While far from being a perfect measure, a strong case can be made that the appropriate benchmark is the proportion of KBI firms, as these firms are most likely to attract and make use of VC. The other benchmarks do not consider the very limited number and type of firms that can or should attract VC.</p> <p>Using the proportion of GDP and KBIs, there appear to be two relative gaps in the Canadian market — the Prairies and, to a lesser extent, the Atlantic provinces<sup>v</sup> — where the level of VC activity from 1996 to 2002 was lower than the proportion of KBI firms and GDP.</p> <p>As discussed in section 6, in terms of growth of VC investments, the Prairies (growth of 93 percent of VC investments between 1996 and 2002) and Atlantic Canada (growth of 33 percent) have fallen short of the average growth of VC investment in Canada (139 percent) — a regional gap that is growing. Furthermore, while in absolute terms the problem is worse in the Prairies, in terms of growth it is worse in Atlantic Canada. On the other hand, the number of funds active in the Prairies and Atlantic Canada has grown faster than the national average over the period.</p> <p>Several factors explain the lower level of VC activity in these regions:</p> <ul style="list-style-type: none"> <li>• a general lack of awareness by VC investors about regional economic activities and opportunities, which is likely linked to weak networks between entrepreneurs outside central regions and VC investors;</li> </ul>

v Note that, as mentioned previously, the data used for this analysis do not permit a detailed review of the distribution of VC activity within the broad regions and provinces described above. As a result, some areas within the broader regions and provinces may not be reflected in this report. For example, this report does not review the issues related to the distribution of VC activity in Northern Ontario and Eastern Quebec, regions which may experience some difficulties in attracting VC investments. With better data on the demand for VC by sector and region, it would be possible to identify such areas that have the potential to attract VC investments but are not because of factors such as location (or others).



Weaknesses/Challenges	Explanation and Related Policy Issues
	<ul style="list-style-type: none"> <li>• a continued reluctance of Canadian and foreign VC investors to monitor and provide value-added assistance to remote investee firms;</li> <li>• a relatively lower level of KBI firms and regional activity in high technology sectors compared to central regions (despite the recent emergence of technology centres in some regions);</li> <li>• a lack of demand for VC or a lack of a critical mass of high-growth-potential firms in some regions; and</li> <li>• a lack of marketing and management skills in most SMEs, including regional firms.</li> </ul> <p>While some of these weaknesses may be explained by the nature and operation of VC investment processes and by the structure of some regional economic activity, several initiatives targeted at VC firms and SMEs could mitigate some of these weaknesses and improve SMEs' access to VC in regions that have traditionally been underserved by the VC industry.</p> <p><b>Recent improvements — changes in location preferences</b>  Proximity continues to be a significant investment condition for most VC investors. But in recent years, an increasing number of VC fund managers no longer see location as a major impediment to VC investment, as seen in the recent trends in foreign investment and Canadian investment abroad. However, most VC fund managers still prefer to invest within a few hours of the VC fund's location or in areas that have a critical mass of high technology firms and viable investment opportunities.</p> <p>As colleges, universities and research centres spawn a new generation of innovative firms, all regions can support growth. However, certain regions may lack the regional networks to discuss with venture capitalists and raise their awareness about viable regional investment opportunities.</p> <p>The requirements of venture capitalists mean that VC is not appropriate for all firms in all regions. But government must remain attentive to local and regional supply conditions and to the importance of strategic partnerships between Canadian and foreign venture capitalists, who have demonstrated an increasing interest in investing abroad.</p> <p>While location now means less to U.S. investors, government should try to better understand the intentions of distant venture capitalists to determine whether they anticipate that the company will remain in Canada or whether they want to relocate some or all of the company's operations. In fact, foreign VC investments in Canada are currently being reviewed and analyzed in detail by Industry Canada, PricewaterhouseCoopers and Macdonald &amp; Associates Limited to determine the profile of foreign investors in Canada, from which Canadian firms secure foreign VC. The study will also examine how these VC deals are structured and the short- and long-term impacts of foreign investments on Canadian firms and the national economy.</p> <p><b>Provincial and regional access to VC</b>  Based on the review of regional VC trends presented above, there should be a more detailed examination of the market conditions and motivations behind the concentration of VC activity in a few regions. In particular, a number of key regional factors merit further analysis: the importance of information technology in determining the regional distribution of VC investment; the weaknesses in VC investments in some regional life sciences sectors that have relatively strong research activities (e.g. government life sciences R&amp;D spending by region; links between a region's total R&amp;D expenditures (industry and government), management of intellectual property and product development; the number of new companies spun off by universities and hospitals; and the actual commercialization of technology transfer outcomes) as opposed to expected outcomes; the increase of foreign investment activity in only a few broad regions and sectors; institutional investors' apparent disinclination to invest in VC; and the importance, role and impacts of LSVCCs and other government programs in developing the VC market in specific regions where LSVCCs are heavily involved.</p>

Weaknesses/Challenges	Explanation and Related Policy Issues
<p><b>Importance and impacts of Canadian investments abroad</b></p>	<p>Despite the growth of Canadian VC activity abroad, investments made outside Canada raise several policy issues and questions. In particular, the data outlined in section 8 show that Canadian VC investments made abroad in 2002 were more oriented toward new financings (43 percent of total) than those made in Canada by both Canadian (26 percent of total) and foreign (8 percent) VC investors. While this may not be a long-term trend, the stronger focus of these Canadian investments abroad on new financings seems inconsistent with the recent difficulties faced by Canadian firms seeking first-time financing.</p> <p>This may raise important questions about the quality of Canadian investment opportunities. For example, why are Canadian investors abroad more willing to finance foreign firms seeking first-time financing than they are to finance similar companies in Canada? This focus on new financings may be the result of investments in syndicates with foreign investors, which enables investors to reduce the risk of financing new deals through a more rigorous due diligence process and a sharing of the risk among investors. Furthermore, life sciences investments made outside Canada are becoming more important, which may be related to the quality of Canadian investment opportunities. In 2002, life sciences firms attracted 35 percent of total investments made abroad (compared to 39 percent for information technology firms). The relative importance of life sciences firms in 2002 was significantly higher than the 19 percent share of life sciences VC investments in Canada from 1996 to 2002. The impact of foreign investment on Canadian life sciences firms should be examined to determine whether this is a one-year phenomenon or a growing trend. It may be that a lack of quality life sciences investment opportunities is driving Canadian life sciences-oriented venture capitalists to look outside Canada.</p>

## PART III: STATE OF CURRENT GOVERNMENT ACTIONS RELATED TO VENTURE CAPITAL

The unique link between venture capital (VC) and innovation (see Part I), and the financing challenges faced by seed, start-up and early-stage firms, mean that increasing these firms' access to private sector capital markets has become a vital government priority in several countries. In Canada, government has designed programs to make VC more available to Canadian small businesses (these programs are presented in the following tables). Most of these programs operate through indirect and direct participation in the quasi-equity and equity markets.

To complement the review and analysis of the Canadian VC market presented in Part II, this third part examines the following question regarding Canadian VC:

➤ **What is the state of government action — federal and provincial — with respect to VC?**

To achieve this, the government action has been divided into three broad categories, as follows:

1. **Indirect measures for VC suppliers** that shape the marketplace framework in which the private sector VC industry develops. These include income tax measures that define investment regulations for pension funds and other VC funds, as well as securities regulations that cover private equity investments. While not covered in detail in this report, these regulatory measures are probably the most important factors in the development of the Canadian VC industry. Over the long term, Canadian economic policy must develop policy and regulatory frameworks to ensure a vibrant private sector VC industry. For example, federal and provincial tax measures support labour-sponsored venture capital corporations (LSVCCs), which are investment funds with the characteristics of both direct and indirect interventions. Since LSVCCs are supported mainly by provincial and federal tax credits, they have been included as indirect measures for VC suppliers (see Section 2.1 and Appendix D for more details).
2. **Direct government investment programs** that support quasi-equity or equity investment in firms, either directly by government agencies [such as the Business Development Bank of Canada (BDC)] or indirectly through other channels. In most cases, these investments are explicitly designed to fill gaps in the marketplace left by the private sector. From a government policy perspective, there are important questions and concerns about direct government programs. Do they respond to real gaps in the market? Do they help close these gaps over time, or do they crowd out private sector investment and, therefore, perpetuate market gaps? (See Part IV for a detailed discussion of market imperfections and gaps).
3. **Programs and initiatives that build a critical mass of VC-ready Canadian businesses** (see Part I for the characteristics of firms that are generally financed by VC investors). For example, some programs provide basic information about financing options, as well as direct and indirect assistance to firms seeking risk-capital financing, particularly angel and VC investment. Unfortunately, as explained in Part II, the importance of building effective demand for VC is often neglected or underestimated. These programs are described here in detail in Section 2.3.

Some observers may be surprised by the scale and scope of government involvement in the Canadian VC market, since VC investment is often held out as the epitome of a private sector capitalist market. Nevertheless, for better or for worse, governments have played a major role in shaping this market in Canada and in other countries.

In the U.S., for example, federal and state government actions have moulded the industry's development. A recent report by the Organisation for Economic Co-operation and Development (OECD) outlines some of the policy and program initiatives in the U.S., including, among others, the changes to the *Employee Retirement Income Security Act* (ERISA) "prudent man" rule, which opened the VC market to pension funds; the Small Business Investment Companies (SBIC) program, the specialized small business investment companies program, the Small Business Innovative Research program, and the Small Business Technology Transfer program; and several other VC funds created by federal programs in many states.<sup>89</sup>

Of particular interest is the SBIC program, which played a major role in developing the U.S. VC market in the early and mid-1960s. In fact, about 700 SBICs controlled the majority of the risk capital invested in the U.S. While their role in the VC market has declined since the late 1970s, SBIC direct equity investments in small businesses accounted for 12 percent to 15 percent of total U.S. VC investment in non-boom years (with an average of about 8 percent from 1994 to 2002).<sup>90</sup> When compared to direct VC investments by Canadian government funds, which accounted for an average of 7 percent of total VC investment between 1996 and 2002 (13 percent in 2002), the relative contributions of direct government actions in the Canadian and U.S. VC markets is not significantly different. However, if Canadian VC investments made by LSVCCs are added as direct government actions, the Canadian government's contribution has been more pronounced.<sup>91</sup> LSVCCs' investments accounted for 25 percent of the VC market in 2002, and an average of 27 percent between 1996 and 2002.

The federal government's basic role in the VC market is to establish a fiscal, regulatory and policy framework that fosters an effective marketplace that supports business start-ups and growth and encourages a sustainable private sector VC industry. The government has several instruments available to reach these ends, such as balanced budgets; low inflation and interest rates; low and competitive tax rates; efficient regulations that balance the need for investor safety and investors' risk appetites; and well-funded research and development (R&D). Through these means, the government can fine-tune the market and ensure that private sector supply meets the needs of the risk capital community.

While there may also be a place for direct government intervention in the market, these measures must be subjected to a closer level of scrutiny. Policy-makers may be tempted to perceive and address market gaps with direct involvement. This type of program response, however, can have significant unintended consequences. Indeed, government-sponsored direct investment programs

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89. Gunseli Baygan, *Venture Capital Country Note: United States* (OECD, 2003).

90. *Ibid.*

91. LSVCCs do not fit comfortably in either of the broad categories discussed above. Government provides considerable tax-based support for LSVCCs, which have the characteristics of both direct and indirect programming. However, given that these investor types are supported mainly by provincial and federal tax credits, as opposed to being government funds, they are considered indirect measures for VC suppliers.

have been criticized on several levels, particularly since they may crowd out, rather than complement, private sector investment. Since the net effect of a government program may be negative, any interventions must be examined closely:

- If public sector funds have lower investment standards, they may decrease the price of VC in the market and, thereby, reduce the supply of capital that the private sector is willing to commit.
- If public sector funds have objectives other than maximizing returns to investors, the overall returns to VC may be lower, which will discourage individuals and institutions from committing funds to VC investment.
- Public sector programs may disburse funds that a venture capitalist could provide, but may not be able to offer the same managerial support, resulting in fewer successes and lower returns.

Assessing the impact of these factors is problematic at best. Nevertheless, these impacts should not be ignored. Poorly designed, narrowly conceived or conflicting government programs that lead to a government-dependent VC market will not serve the long-term interests of high-growth-potential firms. It is beyond the scope of this review to conclude whether the current array of government programs and policy measures is effective from this perspective, but this question should be considered explicitly when reviewing existing programs and when developing new policy options.

Nonetheless, there is an opportunity for direct government interventions that develop the VC market. These actions generally address gaps or imperfections that limit Canadian small and medium-sized enterprises' (SMEs') access to capital. For example, private sector investors may tend to avoid investing in early-stage companies due to higher risks and longer gestation periods, especially if there is strong demand for investment in later-stage companies.

To address this perceived gap in the marketplace, the government has recently established several initiatives to support early-stage companies. For some of these companies, investment needs may be lower (because they are younger and smaller). Consequently, government can spread its investment capital among many investments rather than concentrate on a few large ones. Some of these small, early-stage government investments will generate later-stage firms, which will eventually provide private sector investors with lower-risk, higher-returns-potential investment opportunities. In other words, government intervention in early-stage financing may act as a bridge between the owners' investment and private sector VC financing, and may help build a critical mass of VC-ready firms.

Given the potential positive and negative impacts of government interventions in the VC market, and the fact that they use scarce public funds, government programs must balance different interests through clear public policy objectives and transparent program evaluations. These objectives and evaluations should be strict on issues such as performance and timing (e.g. providing funding to those SMEs that could not obtain risk capital without government programs, but for which VC is appropriate). These programs should not seek to replace private sector activity, but, rather, should complement its weaknesses or reinforce its strengths. Indeed,

according to Josh Lerner from the Harvard Business School, the most effective policies focus on improving the long-term efficiency of private markets rather than providing a short-term funding boost during periods of transition.<sup>92</sup> More generally, the greatest assistance to the VC industry may come out of less direct measures that enhance the demand for VC funds rather than augment the supply of capital.

In that context, the following section sheds light on the current state of federal and provincial government policies and programs related to VC. It begins by briefly describing the key government players in the VC market and the types of programs offered, including indirect programs oriented towards the suppliers of VC, direct quasi-equity and equity programs, and programs targeted at the demand for VC.<sup>93</sup> This paper represents an initial attempt to collect information on Canadian federal and provincial government programs that address the VC market (as opposed to an evaluation of their performance). This information will help to determine whether these approaches are consistent across departments and federal and provincial governments, and to review potential market imperfections, gaps (see Part IV) and key policy questions.

This section is limited to a preliminary overview, as it was difficult to collect the data that would permit a detailed analysis and assessment of the programs listed. Nonetheless, this section examines government's overall impact on the Canadian VC market, breaking down direct investments made by government funds and the activities of the LSVCCs. There are vast differences in the scale of interventions catalogued. Some, such as the investments made by LSVCCs (which are supported by provincial and federal tax credits), are in the annual range of \$500 million to \$800 million, while the BDC's VC division invests around \$80 million to \$100 million a year; other interventions are more limited in scope. For further details on the size of financing offered, and a recent evaluation of government programs, please refer directly to individual program information through the contacts provided in Appendix D.

## 1. Key Government Players in Venture Capital

Recently, the federal and provincial governments have sought to improve SMEs' access to risk capital, including patient capital, VC and other financing instruments. To provide some context for the government programs that are presented in tables 20, 21, 22 and 23 (and described in detail in appendixes B and C), the following section reviews the roles played by key federal and provincial departments in the VC market.

### *Federal government*

Within the Government of Canada, a few departments have played an active — direct or indirect — role in the risk capital market in recent years. These are the Department of Finance, Industry Canada, and the Department of Foreign Affairs and International Trade (DFAIT), as well as the

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92. Josh Lerner, "Boom and Bust in the Venture Capital Industry and the Impact on Innovation," *Economic Review* (Fourth Quarter 2002), Federal Reserve Bank of Atlanta.

93. For the purpose of this report, quasi-equity programs may include some patient repayable financing and loan loss reserve programs, as these can be considered forms of patient capital and may often include a subordinated debt component.

agencies and Crown corporations within Industry Canada that form the Industry Portfolio. Other departments may have a role to play in developing innovative Canadian firms that may secure financing from the risk capital community. However, they do not generally sponsor direct or indirect programs specific to the VC industry.

- **Department of Finance Canada** — The Department of Finance Canada ensures an efficient fiscal, regulatory and policy framework that supports business development and growth and that encourages a strong private sector VC market. In particular, the Department of Finance Canada plays a critical role in ensuring efficient and supportive fiscal policies regarding capital gains tax rates, corporate tax rates, tax treatment of VC investment vehicles such as limited partnerships, investments made by foreign or institutional investors, and tax credits related to LSVCCs. In fact, fiscal policies are considered by the VC industry to be among the most significant issues affecting the overall function of the market. In that regard, the 2001 and 2003 budgets have recognized the importance of VC in the financing of innovative Canadian firms by announcing several measures to ensure a more efficient tax system that encourages Canadian and foreign VC investors' participation in the Canadian VC market. While some of these changes have yet to be implemented, they demonstrate the Department of Finance Canada's desire to continuously improve market conditions, and they represent a very positive development for the VC industry. Further measures are currently being reviewed by the Department of Finance Canada in consultation with private sector partners. See Appendix F for a detailed summary of recent tax measures and other tax issues currently being reviewed.
  
- **Industry Canada** — Complementing the Department of Finance Canada's role, Industry Canada improves Canada's productivity and competitiveness in the knowledge-based economy, thus raising the standard of living and quality of life in Canada.<sup>94</sup> By developing policies, programs, and services that develop a dynamic and innovative economy, stronger business growth, and a fair, efficient, and competitive marketplace, Industry Canada supports the VC market. Through partnerships with the Industry Portfolio, Industry Canada uses resources and exploits synergies to spur innovation through science and technology, trade and investment, growth of SMEs and economic growth. In that context, the following key branches and independent organizations are involved, either directly or indirectly, in the VC market:
  - The Small Business Policy Branch studies SME issues, including the state of SME financing in Canada, and develops policy advice on business financing issues.
  - The Life Sciences Branch is concerned with, among other industry issues, the financing challenges faced by life sciences companies.
  - The Information and Communications Technology Branch focusses on financing issues related to the growth of the information technology sector.

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94. Industry Canada, *Making a Difference* (2002–2003).

- Technology Partnerships Canada (TPC) is a special operating agency of Industry Canada that provides strategic, conditionally repayable R&D contributions and demonstration projects that will produce economic, social, and environmental benefits to Canadians.

The TPC agency delivers two separate and distinct programs: the TPC R&D program and the new h2 Early Adopters (h2EA) program. The TPC R&D program supports individual companies in precompetitive development projects that develop new technologies. The h2EA program supports demonstration projects, which will enable groups of two or more to test and showcase their existing technologies in working, integrated models that will contribute to the development of a hydrogen economy.

The TPC R&D program contributes to innovative R&D projects that leverage private sector investment, which helps maintain and grow the technology base and technological capabilities of Canadian industry. It also encourages the development of SMEs in all regions across the country. The program supports both large-scale technology R&D projects and smaller projects aimed at SMEs, through the Industrial Research Assistance Program (IRAP)–TPC initiative. IRAP–TPC, a partnership with the National Research Council Canada’s (NRC’s) IRAP, was launched in 1998 to help TPC deliver its mandate to SMEs. In addition, TPC’s supplier development initiative provides support to SMEs in the aerospace and defence industry.

- Investment Partnerships Canada (IPC) is a joint venture between Industry Canada and DFAIT that researches and analyzes target investment prospects. IPC also develops and manages investment campaigns directed at selected multinational enterprises in key strategic sectors. While IPC does not have any direct programs to attract VC funds to Canada, IPC does support VC activity in ways that attract VC from abroad. IPC also provides one-stop service for the investment interests of client companies and other major investors. Finally, IPC acts as the Government of Canada’s focal point in partnership ventures with sector branches, other departments, and posts abroad.
- Genome Canada is an independent, arm’s-length, not-for-profit corporation dedicated to developing and implementing a national strategy in genomics and proteomics research. This strategy includes conducting large-scale research projects, developing technology platforms to support these research projects, and commercializing these investments. In that regard, part of the commercialization effort includes partnerships with genomics companies in research projects. These partnerships include the financial resources that these companies bring to the project from their own corporate operations, such as internal funding, VC funding, and initial public offerings (IPOs). In addition, Genome Canada has proposed a seed fund to promote and commercialize genomics research projects. This fund would use federal funding to leverage VC and other sources of funding, and would provide the necessary expertise to develop business plans.
- Community Futures Development Corporations (CFDCs) are non-profit corporations financed by Industry Canada and by federal regional development agencies. CFDCs provide local SMEs with loans, loan guarantees or equity investments.



- **Within the Industry Portfolio**, the following are key portfolio organizations and agencies that play a significant role in the risk-capital market.
- The Atlantic Canada Opportunities Agency (ACOA) promotes economic development in Atlantic Canada to stimulate job creation and raise the incomes of Atlantic Canadians. Some of its core risk-capital programming includes the Atlantic Innovation Fund and the Business Development Program. ACOA also funds regional Canada Business Service Centres (CBSCs) and the CFDCs.
  - The BDC is a financial institution wholly owned by the Government of Canada. It plays a leadership role in delivering financial and consulting services, subordinate financing and VC to Canadian small businesses, with a particular focus on technology and exporting. With respect to VC, the BDC Venture Capital Group is a major player in several levels of the Canadian VC market.
    - *Direct VC investments in Canadian firms* — The BDC Venture Capital Group is a major investor in Canada and active at every stage of the development cycle, from start-up through expansion. Its focus is on high-growth-potential, technology-based businesses that are positioned to become dominant players in their markets. While the BDC leads transactions and participates in syndicates led by other VC funds, it is limited to less than 49 percent of a company’s shares. The BDC Venture Capital Group has been involved in VC since 1975 and has invested in more than 400 different companies. It currently manages more than \$400 million in VC assets, and almost its entire portfolio is invested in life sciences, telecommunications, information technology, and advanced technologies. The BDC’s typical initial investment ranges from \$500 000 to \$3 million as part of a financing round in the \$1 million to \$10 million range, providing only a portion of the financing.
    - *Investments in VC funds* — The BDC invests in Canadian VC funds focussed on a specific industrial sector, stage of development, or region.
    - *Creation of a new fund of funds* — The BDC Venture Capital Group has approved a \$50-million commitment to create a new Canadian fund of funds, which would partner with other institutional investors willing to contribute comparable commitments.
    - *BDC Technology Seed Investments (TSI) Group* — The BDC TSI Group provides financing for the creation of innovative technology businesses with high growth potential. The BDC’s financing is often paired with other financial, management or commercial development resources.
  - Canada Economic Development for Quebec Regions (CED) promotes long-term economic development in Quebec. The agency builds on two areas of activity: enterprise development and improving the environment for economic development of the regions of Quebec. With the cooperation of various partners, it devotes much effort to helping SME enhance their competitiveness and innovation capability to help them obtain the capital they need for start-up and growth. For example, CED supports the implementation of

incubators that support SME start-ups; organizations dedicated to research valorization; technology transfer and commercialization; and SME productivity and innovation projects, through repayable contributions (e.g. Valotech, the Technoregion Fund). Some of its core risk capital programming includes regional strategic initiatives, the Program for Export Market Development, and the IDEA-SME program. CED also provides funding to Quebec's CFDCs and to Community Economic Development Corporations.

- The Federal Economic Development Initiative for Northern Ontario (FedNor) promotes sustainable self-reliant communities by encouraging economic growth, diversification and job creation in Northern Ontario. FedNor works with community partners and other organizations to improve small business' access to capital, information and markets. Its core risk capital-related programming includes the Community Futures Program, which funds CFDCs.
- The NRC assists and promotes scientific and industrial research; investigates standards and methods of measurement; encourages the standardization and certification of scientific and technical instruments and materials used by Canadian industries; operates astronomical observatories; and maintains a national science library. The NRC interacts with the VC community through NRC spin-off companies that have received or are seeking venture funding. In addition, as a shareholder in the spin-off companies, the NRC helps negotiate subsequent rounds of VC. The NRC's main risk-capital program is IRAP. In addition to providing technology and business support to SMEs, IRAP provides financial support, including non-repayable, cost-shared contributions for research and precompetitive development technical projects. In addition, IRAP-TPC, a partnership between NRC's IRAP and TPC, was launched in 1998 to help TPC deliver its mandate toward SMEs. IRAP-TPC provides repayable contributions for projects at the precompetitive stage. These funds support initial product demonstrations, and develop technology for new and innovative Canadian companies. These programs help innovative Canadian companies develop their technology until they become viable candidates for additional sources of funding, including VC.
- The Natural Sciences and Engineering Research Council of Canada (NSERC) promotes and assists natural sciences and engineering research (excluding the health sciences), and advises the Minister of Industry on these matters. Its core programming includes awarding scholarships and fellowships, discovery grants, research tools, instruments grants and research partnerships. In relation to VC, NSERC's research partnership programs transfer knowledge and technology from the universities to those who can use it to create wealth in business. VC is often part of this equation, whether to finance industry, to perform research with the universities, to exploit the knowledge or technology, or to finance the precompany work or the spin-off company. NSERC's new Idea to Innovation program specifically identifies VC as a possible joint financing partner with NSERC, and it helps universities develop ideas to the point where venture capitalists and SMEs can see the value in the technology and are ready to invest. NSERC also helps VC through the Networked Training Initiative, by training technology transfer and commercialization experts, and its Intellectual Property Management Program helps universities and hospitals develop the technology transfer expertise to network with venture capitalists. VC is also part of the training program in this initiative. In some

cases, NSERC programs are precursors to VC. In other cases, they partner with venture capitalists to reduce the risk and increase the attraction of technologies and ideas from universities.

- Western Economic Diversification Canada (WD) has a broad mandate to develop and diversify the economy of Western Canada and to advance the interests of Western Canada in national economic policy. Its core risk-capital programming includes the Western Economic Partnership Agreements (WEPAs), the WD Loan Fund program, the First Jobs in Science and Technology Program and the International Trade Personnel Program. WD also funds regional CBSCs and the CFDCs.
- **DFAIT**, through its Trade Commissioner Service, offers programs to help Canada's SMEs grow into world leaders in their fields. Among their services is the Science and Technology Program, which promotes Canada as an innovative science and technology-based country, fosters international R&D collaboration up to the point of commercialization, and helps technologically advanced SMEs attract foreign VC financing. Much of this work is accomplished through missions or other business development initiatives in countries that have significant VC industries, and in which Canadian companies are anxious to develop markets for their products or services. Missions help Canadian researchers and emerging technology firms to find VC sources and to explore international research and technological collaboration. The missions are organized by DFAIT's Science and Technology Division and its geographic branches, by embassies and consulates around the world, and by other government departments.

### ***Provincial governments***

As shown in the tables that follow, provincial governments have played a significant role in supporting business growth and stimulating provincial VC markets. While some provinces (such as Alberta) have taken a discrete approach to VC, others (such as Quebec, Saskatchewan, Atlantic Canada and Manitoba) have played a more active or direct role in the VC market through different tax incentives, direct quasi-equity, and VC investment programs. A more detailed review of these programs follows here.

## ***2. Overview of Current Government Actions Related to Venture Capital***

As discussed in Part II, the vitality of the VC community depends on several interdependent components, including a sufficient number of individual, corporate and institutional investors (e.g. limited partners); a significant number of VC firms and funds with skilled and experienced VC fund managers (e.g. general partners) to finance high-growth-potential SMEs; and a critical mass of quality business opportunities to attract VC investments. Indeed, Ronald J. Gilson from the Columbia Law School and Stanford Law School refers to the three central inputs necessary to the VC market engineering process: capital (e.g. investors), specialized financial

intermediaries (e.g. VC firms and fund managers), and entrepreneurs.<sup>95</sup> The challenge, according to Gilson, is that each of these inputs will emerge only if the other two are present, but none will emerge without the others.

In that respect, tables 20 to 24 reveal that the federal and provincial governments sponsor a variety of programs to ensure an efficient marketplace and support the diverse components of the risk-capital community. As explained, these have been classified into three categories:

1. **Indirect measures oriented towards suppliers of VC**, primarily in the form of tax credits that increase the overall supply of risk capital.
2. **Direct investment programs**, including patient capital, quasi-equity financing, and, to a lesser extent, equity financing.
3. **Programs targeted at the demand for VC**, which mostly help Canadian SMEs become investor-ready through, for example, business planning and advice.

Since it is sometimes difficult to determine what constitutes VC, some programs may not be explicitly defined as VC programs, but they can affect the VC market if companies see them as substitutes for VC funding. This section covers only those programs that have a direct impact on the Canadian VC market.

## ***2.1 Indirect Measures Oriented Towards the Suppliers of Venture Capital***

As discussed previously and in Part II, a solid and growing supply of capital (e.g. new funds raised, capital available for investment and capital under management) is essential to the vitality of the VC market. In that respect, government has inaugurated a number of indirect initiatives, tax measures or incentives to ensure an efficient marketplace — one that encourages the flow of capital from individual, corporate, institutional, and foreign investors into the Canadian VC market (see Table 20). According to Lerner, these indirect policies and programs are likely to be the most effective government interventions, since they lay the foundations for effective private investments.<sup>96</sup>

### ***Tax and regulatory measures***

The efficient operation of any VC market depends, in part, on a fair and effective tax system. In that regard, the provincial and federal governments have adopted tax measures and credits to encourage VC investment and innovation. While these are probably the most direct means for the government to support the VC market, the lack of detailed information in this area, and the highly technical nature of most tax measures, prohibit a rigorous study of the relative importance and impact of the tax incentives that are presented here.

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95. Ronald J. Gilson, *Engineering a Venture Capital Market: Lessons from the U.S. Experience* (Columbia Law School and Stanford Law School, 2002).

96. Josh Lerner, “Boom and Bust in the Venture Capital Industry and the Impact on Innovation,” *Economic Review* (Fourth Quarter 2002), Federal Reserve Bank of Atlanta.

At the federal level, the 2001 and 2003 budgets announced a series of measures to improve the function of the Canadian VC market. Although some of these measures have yet to be adopted, the VC industry welcomed these changes and also advocated further encouragement of domestic and foreign institutional investors. A detailed summary of the recent tax changes, including other tax issues being reviewed by the Department of Finance Canada, is provided in Appendix E.

At the provincial level, interventions have tended to favour indirect tax measures rather than direct VC investment programs. In particular, the governments of British Columbia (with the Employee Share Ownership Program, Equity Capital Program and LSVCCs), Ontario (with the Ontario Investment and Employee Ownership Program, the Community Small Business Investment Fund program and the Ontario Labour Sponsored Investment Fund program), Manitoba (with the Manitoba Equity Tax Credit Program and LSVCCs), Nova Scotia (with the Equity Tax Credit and LSVCCs), and Newfoundland and Labrador (with the Direct Equity Tax Credit Program) have been the most active. Unfortunately, it is difficult to determine the real impact of these measures on overall VC activity in these provinces.

### ***Labour-sponsored venture capital corporations***

LSVCCs, which are VC funds supported by provincial and federal tax credits, are among the most significant tangible, indirect government interventions in the Canadian VC market (excepting Alberta, and Newfoundland and Labrador). As explained in Part II, LSVCCs were created in the 1980s to fill the void that was left when institutional investors withdrew from the VC marketplace. In 2002, there were 21 LSVCCs in Canada, ranging from large, diversified VC funds to smaller, more-specific funds. These VC funds are sponsored by labour unions and capitalized by individual shareholders who receive tax incentives in exchange for long-term capital commitments. LSVCCs are unique to Canada, and, despite private sector criticism, they still play a critical role in the Canadian VC market. Indeed, as shown in the Table 20, LSVCCs have been the main players in the Canadian VC market since 1996. They accounted for an average of 46 percent of total funds raised and 27 percent of total VC investments over the 1996–2002 period, and 54 percent (\$1.7 billion) and 25 percent (\$627 million), respectively, in 2002. In terms of investments by province, LSVCCs were most active in Manitoba, accounting for 47 percent of total VC investment between 1996 and 2002 (and 55 percent in 2002), followed by Saskatchewan with 28 percent (36 percent in 2002), Quebec with 25 percent (24 percent in 2002), Ontario with 22 percent (28 percent in 2002), and B.C. with 16 percent (21 percent in 2002).

However, LSVCCs' significant role in terms of both funds raised and total VC investments has been subject to several criticisms from private sector VC funds — since LSVCCs are supported by tax credits, they may lower the cost of capital and pursue transactions without market discipline. Thus, they may undermine the overall industry competitiveness and crowd out private VC investment. To better understand LSVCCs' role, and their impact on the Canadian VC market, Industry Canada is reviewing their financing practices and investment focus (e.g. size of investment, stage of development, location). This will be particularly useful when developing future policy recommendations and options to enhance the competitiveness of the Canadian VC industry.

*Training initiatives for venture capital fund managers*

Despite the dynamic expansion in the number of VC firms and funds, and the solid growth in the supply of capital since 1996 (see Part II), Canadian VC investors still face key challenges, particularly in finding skilled and experienced VC fund managers.<sup>97</sup> This is a significant issue for the future growth of the Canadian VC industry — one that affects the underlying structure of the VC industry, and its overall efficiency. For this reason, there may be a role for government, in partnership with the private sector, in encouraging the training and professionalization of VC fund managers. Indeed, the U.S. industry has addressed this issue by using managers with entrepreneurial experience in VC management teams, and by establishing training programs to build a critical mass of experienced venture capitalists. For example, the Kauffman Fellows Program used direct exposure to VC financing operations and processes to train more than 60 VC managers over the past 6 years (or about 8–10 fellows per year).<sup>98</sup> Such programs could merit further investigation to determine how the U.S. experience could be adapted to increase the number of experienced and specialized venture capitalists in Canada.

As well, other options should be examined to determine how to help venture capitalists identify and evaluate potential investment opportunities. For example, how could venture capitalists be informed of high-growth-potential firms that have received government R&D support and that may be approaching VC readiness? By bridging the information gap between venture capitalists and potentially viable opportunities, Canadian venture capitalists would become more efficient and knowledgeable about Canadian opportunities. In that respect, Industry Canada and Macdonald & Associates Limited are currently exploring the idea of developing a database of Canadian firms that are funded by government R&D programs. This database would represent potentially viable VC investment opportunities.

**Table 20: Summary of Indirect Measures Oriented Toward the Suppliers of Venture Capital**

Programs	Description and Status
<b>FEDERAL</b>	
<b>BDC — Fund-of-Funds<sup>a</sup></b>	<ul style="list-style-type: none"> <li>• BDC has been exploring ways to expand the fund-of-funds concept in Canada to encourage pension fund participation in the Canadian VC market. Funds-of-funds have been very important in encouraging venture capital investments by American pension funds.</li> <li>• BDC proposes to invest \$50 million to establish a fund-of-funds and is currently seeking partners and encouraging them to allocate a portion of their assets to private equity through funds-of-funds.</li> </ul>

a. A fund-of-funds aggregates capital from a large number of investors — primarily pension funds — and invests in a diversified group of direct investment funds.

97. Deloitte and Touche, *Quarterly Survey of Canadian VC Investors* (2002).

98. Founded in 1994 by the Kauffman Center for Entrepreneurial Leadership at the Ewing Marion Kauffman Foundation in partnership with leaders in the VC industry, the Kauffman Fellowship is an 18-month educational program designed to educate and train future venture capitalists and future leaders of high-growth companies. More information is available at [www.kauffmanfellows.org](http://www.kauffmanfellows.org)

## CANADIAN VENTURE CAPITAL ACTIVITY: AN ANALYSIS OF TRENDS AND GAPS 1996–2002

Programs	Description and Status
<b>Seed Financing Funds</b>	<ul style="list-style-type: none"> <li>BDC has established a seed investment program to increase the supply of seed financing. A total of \$40 million was invested in four seed funds: Western Technology (\$10 million), Eastern Technology (\$15 million), T2C2/Bio (\$7.5 million) and T2C2/Info (\$7.5 million).</li> </ul>
<b>Specialized VC Funds</b>	<ul style="list-style-type: none"> <li>BDC has invested \$38 million in five specialized funds in order to increase the supply of VC in Canada and to support private fund managers. BDC acts as a limited partner and limits its participation to a maximum of 20 percent of the size of the fund.</li> </ul>
<b>Finance — Labour-Sponsored Venture Capital Corporations (LSVCCs)</b>	<ul style="list-style-type: none"> <li>Tax incentives encourage individual Canadian investors to fund VC investment through LSVCCs. These investments are also eligible RRSP investments.</li> <li>Canadians get a 15 percent tax credit on the first \$3500 invested in shares of federally registered LSVCCs. Shares issued before May 7, 1996, must be held for five years and shares issued after May 6, 1996, must be held for eight years for the holder to avoid repaying the tax credits when redeeming them.</li> <li>Total investments or costs are not available. However, this program has been a major source of VC investment in Canada.</li> </ul>
<b>Finance — Tax Changes</b>	<ul style="list-style-type: none"> <li>Budgets 2001 and 2003 announced a number of measures to support the VC industry. These are summarized in Appendix E.</li> </ul>
<b>PROVINCIAL</b>	
<b>British Columbia</b>	
<b>Employee Share Ownership Program</b>	<ul style="list-style-type: none"> <li>The Employee Share Ownership Program (ESOP) provides employees with a tax credit for investing in their employer, either directly (20 percent of the amount invested) or through an employee VC corporation (EVCC) (15 percent of the amount invested).</li> <li>The tax credits are subject to a \$2000 yearly maximum and a lifetime maximum of \$10 000. The province also contributes half the cost of setting up an ESOP, up to \$10 000 each for the employer and the employee group, and half the cost of establishing an EVCC, up to \$10 000 each for the employer and the employee group. Investors in an EVCC are also eligible for a federal tax credit of 20 percent to a maximum of \$1000 per year.</li> </ul>
<b>Equity Capital Program</b>	<ul style="list-style-type: none"> <li>Investors can earn tax credits by buying equity shares in registered VC corporations (VCCs), which in turn invest in equity shares of qualified SMEs.</li> <li>The Community Venture Capital Program offers a 30 percent refundable tax credit to investors who invest in a community VC corporation (CVCC) that invests in SMEs located outside Victoria and Vancouver.</li> <li>The tax credit incentive to investors, both individual and corporate, is equal to 30 percent of the investment. Individuals may deduct the lesser of the tax credit or \$60 000 from their B.C. provincial income tax payable for that taxation year. However, if the tax credit exceeds the tax payable, the investor receives the difference between the lesser of the tax credit or \$60 000 and the tax payable. There is no annual limit on the tax credit that corporations can deduct, but any excess tax credit over tax payable is not refundable. The value of investors' equity shares in any VCC must not exceed \$5 million and the aggregate investment in any one SME cannot exceed \$3 million.</li> </ul>
<b>LSVCCs</b>	<ul style="list-style-type: none"> <li>This program provides a tax credit incentive to B.C. residents who acquire shares in provincially registered LSVCCs that invest in B.C. businesses.</li> <li>B.C. provides a 15 percent provincial tax credit for investments in provincially registered LSVCCs, but does not provide a tax credit for federally registered LSVCCs selling their shares in B.C. Currently, two provincially registered LSVCCs are operating in B.C., collectively holding \$500 million in assets and investing \$300 million in more than 80 B.C. companies.</li> </ul>
<b>Manitoba</b>	
<b>Equity Tax Credit Program</b>	<ul style="list-style-type: none"> <li>The equity tax credit encourages local investors to buy new shares of Manitoba SMEs listed on the TSX Venture Exchange.</li> <li>The 15 percent credit is prorated over three years, to a maximum of \$1500 per year per person. Eligible corporations will have less than \$50 million in assets and fewer than 500 employees (25 percent in Manitoba) and will pay at least 25 percent of its wages to Manitoban employees.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: AN ANALYSIS OF TRENDS AND GAPS 1996–2002**

Programs	Description and Status
<b>LSVCCs</b>	<ul style="list-style-type: none"> <li>Manitoba residents receive a tax credit when they buy shares in provincially registered LSVCCs that invest in Manitoba businesses.</li> <li>Manitoba provides a 15 percent provincial tax credit on the first \$5000 invested in shares of provincially registered LSVCCs, but does not provide any tax credit for investment in federally registered LSVCCs that operate in Manitoba. There are two provincially registered LSVCCs in Manitoba, which collectively have assets of \$240 million and investments of \$165 million in more than 85 Manitoba companies.</li> </ul>
<b>Newfoundland and Labrador</b>	
<b>Direct Equity Tax Credit Program</b>	<ul style="list-style-type: none"> <li>This tax incentive program provides individuals with a tax credit equal to 20 percent of equity investments in eligible SMEs operating in the northeast Avalon area and a 35 percent tax credit for investments in SMEs outside this area.</li> <li>One may invest up to \$700 000 in any single business, per offering or project, for a maximum annual tax credit per investor of \$50 000. An eligible investment may be made within the calendar year or within 60 days of the end of the taxation year. The credit is not refundable but may be carried forward for seven years and back for three years, but not beyond the 2000 taxation year. The funds may be used to start, modernize, expand or bolster growth in eligible businesses.</li> </ul>
<b>Nova Scotia</b>	
<b>Equity Tax Credit — Community Economic Development (CED) Corporations</b>	<ul style="list-style-type: none"> <li>This program helps Nova Scotia SMEs secure equity capital financing by offering a personal income tax credit to individuals investing in eligible small businesses, either directly or through CED corporations.</li> <li>The tax credit is equivalent to 30 percent of the investment, up to \$30 000 per year per person, for a maximum annual tax credit of \$9000. The credit is not refundable but may be carried forward for seven years or back three years, as far as the 1995 taxation year. The investment must be held for at least four years to get the tax credit.</li> </ul>
<b>LSVCCs</b>	<ul style="list-style-type: none"> <li>This program provides a tax credit incentive to Nova Scotia residents who buy shares in provincially registered LSVCCs that invest in Nova Scotia businesses.</li> <li>This program provides a 15 percent provincial tax credit on the first \$3500 invested in shares of provincially registered LSVCCs.</li> </ul>
<b>Ontario</b>	
<b>Ontario Investment and Employee Ownership Program</b>	<ul style="list-style-type: none"> <li>This program was created to encourage investment in Ontario businesses. The program consists of three parts: <ul style="list-style-type: none"> <li>indirect investment in small and medium-sized businesses through a Labour-Sponsored Investment Fund (LSIF) by an Ontario resident or qualifying trust;</li> <li>direct investment by employees in their employer's firm through an Employee Ownership Labour-Sponsored Venture Capital Corporation (EO-LSVCC); and</li> <li>indirect investment in small local businesses through a Community Small Business Investment Fund (CSBIF).</li> </ul> </li> </ul>
<b>Community Small Business Investment Funds</b>	<ul style="list-style-type: none"> <li>The purpose of the Community Small Business Investment Fund component is to: <ul style="list-style-type: none"> <li>provide small, local businesses with greater access to capital;</li> <li>complement the LSIF program by providing investment incentives for LSIFs that capitalize CSBIFs;</li> <li>provide an enriched financial institutions' tax credit for capitalizing CSBIFs; and</li> <li>provide investment incentives to individuals and certain corporations.</li> </ul> </li> <li>The CSBIF program provides a tax credit for individuals and financial institutions and an investment credit for LSIFs investing in an eligible Community Small Business Investment Fund corporation.</li> </ul>



Programs	Description and Status
<b>Employee Ownership Program</b>	<ul style="list-style-type: none"> <li>Employee Ownership Labour-Sponsored Venture Capital Corporations channel capital to Ontario businesses to finance industrial restructuring and promote regional development. They also foster an environment that provides workers with security and influences them to initiate and accept change.</li> <li>The Employee Ownership Program provides a tax credit for individuals who establish an Employee Ownership Labour-Sponsored Venture Capital Corporation to buy their employer's company.</li> <li>Eligible investors receive a 20 percent Ontario tax credit on the first \$3500 invested and 30 percent on the next \$11 500 invested annually. Total tax credits are limited to a lifetime investment of \$150 000. The unused portion of an EO-LSVCC tax credit is not refundable, but can be carried forward for five succeeding years. There is no matching federal tax credit.</li> </ul>
<b>Labour-Sponsored Investment Funds</b>	<ul style="list-style-type: none"> <li>The Labour-Sponsored Investment Fund (LSIF) program provides a tax credit for individuals purchasing shares in a LSIF.</li> <li>This program provides a 15 percent provincial tax credit on the first \$5000 invested in shares of provincially registered LSIFs and a further 5 percent tax credit for LSIFs that qualify as Research Oriented Investment Funds (ROIFs).</li> </ul>
<b>Labour-Sponsored Venture Capital Funds (LSVCCs)</b>	<ul style="list-style-type: none"> <li>This program provides a tax credit incentive to Ontario residents who buy shares in provincially registered LSVCCs that invest in Ontario businesses.</li> <li>This program consists of three parts: 1) indirect investment in SMEs through an LSIF; 2) direct investment by employees in their employer's firm through an employee ownership LSVCC; and 3) indirect investment in small local businesses through a CSBIF.</li> </ul>
<b>Quebec</b>	
<b>LSVCCs</b>	<ul style="list-style-type: none"> <li>This program provides a tax credit incentive to Quebec residents who buy shares in provincially registered LSVCCs that invest in Quebec businesses.</li> </ul>
<b>Saskatchewan</b>	
<b>LSVCCs</b>	<ul style="list-style-type: none"> <li>This program provides a tax credit incentive to Saskatchewan residents who buy shares in provincially and federally registered LSVCCs that invest in Saskatchewan businesses.</li> <li>This program provides a 20 percent provincial tax credit on the first \$5000 invested in shares of provincially registered LSVCCs and a 15 percent tax credit on the first \$3500 invested in shares of federally registered LSVCCs selling in Saskatchewan. There are two provincially registered and three federally registered LSVCCs in Saskatchewan that collectively have assets of about \$146 million and investments of about \$60 million in Saskatchewan companies.</li> </ul>
<b>Yukon</b>	
<b>Yukon Small Business Investment Tax Credit</b>	<ul style="list-style-type: none"> <li>Individual Yukon investors can get a tax credit equal to 25 percent of their investment in an eligible Yukon SME.</li> <li>Investors may claim a credit of up to \$25 000 per year and may carry forward credits for seven years and back for three years, but not beyond the 1999 taxation year. The aggregate value of credits permitted per year is \$1 million, which would permit Yukon SMEs to raise a maximum of \$4 million per year under the program.</li> </ul>

## ***2.2 Direct Investment Programs***

### ***Quasi-equity investment programs***

The review of current government programs reveals that they most commonly offer quasi-equity financing (see Table 21). This investment structure usually consists of patient debt financing with flexible repayment terms and, in some cases, participation in earnings. While quasi-equity financing is not included as VC investment and, thus, is not the focus of this review, it is of particular interest to SMEs that are less likely to attract VC. These companies may not offer high growth potentials, or may be unwilling to give up ownership of their businesses. As a result, these quasi-equity programs generally target those SMEs for which VC may not be the most appropriate financing instrument. In many cases, these quasi-equity programs are delivered in partnership with financial institutions that provide the financing, and are backed by loan-loss

reserves provided by government agencies. Generally, these are regionally oriented and targeted at early-stage firms in most sectors. Another type of quasi-equity financing, which is usually repayable depending on the success of the investment, consists of government contributions or debt, and more patient and flexible financing for R&D and product commercialization.

According to data published by Macdonald & Associates Limited in 2002, BDC subordinate financing is among the main providers of quasi-equity financing in Canada. In 2002, BDC subordinate financing accounted for 90 percent of quasi-equity financings, with 549 transactions totalling \$107 million, or 29 percent of the total amount of quasi-equity investment. In particular, BDC subordinate financing leveraged much of the industry's small quasi-equity deals, totalling \$72 million, or 89 percent of small deals. This level of activity, which is consistent with previous years, confirms the BDC's critical role in the quasi-equity market. In 2001, BDC subordinate financing accounted for 87 percent of quasi-equity investments, with 530 investments, and 31 percent of the amount invested, with \$92 million.

Other federal research agencies or independent organizations also provide significant quasi-equity funding, particularly through NRC and TPC programs (e.g. IRAP, the TPC investment fund) and Genome Canada. However, given that the amount reported by these programs may include some debt-type funding and R&D grants, it is extremely difficult to determine their share of the total quasi-equity market. According to Macdonald & Associates Limited data, these programs are not among the main quasi-equity players, which include Banyan Capital Partners, BDC subordinate financing, BMO Capital Corporation, CCFL Mezzanine Partners, Caisse de dépôt et placement du Québec (CDP) Capital, Crown Investments Corporation of Saskatchewan, Edgestone Capital Mezzanine Fund, and the Ontario Municipal Employees Retirement System.

While quasi-equity investment is not covered in detail in this paper, it remains a significant source of risk-capital financing for seed, start-up and early-stage firms. Clearly, a thorough review of this issue is merited. In particular, the mezzanine financing market, which is a senior investment that combines the cash flow of term lending with the capital gains of share ownership, merits further analysis in the context of providing risk capital to middle-market Canadian firms that may not yet be ready for VC investment but that still require risk-capital financing.

**CANADIAN VENTURE CAPITAL ACTIVITY: AN ANALYSIS OF TRENDS AND GAPS 1996–2002**

**Table 21: Summary of Direct Quasi-Equity Programs — Federal and Provincial**

Quasi-Equity Programs	Stage of Investment						Sector				Status and Amount Invested (or to be invested)	
	Pre-seed <sup>a</sup>	Seed	Start-up	Early-Stage	Expansion	Growth	Information Technology	Life Sciences	Other Technology	Traditional		
<b>FEDERAL</b>												
<b>Industry Canada and Industry Portfolio</b>												
ACOA — ACF Equity Atlantic Inc.		X	X	X	X	X	X	X	X	X	X	Quasi-equity and equity — Active. Fully committed. ACF has invested \$16.5 million in 15 companies, with a total of \$2.8 million invested in 2002.
ACOA — Atlantic Innovation Fund (AIF)	X						X	X	X			Quasi-equity — Active. To be fully committed in 2003 with \$300 million over 5 years. In 2001, \$155 million was invested in 47 investments and \$145 million will be invested.
ACOA — Atlantic Region Investment Fund	X						X	X	X			Quasi-equity and equity — Active. ACOA participated in three Atlantic region investment funds for a total investment of \$4.9 million (about \$1.8 million in 2002).
ACOA — Business Development Program	X	X	X	X	X	X	X	X	X	X	X	Quasi-equity — Active. Investments of about \$70–80 million per year.
BDC — Innovation Loans and Subordinate Financing				X	X	X	X	X	X			Quasi-equity — Total investment of \$107 million in 2002 in 549 transactions.
CED — Multimedia Experimentation Fund	X	X					X		X			Quasi-equity (patent repayable financing) — Active. Funding of \$2.4 million over 3 years (or \$800 000 per year).
CED — IDEA-SME (Innovation and Productivity Development of Markets and Exports and Regional Strategic Initiatives (RSI) Funds)	X	X	X	X	X		X	X	X	X		Quasi-equity (patent repayable financing) — Active. All new initiatives supported by CED during 2001–03 should generate investment totalling more than \$1.7 billion across Quebec. The strategic outcome is to foster enterprise development to support pre-start-up, start-up and expansion with total financial assistance of \$192 million in 11 000 SMEs.
CED — Société de soutien aux projets d'imagerie numérique pour le cinéma (CED SPINC)		X							X			Quasi-equity (patent repayable financing) — Active. Funding for this program comes from IDEA-SME — \$3 million over 3 years.
CFDC				X	X					X		Quasi-equity and equity — Active. As of March 2002, CFDCs invested \$1.2 billion (1995–2002) in Quebec, Ontario, Atlantic Canada and Western Canada.
CFDC Investment Pooling	X			X			X	X	X	X		Quasi-equity and equity — Active. Total investments of \$5.4 million in 2001–02 in Eastern and Northeastern Ontario.
FedNor — Applied R&D Programs	X						X	X	X			Quasi-equity — Active. Total of \$2.7 million from 1999 to 2003.
FedNor/BDC — Loan Loss Reserve Fund <sup>b</sup>			X	X	X	X	X	X	X	X	X	Quasi-equity (loan loss reserve) — Active. To leverage up to \$15 million in funding. Funding effective December 2002 to December 2005.
FedNor/Credit Unions — Loan Loss Reserve Fund <sup>c</sup>			X	X	X	X	X	X	X	X	X	Quasi-equity (loan loss reserve) — Active. As of June 2003, 13 loans totalling \$1.2 million approved.
Genome Canada	X	X	X					X				Quasi-equity and R&D grants — Active. In 2001, total investment of \$136 million in 17 projects and \$155 million in 34 projects in 2002. In September 2002, \$6.2 million in biotechnology firms.

- a Pre-seed includes research and development, commercialization of university research and technology transfer.
- b This is a loan loss reserve program.
- c This is a loan loss reserve program.

**CANADIAN VENTURE CAPITAL ACTIVITY: AN ANALYSIS OF TRENDS AND GAPS 1996-2002**

Quasi-Equity Programs	Stage of Investment						Sector				Status and Amount Invested (or to be invested)
	Pre-seed <sup>a</sup>	Seed	Start-up	Early-Stage	Expansion	Growth	Information Technology	Life Sciences	Other Technology	Traditional	
NRC Industrial Research Assistance Program (IRAP)	X						X	X	X		Quasi-equity and R&D grants — Active. From 1996 to 2002, \$493 million with \$97.7 million in 2001-02.
NSERC — Networks of Centres of Excellence	X						X	X	X		R&D grants aimed at increasing the demand for VC — In an average year, these NCEs will do the following: leverage additional cash and in-kind contributions in excess of \$80 million; create close to 10 spin-off companies; file more than 70 patents and negotiate more than 100 licences; and train more than 1,500 graduate students.
NSERC	X						X	X	X		R&D grants — Investment of \$611 million per year in university-based research and \$117.5 million (or 20 percent of its budget) in programs to stimulate research collaboration.
NSERC — Research Partnership Programs	X						X	X	X		R&D grants aimed at increasing the demand for VC — Investment in research (\$100 million in cash and \$70 million in kind in 2002), technology transfer and commercialization.
IRAP/TPC Initiative	X		X				X	X	X		Quasi-equity (repayable R&D funding) — IRAP-TPC has a \$30 million annual budget shared evenly. Budget renewed for 5 more years.
TPC Investment Fund (TPC)	X		X				X	X	X		Quasi-equity (patient repayable financing) — As of March 2002, \$1.9 billion in 424 projects.
WD/FCC — Agricultural Value-Added Fund				X						X	Quasi-equity (patient repayable loans) — Active until September 2005.
WD/VanCity — Knowledge & Growth Fund	X			X						X	Quasi-equity — Active until April 2004.
WD/BDC — Knowledge and Growth Loan Fund	X			X			X	X	X		Quasi-equity (patient repayable loans) — Active until April 2004. As of September 2002, \$92 million invested by BDC, CIBC, VanCity and FCC, \$62 million by Royal Bank and TC Loan loss reserves of \$23 million from WD.
WD/CIBC — Knowledge-Based Business Loan Fund		X	X	X			X	X	X		Quasi-equity (patient repayable loans) — Active until March 2004.
WD — Small Business Conservation Finance Programs		X	X	X			X	X	X		Quasi-equity (patient repayable loans) — Lending under review.
Cape Breton Growth Fund (CBGF)	X		X	X			X	X	X		Quasi-equity and equity — Proposal under review.
<b>PROVINCIAL</b>											
<b>Manitoba</b>											
Industrial Opportunities Program					X					X	Quasi-equity — No details.
<b>New Brunswick</b>											
Financial Assistance Industry Program				X	X					X	Quasi-equity — No details.
<b>Nova Scotia</b>											
Business Development Corporation			X	X	X					X	Quasi-equity — No details.
<b>Prince Edward Island</b>											
Island Investment Development Inc.			X							X	Quasi-equity and equity — No details.

**CANADIAN VENTURE CAPITAL ACTIVITY: AN ANALYSIS OF TRENDS AND GAPS 1996–2002**

Quasi-Equity Programs	Stage of Investment					Sector				Status and Amount Invested (or to be invested)	
	Pre-seed <sup>a</sup>	Seed	Start-up	Early-Stage	Expansion	Growth	Information Technology	Life Sciences	Other Technology		Traditional
Québec											
Investissement-Québec			X	X	X					X	Quasi-equity and equity — No details.
SGF		X	X	X	X	X	X	X		X	Quasi-equity and equity — Total potential VC investments of \$2 billion over five years.
Innovatechs		X	X	X	X	X	X	X		X	Quasi-equity and equity — No details.
Caisse de Dépôt et Placement (CDP)		X	X	X	X	X	X	X		X	Quasi-equity and equity — Total VC investments of \$600 million in 2002.
Yukon											
Yukon Venture Loans Guarantee Program				X	X		X		X	X	Quasi-equity — No details.

<sup>a</sup> Pre-seed includes research and development, commercialization of university research and technology transfer.

### *Equity investment programs*

As shown in Section 7 of Part II, and summarized in Table 22, government funds —provincial and federal — represent a relatively small portion of total VC investment in Canada, averaging 7 percent of total VC investment between 1996 and 2002, and 13 percent in 2002. However, this contribution, which is mostly provided through direct equity government programs, does play a critical role in providing equity financing to Canadian SMEs, particularly seed and early-stage firms, which often face significant challenges securing financing.

At the federal level, the BDC is the main provider of direct equity investment. The BDC not only invests directly in SMEs across Canada, but also provides direct funding to other VC funds that invest in Canadian firms. In 2002, the BDC accounted for 4 percent of total VC investments, with \$89.7 million invested, and 7 percent of total financings (57 deals). While this contribution is significant to early-stage firms across Canada, it is still relatively small compared to the level of investment that the private sector can provide overall. Other government direct equity investment programs also provide some direct VC funding, but their contribution to total VC activity is also relatively small compared to that of the private sector.

Confirming the small role played by direct government intervention in the VC market, most provinces have focussed on tax credits or incentive programs rather than on direct investment programs. However, in terms of direct investments, Quebec, Atlantic Canada and Saskatchewan have also established a number of programs that may account for the importance of government funds in the overall VC activity in these provinces (see Table 22). Other provinces, such as Ontario and Alberta, also have a number of programs, but these play a minor role in these provinces' VC industries.

Of particular interest is the government of Quebec, which has played a relatively active role in that province's VC market. The Société général de financement du Québec (SGF), Investissement Québec, and the Innovatechs were among the top 10 government funds in the Canadian VC market in 2002. As well, government-sponsored interventions such as CDP Capital (an institutional fund) and the Fonds de solidarité des travailleurs du Québec (FTQ), while not considered government funds per se, have played a major role in Quebec's VC market (and in Canada's). The CDP Capital fund was the top institutional investor in Canada in 2002, with total disbursements of \$600 million in 2002, and the FTQ was the second-most active LSVCC in Canada in 2002, with total investments of \$2.5 million.

The government of Quebec's active role in the VC market was reflected in the distribution of total VC investments in 2002. In 2002, government funds accounted for 32 percent of total VC in Quebec, compared to 29 percent in Atlantic Canada, 23 percent in Saskatchewan, 16 percent in B.C., and 3 percent in Ontario. In Quebec, institutional investments (such as those made by CDP Capital) accounted for 13 percent of total VC, and LSVCCs (such as the FTQ) accounted for 24 percent of total VC investments in Quebec.

However, the new Liberal provincial government is reviewing all provincial programs in Quebec, including the role of CDP Capital and SGF. This review may have a significant impact on the Quebec government's future participation in the risk-capital markets, and the results of this review will have ripple effects on the future levels of VC investment in Quebec.

Atlantic Canada also has many direct investment initiatives or programs, including ACF Equity Atlantic Inc. (a private independent fund to which ACOA and the provinces have contributed resources), the ACF replacement fund and the Atlantic Investment Fund. These interventions probably account for the relative importance of government funds in the Atlantic region, where they provided 29 percent of total VC investment in 2002 (ACF Equity Atlantic Inc., for example, invested \$2.9 million in 2002).

In Saskatchewan, Crown Investments Corporation of Saskatchewan and the Saskatchewan Government Growth Fund also contributed to VC investment. In Saskatchewan, government funds accounted for 23 percent of total VC investment in 2002.

Given the lack of accurate and detailed information on the annual amount of VC financing provided by each of the federal and provincial equity programs presented in Table 23, it is difficult to assess the extent of current government funding and government contribution to overall VC activity. However, the following table confirms the importance of government funds and LSVCCs in overall VC activity in 2002 and from 1996 to 2002. As explained, this is particularly true for Saskatchewan, Quebec and Atlantic Canada, which also have several equity investment programs.

As a result, it is appropriate to incorporate the following questions into the gap analysis in Part IV:

- What gaps do government policies and programs address?
- What, if any, are the current market imperfections or gaps that may require further direct interventions from governments?

**Table 22: Proportion of Total Venture Capital Investments by Investor Type by Region, 1996–2002**

	Percentage of Total VC Investments Made by Government Funds		Percentage of Total VC Investments Made by LSVCCs		Percentage of Total VC Investments by Government Funds and LSVCCs	
	1996–2002	2002	1996–2002	2002	1996–2002	2002
<b>Saskatchewan</b>	24	23	28	36	52	59
<b>Quebec</b>	16	32	25	24	41	56
<b>Manitoba</b>	-	-	47	55	47	55
<b>Atlantic Canada</b>	6	29	7	14	13	43
<b>British Columbia</b>	6	16	16	21	22	37
<b>Ontario</b>	2	3	22	28	24	31
<b>Alberta</b>	4	6	9	6	13	12
<b>Canada</b>	<b>7</b>	<b>13</b>	<b>27</b>	<b>25</b>	<b>34</b>	<b>38</b>

Source: Macdonald & Associates Limited, 2003

**CANADIAN VENTURE CAPITAL ACTIVITY: AN ANALYSIS OF TRENDS AND GAPS 1996-2002**

**Table 23: Summary of Direct Equity Programs — Federal and Provincial**

Equity Programs	Stage of Investment					Sector				Status and Amount Invested (or to be invested)	
	Pre-seed	Seed	Start-up	Early-Stage	Expansion	Growth	Information Technology	Life Sciences	Other Technology		Traditional
<b>FEDERAL</b>											
<b>Industry Canada and Industry Portfolio</b>											
ACOA — ACF Equity Atlantic Inc.			X	X	X	X	X	X	X	X	Equity — Fully committed with \$16.5 million in 15 companies. Total of \$2.8 million invested in 2002.
ACOA — Atlantic Region Investment Fund	X					X	X	X			Equity and quasi-equity — Total investment of \$1.8 million in 2002.
BDC — Seed Financing Fund		X	X			X	X	X			Equity — Total investment of \$40 million in four seed funds: Western Technology (\$10 million), Eastern Technology (\$1.5 million), T2C2/Bio (\$7.5 million) and T2C2/Info (\$7.5 million).
BDC — Specialized VC Funds				X		X	X	X			Equity — Total investment of \$38 million in five funds. Plans to invest in 12 to 15 funds.
BDC — Venture Capital		X	X	X	X	X	X	X			Equity — Total VC investments of \$406 million between 1994 and 2002. Total investment of \$89.7 million in 57 financings in 2002.
CFDC				X	X				X		Equity, quasi-equity and R&D grants — As of March 2002, \$1.2 billion invested in Quebec, Ontario, Atlantic and Western Canada.
CFDC Investment Pooling	X			X		X	X	X			Equity, quasi-equity and R&D grants — \$5.4 million in Eastern and Northeastern Ontario in 2001-02.
EDC Equity				X	X	X	X	X			Equity — By the end of 2003, portfolio increased to \$2,899 million.
FCC — Ventures				X	X	X	X	X	X		Equity — Fund of \$50 million established in 2002.
<b>Proposed Programs</b>											
ACOA — ACF Replacement Fund		X	X	X	X	X	X	X	X	X	Equity and quasi-equity — Inactive fund. Plan to attract \$30 million to \$50 million in new private funds.
FedNor — VC Pilot Project				X	X	X	X	X	X	X	Equity and assistance to SMEs — Proposal under review.
<b>PROVINCIAL</b>											
<b>Manitoba</b>											
Provincially Supported Capital Markets Supply Programs			X	X	X	X	X	X	X	X	Equity — No details.
<b>Newfoundland and Labrador</b>											
Small Business Seed Capital Equity Program		X	X	X	X	X	X	X	X	X	Equity and quasi-equity — No details.
<b>Prince Edward Island</b>											
Island Investment Development Inc.		X	X	X	X	X	X	X	X	X	Equity and quasi-equity — Total investments of \$4 million made by immigrants in business ventures in P.E.I. in 2001-02.



**CANADIAN VENTURE CAPITAL ACTIVITY: AN ANALYSIS OF TRENDS AND GAPS 1996-2002**

Equity Programs	Stage of Investment						Sector				Status and Amount Invested (or to be invested)	
	Pre-seed	Seed	Start-up	Early-Stage	Expansion	Growth	Information Technology	Life Sciences	Other Technology	Traditional		
Québec												
Innovatechs		X	X	X	X		X	X	X			Equity — No details.
SGF		X	X	X	X	X	X	X	X			Equity — Total potential investments of \$2 billion over five years.
Caisse de Dépôt et Placement (CDP)		X	X	X	X	X	X	X	X			Equity — Total investments of \$600 million in 2002.
Saskatchewan												
Crown Investments Corporation of Saskatchewan	X		X	X	X		X	X	X			Equity and quasi-equity — No details.
Saskatchewan Government Growth Fund			X	X	X	X	X	X	X			Equity — No details.

### ***2.3 Programs Targeted at the Demand for Venture Capital***

As discussed in Part II, the demand for VC is critical to an efficient VC market. In fact, a strong and sustainable VC market depends on the number of quality business opportunities for VC investment. In that respect, angel and VC investors report that their greatest impediment to investment is the lack of investment-ready SMEs.<sup>99, 100</sup> However, government programs that focus exclusively on increasing the supply of VC may not be the most effective policy approach to improving high-growth-potential SMEs' access to VC.

According to the information collected in Table 24, there may indeed be a shortage of government assistance to Canadian firms seeking VC. At both the provincial and federal levels, a few programs provide general assistance and information to Canadian SMEs, including the CSBCs that operate nationally; the Business Advisory Services and Small Business Enterprise Centres in Ontario; the Centres locaux de développement in Quebec; and The Business Link Business Service Centre, and the Alberta Innovation and Science in Alberta.

Nonetheless, very few programs focus on helping Canadian firms become VC investor ready. Among these are two programs offered by DFAIT through the Canadian Consulate Trade Office — Silicon Valley. These are: 1) the mentoring program and the VC advisory board, which provide specific assistance and advice to Canadian firms seeking VC funding in Silicon Valley; and 2) the Science and Technology Program, which helps Canadian SMEs by providing information on accessing financing in foreign VC markets. At the provincial level, Quebec has a few specific programs such as the Inno-centres, Valotech and the Technoregion Fund. Ontario is served by the Ottawa Centre for Research and Innovation.

The relative lack of support for firms seeking VC financing may provide an opportunity to focus on making companies more attractive to VC investors through tax policies (for example, by lowering corporate and capital gains taxes). These policies may improve returns on investments and, thus, increase the amount of VC provided. Measures that ready companies for VC investment (for example, offering training and networking programs) will also stimulate VC investor interest. According to Lerner, these indirect measures may be the most effective means to ensure that the VC industry continues to grow and develops the capacity to survive market downturns.<sup>101</sup> In that respect, the question for policy-makers is: what is the appropriate role for government or government–private sector partnerships? This question is discussed in Part IV as part of the analysis of gaps and principles for government action

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99. Alan Riding, *Value Added of Angel Investments* (2000).

100. Deloitte and Touche, *Quarterly Venture Capital Survey* (2003).

101. Josh Lerner, “Boom and Bust in the Venture Capital Industry and the Impact on Innovation,” *Economic Review* (Fourth Quarter 2002), Federal Reserve Bank of Atlanta.

**Table 24: Summary of Programs Targeted at the Demand for Venture Capital**

Programs	Description
<b>FEDERAL</b>	
<b>Canada Business Services Centres (CBSCs)</b>	<ul style="list-style-type: none"> <li>The Canada Business Services Centres provide Canadian businesses with the specific information they need or direct them to sources of general or specific information.</li> </ul>
<b>Sources of Financing</b>	<ul style="list-style-type: none"> <li>An extensive directory of Canadian financial providers, a powerful search engine of financial providers, information on different types of financing and financial providers and tips to help secure financing.</li> <li>The search engine helps businesses locate traditional or alternative sources of financing.</li> </ul>
<b>Industry Canada – Steps to Growth Capital</b>	<ul style="list-style-type: none"> <li>Steps to Growth Capital is a self-study guide to help Canadian business access growth capital.</li> <li>It allows businesses to test their investment readiness, presents the Steps to Growth Capital skill development program, provides information on workshop offerings, offers a toolkit of aids to the investment process, hosts discussions and Ask the Experts forums, gives lists of additional resources in all media and describes the demonstration products of the Canada Community Investment Plan.</li> </ul>
<b>NSERC – Networks of Centres of Excellence (NCEs)</b>	<ul style="list-style-type: none"> <li>NCEs mobilize Canada’s research talent in the academic, private and public sectors and apply this talent to develop the economy and improve Canadians’ quality of life. The NCE program is an integral part of the federal government’s Innovation Strategy and is provided with \$77.4 million per year. The program is a tri-council initiative (NSERC, SSHRC and CIHR) in partnership with Industry Canada. NSERC hosts the NCE directorate.</li> <li>The NCE program runs regular competitions to renew existing networks and to launch new ones. The 2003 competition launched two new NCEs. The next competition, for NCEs that will start in 2005, was announced in March 2003.</li> <li>NCEs have been associated with more than 90 spin-off companies. NCEs help research teams transfer their technology to industry, launch spin-off companies and secure start-up funding.</li> <li>The NCE program currently funds 21 NCEs in life sciences, information and communication technologies, environment, engineering and manufacturing.</li> <li>Networks bring together top researchers from universities across the country to work with industry and government on research projects of strategic importance for the country.</li> <li>More than 1500 partners, including 778 companies, participate in these NCEs. In an average year, these NCEs will leverage additional cash and in-kind contributions in excess of \$80 million, create close to 10 spin-off companies, file more than 70 patents and negotiate more than 100 licences, and train more than 1500 graduate students.</li> <li>For more details on the NCE program and individual NCEs, consult the NCE Web site: <a href="http://www.nce.gc.ca">www.nce.gc.ca</a>.</li> </ul>

Programs	Description
<p><b>NSERC — Research Partnership Programs</b></p>	<ul style="list-style-type: none"> <li>• These programs stimulate university–industry collaboration to accelerate knowledge, technology transfer and industry investment in research and training by sharing the risks, costs and benefits of research.</li> <li>• They support university-based research, applications development, technology transfer and people.</li> <li>• They support proof of concept, technology transfer and cost sharing with VC and Canadian-based business.</li> <li>• In 2002–03, NSERC will invest \$117.5 million, or 20 percent of its annual budget, in programs to encourage technology transfer and stimulate and support research collaborations among university, industry and government researchers.</li> <li>• NSERC’s research partnership programs support nearly 700 university-based projects with industry and government partners, stimulating industry investment in research (\$100 million in cash and \$70 million in kind in 2002), technology transfer and commercialization.</li> <li>• Specific programs include:               <ul style="list-style-type: none"> <li>○ <b>Strategic Projects</b> (research in targeted areas of national importance with non-academic partners).</li> <li>○ <b>Research Networks</b> (research clusters with partners).</li> <li>○ <b>Collaborative R&amp;D Grants</b> (joint university–industry projects, shared costs).</li> <li>○ <b>Research Partnership Agreements</b> (universities, industry and government labs collaborate and share costs).</li> <li>○ <b>Industrial Research Chairs</b> (industry shares the costs with university and NSERC).</li> <li>○ <b>NSERC/IRAP University–SME Projects</b> (joint pilot to increase the interaction of universities and SMEs in national and international projects).</li> <li>○ <b>Idea to Innovation</b> (supports university research through the early stages of proof of concept and technology validation leading to cost sharing with VC or Canadian SMEs at the point of technology transfer and commercialization).</li> <li>○ <b>Intellectual Property Management</b> (joint NSERC, CIHR and SSHRC program that provides \$5 million per annum in critical infrastructure support for the intellectual property management, technology transfer and commercialization of university- and hospital-based research results, with a focus on increasing the flow of IP to Canadian companies by increasing the expertise in the technology transfer offices and expanding their services and networks).</li> <li>○ <b>Regional Training Initiative</b> (NSERC, CIHR and SSHRC pilot program that supports three regional networks — in Quebec, the Atlantic and the West — to train increased numbers of experts in technology transfer and commercialization: SMEs and venture capitalists participate in this program as training venues. Continuation or expansion of this pilot will depend on the future availability of funds).</li> </ul> </li> </ul>
<p><b>Ottawa Centre for Research and Innovation</b></p>	<ul style="list-style-type: none"> <li>• The Ottawa Centre for Research and Innovation is Ottawa’s economic development corporation. OCRI is the rallying point for business, education and research organizations to create the winning economic conditions that allow Ottawa’s companies to thrive locally and compete globally. With more than 600 members representing all of Ottawa’s growth clusters, OCRI promotes sustainable economic development while ensuring a high quality of life.</li> <li>• Successfully delivering value locally by connecting people and facilitating collaborative ventures, OCRI currently employs more than 100 people and operates with a budget of over \$10 million.</li> <li>• OCRI provides a critical bridge between federal, provincial and municipal governments. It works with the federal government to ensure that the innovation strategy is in line with regional needs and to act as a partner in the Ottawa region.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

Programs	Description
<b>DFAIT — Science and Technology Program</b>	<ul style="list-style-type: none"> <li>• This program helps Canadian SMEs by providing information from around the world on accessing financing in foreign VC markets.</li> <li>• It manages a venture-financing program to help emerging Canadian technology firms to access VC sources in targeted overseas markets.</li> <li>• Much of this work is accomplished through missions to countries where significant VC industries exist.</li> <li>• The program works with the Canadian VC industry to support Canadian events (such as IT Financing Forums) that highlight Canadian capabilities to Canadian and foreign investors.</li> <li>• Over the past two years, this program has helped raise almost \$200 million in foreign VC for Canadian SMEs.</li> </ul>
<b>DFAIT — Silicon Valley VC Finance Mentoring Program and VC Advisory Board</b>	<ul style="list-style-type: none"> <li>• This body provides advice and contacts to Canadian firms seeking VC financing in Silicon Valley.</li> <li>• The Canadian consulate in Silicon Valley (Palo Alto) has established a mentoring program for Canadian technology firms seeking VC funding from Silicon Valley venture capitalists.</li> <li>• A voluntary advisory board, made up primarily of Silicon Valley venture capitalists, provides feedback and contacts to Canadian firms seeking VC financing.</li> <li>• This approach may be expanded to Canadian consulates in other regions of the U.S.</li> </ul>
<b>Programs Terminated Recently</b>	
<b>Canada Community Investment Plan (CCIP) Demonstration Projects</b>	<ul style="list-style-type: none"> <li>• CCIP is improving access to capital in local communities for small, start-up and growth-stage firms that require less than \$1 million in risk capital. CCIP is working with community-based economic development groups and directly with entrepreneurs.</li> <li>• Community-based CCIP Demonstration Projects in 22 communities across Canada were designed to improve access to capital for growing local firms.</li> <li>• Most of these projects focussed on improving access to local sources of capital and on creating links to sources of capital outside the community.</li> <li>• The demonstration projects facilitated 400 investment deals valued at \$228 million.</li> <li>• Of the 22 demonstration projects, 14 are continuing under various auspices. However, Industry Canada's funding ended in 2002, as planned.</li> </ul>
<b>Short-Term Accelerator Pilot Program (STAPP)</b>	<ul style="list-style-type: none"> <li>• This investment preparation program helped SMEs in the information and communications technologies (ICT) industry develop the skills and abilities to find and attract investment.</li> <li>• The ICT branch of Industry Canada and the Invest Manitoba Steering Committee initiated the program. STAPP established pilot programs centred in Winnipeg, Calgary and Manitoba in 2001 and 2002.</li> <li>• The program started in January 2001 and ended in fall 2002, with more than 40 companies participating in the pilot meetings.</li> </ul>
<b>PROVINCIAL</b>	
<b>Alberta</b>	
<b>The Business Link Business Service Centre</b>	<ul style="list-style-type: none"> <li>• The Business Link is a not-for-profit organization supported by the Government of Canada (through Western Economic Diversification) and the Government of Alberta (through Alberta Economic Development). It is a member of the Canada Business Service Centres (CBSC) network.</li> <li>• Its goal is to provide business people in every part of Alberta with access to accurate, timely and relevant information and referrals. The Business Link reduces the complexity of dealing with various levels of government by serving as a central resource for business information.</li> <li>• The business experts provide information and advice on everything from start-up, incorporation, financing and loan programs to product sourcing, government and private sector programs and services.</li> </ul>
<b>Alberta Innovation and Science (I &amp; S)</b>	<ul style="list-style-type: none"> <li>• I &amp; S is responsible for high technology research and development policy advice and developing business opportunities in information and communications technology research. I &amp; S works to develop, attract and retain firms specializing in industries such as electronics, microelectronics, telecommunications and information networks, computer technology, multimedia, advanced materials and manufacturing, and works closely with Alberta's research community to coordinate grant funding for various industry programs.</li> </ul>

Programs	Description
<b>Ontario</b>	
<b>Business Advisory Services</b>	<ul style="list-style-type: none"> <li>• The Ministry of Enterprise, Opportunity and Innovation's 11 business advisory service offices provide assistance to innovative growth firms, associations and municipalities.</li> <li>• Using the skills and business knowledge of business development consultants, as well as peer-to-peer networking, Business Advisory Services helps identify and remove potential barriers to continued growth; directs firms to key marketing and export resources and helps them become export-ready; helps export-ready firms increase or diversify exports by identifying international market opportunities; helps firms forge partnerships with leading financial sources and other professional services; provides public and private sector information and contacts to deal with growth-related issues; and identifies support for new technology.</li> </ul>
<b>Small Business Enterprise Centres</b>	<ul style="list-style-type: none"> <li>• Small Business Enterprise Centres support start-ups and SMEs during their first through fifth years of operation. Entrepreneurs are provided with easy access to business consulting services and information covering management, marketing, technology and financing.</li> <li>• Each Small Business Enterprise Centre offers free start-up consultations with a qualified business consultant; reviews of business plans; consultations with lawyers and accountant referral service; up-to-date, leading-edge information geared to the needs of the entrepreneur; access to current resource materials, including directories, trade indexes and books; workshops and seminars; guidance on licences, permits, registration, regulations and other forms and documents required to start and build a business; import and export information; information on patents, copyright and trademarks; mentoring and networking opportunities; and Internet and computer access for business research and planning.</li> </ul>
<b>Quebec</b>	
<b>Centre Locaux de Développement (CLD)</b>	<ul style="list-style-type: none"> <li>• Local programs help Quebec entrepreneurs to start and grow their businesses by helping them to develop business plans and find financing, mentoring and contacts.</li> </ul>
<b>FEDERAL–PROVINCIAL INITIATIVES</b>	
<b>Inno-centre</b>	<ul style="list-style-type: none"> <li>• Inno-centre is an organization dedicated to helping advanced technology entrepreneurs start commercial ventures. Inno-centre guides clients through the complex tasks of organizing, planning and financing an emerging enterprise.</li> <li>• In terms of financing, Inno-centre finds financing and negotiates the best possible terms. It has established relationships with national and international investors and financial institutions. Inno-centre is remunerated through a combination of fees for service and equity participation in the venture, which is only payable if the venture is successfully financed.</li> <li>• To date, more than 175 new companies have been established with a total of \$35.5 million in financing raised in 2001 by companies under contract.</li> <li>• Inno-centre, while created by the Quebec government, is also being adopted in Alberta and Ontario. Inno-centre companies pool resources and combine networks to acquire a critical mass in every area of expertise.</li> </ul>
<b>ValoTech</b>	<ul style="list-style-type: none"> <li>• ValoTech helps businesses grow by creating alliances in the Montérégie and through an exchange forum for individuals, businesses, institutions and organizations engaged in research and development or innovative technologies.</li> <li>• ValoTech assures the circulation of information through the organization of activities related to financing, intellectual property, R&amp;D, technology transfer, recruitment of qualified employees and training.</li> </ul>

Programs	Description
<p><b>Greater Quebec Economic Development Corporation and Techno-Region</b></p>	<ul style="list-style-type: none"> <li>• The Greater Quebec Economic Development Corporation (SPEQM) fosters regional economic growth by promoting inward investment at the national and international levels, the development of exports, and the emergence and development of technology companies.</li> <li>• SPEQM welcomes and advises entrepreneurs setting up or expanding businesses in Quebec; accompanies regional businesses in their efforts to enter export markets; supports regional technological entrepreneurship through diverse local initiatives; and helps film and TV producers through the Québec City Area Film Commission.</li> <li>• SPEQM offers the following consulting services to investors setting up or expanding their businesses in Quebec: promotion and prospecting for investments; reception service for investors; coaching for businesses; and the preparation, networking and coordination of projects.</li> <li>• SPEQM supports emerging high-tech companies and facilitates matchmaking between private and public partners through advisory services in pre-start-up phases and support in developing companies; analysis of partnership or business opportunities; organization of such major technology events as BioContact, Bio Agro Contact, Opto-Contact and Partenariat Environnemental; and more.</li> <li>• Techno-Region boasts more than 6000 researchers and associates employed in an elaborate network of 100 research centres that serve as sources of technological support for developing companies.</li> </ul>

### 3. Conclusions and Areas for Further Investigation

Given the relative importance of VC-backed firms as engines of innovation, economic growth and job creation, it is not surprising that the government has sought to improve Canadian SMEs' access to risk capital through a variety of policies and programs. As mentioned, these can be categorized into three broad classes: 1) indirect measures for VC suppliers (investors); 2) direct quasi-equity and equity investment programs (VC firms and funds); and 3) programs targeted at the demand for VC (entrepreneurs).

Most of the government programs designed to spur the VC market and foster entrepreneurship have likely helped develop the Canadian VC industry and increased the annual amounts invested in Canadian SMEs. But only a few of the government programs presented in this section have made significant contributions to the Canadian VC market, particularly when compared to the potential contributions of private sector players.

The primary positive contributions are the amendments to the federal *Income Tax Act* and the federal and provincial tax credits for LSVCCs, which accounted for 25 percent of total VC investments in 2002 (or \$627 million). In terms of direct investment programs, the BDC subordinate financing and VC groups provided the most significant amount of quasi-equity and equity financing to Canadian SMEs, with 29 percent of the total quasi-equity investments in 2002 (or \$107 million) and 4 percent of total VC investments in Canada in 2002 (or \$89 million).<sup>102</sup> Other programs have also played a significant role in R&D and in the commercialization of new products, particularly the R&D grants and quasi-equity financing programs offered through NSERC, the NRC, Genome Canada, and TPC. In total, investments made by provincial and federal government funds accounted for 38 percent of total VC investments in 2002, suggesting that government policies and programs have played a significant role in broadening Canadian firms' access to VC. The U.S. government has also been quite active in this regard; a number of policies and programs, such as changes to the ERISA "prudent man" rule, and the SBIC program have played major roles in the expansion of the U.S. market.

There appears to be a role for government in the VC market, both in Canada and in the U.S. However, that does not mean that government should have a growing presence in the direct investment market. Indeed, as shown in Section 7 of Part II, the U.S. VC industry's growth can be largely attributed to the heavy participation of pension funds (rather than to direct government investments), which contributed an average of 46 percent of the total funds raised between 1996 and 2002 (and 42 percent or C\$5 billion in 2002).

Furthermore, an aggregate calculation of all U.S. institutional investors (e.g. pension funds, endowments and insurance companies) reveals that these investors contributed an average of 78 percent of the total funds raised between 1996 and 2002 (88 percent in 2002, with C\$10.5 billion). This was drastically higher than the participation of Canadian institutional investors, which accounted for an average of only 12 percent of the total funds raised during

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102. Note that these amounts are those reported by Macdonald & Associates Limited in the *Report on Quasi-equity Activity in 2002* and, as a result, do not include all the amounts invested through programs that offer loan-loss reserve or more patient capital financing, which are reported in appendixes B and C.



the same period. In 2002, however, institutional investors in Canada increased their presence in the VC market, contributing 54 percent of total funds raised (or \$1.8 billion) in 2002 (and 41 percent, or \$1.9 billion, in 2001). Consequently, the future growth of the Canadian VC industry will depend, in large part, on the future participation of Canadian institutional investors, particularly pension funds, in the VC market. In fact, it is apparent that governments cannot directly support a rapidly growing VC industry in Canada without strong support from the private sector.

In fact, since the supply of government funds depends on factors such as the policy orientation and fiscal capacity of the government, there may be some danger in relying on government funds for the continued expansion of VC activity. Neither of these factors is directly related to investment opportunities or the needs of high-growth-potential firms. Therefore, the supply of VC must be diversified and properly balanced between government and such private sources as institutional investors.

In that regard, Industry Canada and Macdonald & Associates Limited are working with provincial governments and the VC industry to survey institutional investors in Canada and the U.S. to better understand their knowledge and private equity investment practices, and to identify key remaining barriers to their participation in the VC market. The results of this study will be particularly useful for the development of policy recommendations in the winter of 2004. In particular, the findings should help to determine whether there is a role for government programs to leverage more pension fund investment, a source of funding that will be, as mentioned, critical to the long-term growth of the VC industry.

Moreover, government interventions may not be efficient or desirable from the long-term perspective of developing a strong and efficient private sector VC industry. According to Ronald J. Gilson, most government programs fail because they try to deal with the simultaneous problems of providing the capital (the investor) and acting as the financial intermediary (the VC fund manager). However, while government may be able to provide adequate capital, high-growth SME financing requires the specialized skills and experience of capital, specialized financial intermediaries, and entrepreneurs. This experience and these skills are generally only found in private sector VC firms.

Specialized financial intermediaries are necessary components of the industry, and government should take advantage of this fact rather than try to act as a substitute. It is possible that small government programs may not have the capacity to provide the kind of support (e.g. mentoring, networking, professional services) that investee firms need. In fact, there may not be any coherent logic behind the proliferation of small government programs. Having a very small or badly designed VC program could lead to unanticipated negative impacts.

As a result of these concerns and considerations, the following are key issues and questions that policy-makers should address as part of the gap analysis (see Part IV). A careful study of these issues and questions will inform the development of new policy options.

- What is the right balance that governments should use to ensure the continued growth of the VC industry in Canada?

- What type of government programs will be most effective in ensuring an efficient VC market that can match the supply of VC to the demand for VC?

According to Josh Lerner, the most successful approach would be to address the gaps in the VC financing process, such as by focussing VC on a few areas of technology that are perceived to have high potential. In that respect, the most successful efforts are likely to be those indirect measures that improve the function of the market and make entrepreneurship more attractive. Instruments such as tax policy may influence the amount of VC provided and the returns that these investments yield.

If Gilson's argument — that an effective VC industry needs to develop three key components (investors, firms/funds, and entrepreneurs) — is applied to Canada, federal and provincial governments have concentrated on the second of these components, supporting LSVCCs and government-led funds such as the BDC.

In the 1990s, this may have been appropriate, as the industry's capital base was eroding due to the exit of banks and corporate and institutional investors from the market. The LSVCCs may have prevented a severe market contraction and provided many Canadian VC professionals with valuable professional experience and exposure to the VC investment process. The LSVCCs bolstered investment activity during market downturns.<sup>103</sup> Nevertheless, it remains unclear whether this government role should change, at least in the short term. It does seem appropriate, however, for public policy to consider Lerner-style efficiency building and to consider gaps.

As a result, the logical initial approach for policy-makers is to examine the effective demand for VC. While this is virtually impossible to quantify, government programs should not measure demand by the number of companies that seek VC investment. Since VC is only appropriate for a few SMEs that meet specific criteria, there will always be a disparity between the number of companies that seek VC and those that secure it.

In fact, government may have a significant role to play in improving information and data on Canadian SMEs' need for risk capital. Such information is critical to determine whether there are unmet needs or gaps in these markets. Is there, for example, sufficient support for early-stage firms to ensure market clearing? Is there sufficient support for expanding and growing firms to ensure that Canada develops and retains medium-sized and large firms in Canada? Government programs do not generally finance growth-stage companies, partly because of the high capital requirements of rapidly growing firms. As a result, it may be appropriate to review the financing challenges faced by medium-sized, large expansion, and growth-stage firms, to determine what actions would further support their growth and encourage them to remain in Canada.

Once reliable, quality information on the demand for VC has been gathered and analyzed, the next step will be to determine whether government has a role in filling those needs or gaps, what that role should be, and how this role can be reconciled with that of the private sector. Part IV will attempt to address these issues and questions.

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103. Mary Macdonald and Kirk Falconer, *The LSVCC Market, 1991–1999* (Department of Finance Canada, 2000).

## **PART IV: ANALYSIS OF GAPS/OUTSTANDING ISSUES AND POLICY QUESTIONS**

Part IV shifts focus from a description and analysis of the Canadian venture capital (VC) market over the past seven years to a more subjective assessment of the state and performance of the Canadian VC industry and a consideration of key outstanding issues facing the industry.

In particular, recognizing that the fundamental role of public policy is to reduce or eliminate gaps in the markets, Part IV reviews the weaknesses/challenges and policy issues discussed in parts II and III in response to the following questions:

- **Where are the gaps or outstanding issues related to the VC market (e.g. structure and operation, supply and demand)?**
- **How do these gaps and outstanding issues in the VC industry dampen the development, innovation and growth of Canadian small and medium-sized enterprises (SMEs)?**

For this purpose, this section presents:

1. A discussion of what a “gap” in the VC market is, and how the different perspectives involved (e.g. economist, supplier of capital and venture capitalist, business, government) and the definitional challenges related to identifying gaps in the SME-financing market hinder a balanced understanding of issues and policy actions.
2. An assessment of key outstanding issues related to the Canadian VC market that may require further action by private sector stakeholders and/or government.
3. A review of government’s fundamental role in addressing gaps or outstanding issues in the VC market, as well as basic principles that should be reviewed in the development of government policy (if appropriate).
4. Key questions that private sector stakeholders and governments should consider in the development of potential actions to promote an effective and competitive environment that supports business growth and encourages a viable and sustainable private VC industry.

This analysis and these policy questions are aimed at stimulating discussions between private sector stakeholders and government regarding the development of a coordinated and collaborative approach to addressing the outstanding issues faced by the Canadian VC industry and Canadian SMEs.

### **1. What is a “Gap” in the Venture Capital Market?**

Gaps are a difficult concept to address because they are often viewed and defined from different perspectives. In the case of the VC market, the economist, the supplier of capital and venture capitalist, the entrepreneur, and government each has a distinct perspective, and these viewpoints must be understood and considered in the development of any policies and programs.

### *The economist's perspective*

To the economist, gaps are a question of market efficiency — are markets clearing?<sup>104</sup> Are resources or capital allocated efficiently in terms of rates of return available in the marketplace, and in terms of timing, quantity, and distribution across type of firms, sectors, and regions?

While these basic economic concepts seem straightforward, the identification of gaps in capital markets raises significant challenges. According to an Industry Canada study by Alan Riding, a number of conceptual and empirical challenges complicate the identification and analysis of capital market gaps.<sup>105</sup> These are:

- **Short-term versus long-term gap** — According to economic theory, a gap is an imperfection that impedes supply and demand from clearing in the market, and impairs the market's function and efficiency. Capital market research confirms that capital markets are efficient over the long term.<sup>106</sup> Over the short term, however, capital markets tend to adjust to market conditions more or less rapidly depending on their ability to respond to: 1) uncertainty; 2) information asymmetry between supply and demand; and 3) agency costs. In that respect, Gilson and Lerner determined that the supply of VC is relatively rigid or slow to adjust, since it presents these three factors in accentuated form.<sup>107, 108</sup> This rigidity may result in a short-term gap, since the industry may be slow to react to market conditions. As the industry reacts and adjusts to these changing conditions, these short-term gaps may resolve themselves. Nonetheless, according to Gompers and Lerner, the rigidity of the supply of VC can be ascribed to several factors:
  - **The highly cyclical and volatile nature of the VC market** — VC is high-risk investing that brings high returns and frequent business failures. These variable features of the VC market are sensitive to economic factors such as the state of the economy or product markets (for example the rapid development of new technologies that generate profitable

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104. Market clearing refers to a situation where the quantity of VC investment levels and the rates of returns to the industry are determined by the equilibrium between the supply of and demand for VC.

105. Equinox Management Consultants, *Gaps in SME Financing: An Analytical Framework* (Industry Canada, 2002).

106. According to Gompers and Lerner (1998), the supply and demand curves are not fixed; shifts in the supply and demand shape the amount of capital raised by VC funds and drive the returns that investors earn in these markets. The supply of VC is determined by investors' willingness to provide funds to VC firms, which depends on the expected rate of return from these investments relative to that of other investments. The higher the expected rate of return, the greater investors' desire to supply capital to VC funds, resulting in a shift in the quantity of VC offered. The demand for VC is determined by the entrepreneurs seeking VC, and depends on the rate of return anticipated (or required) by investors. Higher anticipated returns sought by investors lead to fewer financeable firms, since fewer of them can meet the higher hurdle. Where the supply and demand curves meet determines the level of VC in the economy. While the supply of and demand for VC tend to adjust relatively well over time [e.g. adjustment to shifts in government policies (affecting the supply) or technological discoveries (affecting the demand)], the adjustment process is often slow, uneven, and can lead to substantial and persistent imbalances.

107. Ronald J. Gilson, *Engineering a Venture Capital Market: Lessons from the U.S. Experience* (Columbia Law School and Stanford Law School, 2002).

108. Josh Lerner, *Boom and Bust in the Venture Capital Industry and the Impact on Innovation* (Boston: Harvard Business School, 2002).

spin-offs). As well, significant and frequent variation in supply and demand factors increases uncertainty in the VC market, and hinders its ability to adjust to market conditions and to balance the supply of VC. This level of volatility complicates investors' evaluations of investment opportunities, and compromises the allocation of capital.

- **Nature of VC fundraising activities** — Since VC funds usually raise capital every two to three years, there is a time lag between any change in VC fund policies and the ultimate effects that these changes will have on the market. Consequently, the industry is slow to adjust the supply of VC to prevailing market trends.
  - **VC fund management expertise and experience required** — As well, given the crucial skills involved with VC, and the time required to train venture professionals, the number of experienced venture capitalists is very slow to adjust to market changes, resulting in rigidity in the supply of capital.
  - **Information lags related to performance returns** — Since VC investments are illiquid and difficult to price, performance evaluations of VC funds are problematic. In fact, investment evaluations are often only possible at the time of exit. The lag between market performance and information delivery to investors contributes to the relative rigidity of supply-side adjustments and reinforces the cautious approach of some investor types, such as pension funds. For example, several institutional investors reported a lack of awareness about Canadian performance returns data (which were published in 2002).
  - **Information asymmetry related to the quality of business opportunities** — Firms seeking VC are usually privately held corporations at early stages of development. The short track records of these firms hinder investors' evaluations of management competence or experience. These firms' involvement with cutting-edge science technologies results in information asymmetry in favour of the entrepreneur. Furthermore, these firms' high probability of failure (compared to established companies on the stock market) means that VC investments are often associated with higher risks.<sup>109</sup> As a result, VC investors often have difficulty assessing and evaluating management teams and new technologies, resulting in increased uncertainty and risk.
- **Absence of information on the demand for VC** — A fundamental problem in understanding the VC market's function is the relative absence of information about innovative firms' demand for VC. The concept of demand in the context of VC is much more complicated than it is for other capital markets. While many firms may consider themselves candidates for VC, experience in Canada and the United States suggests that only a small percentage of firms

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109. According to the 1997 Statistics Canada study, *Failing Concerns: Business Bankruptcy in Canada* ([http://collection.nlc-bnc.ca/100/200/301/statcan/failing\\_concerns-e/0009761-525-XIE.pdf](http://collection.nlc-bnc.ca/100/200/301/statcan/failing_concerns-e/0009761-525-XIE.pdf)), business failures are increasing in Canada — from 10 failures per 1000 businesses in 1980 to 14 failures per 1000 businesses in 1997. Most of these bankruptcies occur in smaller and younger firms, and half of them are caused by the firms' internal deficiencies, mainly related to weaknesses in management (e.g. inexperience, lack of knowledge or vision), and lack of financial management and planning. The study suggests that the underlying factor contributing to financial difficulties is management failure rather than external factors associated with imperfect capital markets.

meet the basic requirements of VC investors. These issues complicate the identification of “real” demand in the marketplace. As a result, unlike with research in more established capital markets, such as the debt market, surveying firms’ applications for VC will only provide a partial picture of the state of demand in the market, as approximately 99 percent of firms applying for VC are rejected. Such a sampling would not determine whether viable proposals were being denied financing, or whether dubious ventures were successful in securing VC. VC investment is also more subjective than other capital markets. In the stock market, where investors are passive and base their decisions on the same information, a good investment for one investor is a good investment for others. Debt markets are becoming increasingly governed by debt scoring, which allows for consistent (across different providers) and accurate evaluations of risk. In contrast, a venture capitalists’ investment performance is largely determined by his/her business experience and expertise, and VC investments are highly variable based on the venture capitalist’s individual skills and knowledge.

These factors, and others, obscure the identification of real demand in the market, and cloud issues surrounding adequate or appropriate levels of VC. This represents a major challenge for policy-makers, since the VC debate centres on whether the supply of VC is adequate to maximize the development and growth of innovative firms. Rates of return may be the strongest indicator of the interplay between supply and demand in the market. High rates of return may indicate a shortage of “real” demand, allowing venture capitalists to extract high prices for their investments, and permitting them to finance only the most promising firms with the most profitable technologies. Low returns may indicate that too much funding is chasing too few viable investment opportunities, and that investors should allocate additional capital to other types of investments. The reality of the market, of course, is more much complicated — low returns might also indicate a deficit in venture capitalists’ skills or abilities to identify viable opportunities and provide added value to the firm (these issues are discussed in Section 2).

This shortage of information about the demand for VC complicates the development of public policy.

- **Real versus perceived market gap** — Due to the shortage of solid data on the demand for VC, industry players and government rely on anecdotal evidence, which obscures the distinction between perceived and real gaps. In competitive capital markets, some firms will inevitably be denied financing, but, given venture capitalists’ investment criteria, these firms’ inability to obtain capital is not necessarily evidence of a real gap in the market. In fact, since venture capitalists fund only the most promising opportunities presented to them, some viable companies may not secure VC financing. However, a gap may exist if particular categories of firms that ought to receive financing are systematically unable to obtain it.

Policy-makers will face an ongoing challenge to separate perceived gaps based on anecdotes and partial observations from real gaps that are supported by data and analysis. In the final analysis, there is no objective, quantitative measure of the proper amount of VC investment in an economy. As a proxy for this, Canada has benchmarked itself against the U.S., but there is no evidence to suggest that levels of VC in the U.S. are optimal or appropriate. In fact,

according to the number of companies financed over the total number of SMEs, Canadian SMEs seem to have a better access to VC than U.S. SMEs.<sup>110</sup>

- **Management teams** — a key determinant of VC decisions — VC firms' decision-making and investment-selection processes focus on the key role of the potential portfolio companies' management teams. A deficit of management expertise and experience among firms seeking VC investment could result in the rejection of many investment proposals and the inability of many firms to obtain VC financing. This, however, would be a gap in the SMEs' management teams that effectively reduces the number of interesting VC investment opportunities, rather than a financing gap. These management or expertise gaps could be addressed by appropriate private actions and/or public policies.
- **Willingness or ability to pay** — Some businesses may be unwilling or unable to pay regulatory costs involved with the VC investment process, or to share sufficient ownership holdings with venture capitalists. In this context, a shortage of capital caused by regulatory requirements or the structure of the industry should be addressed by appropriate public policy to reduce regulatory burdens and costs to firms. However, any shortage of capital caused by investors' criteria, such as ownership holdings, should be addressed with improved information to entrepreneurs about the risky nature and stringent requirements of VC funding.

### *The supplier of capital and venture capitalist's perspective*

To the provider of funds, gaps are a question of achieving the highest possible returns for their investments. VC is high-risk investment, but, as a component of a diversified portfolio of financial assets, it can raise returns and reduce the overall risk. Several factors that can reduce these returns are: 1) a lack of reliable and transparent industry and performance information (or lack of awareness about this information) to inform investment decisions; 2) a shortage of VC fund management expertise and experience, which could result in unsound investment decisions; 3) a shortage of quality investment opportunities to invest in, which could result in capital not being invested, or in lower returns; 4) an unfavourable or unfriendly tax and regulatory environment, which could result in higher costs and lower returns; and 5) limited quality exit potentials, which could significantly reduce the liquidity of the investment. These factors can lead to significant performance gaps for both the supplier of capital and venture capitalist — gaps that would likely result in a more-rigid and lower supply of VC in terms of fundraising and investment.

### *The entrepreneur's perspective*

To companies seeking capital, gaps are a question of securing adequate financing (which touches on the discussion of perception and the evaluation of real versus perceived gaps). In that respect, the VC market is different from the traditional debt financing market (e.g. bank loans), where the rejection rate is in the 20-percent range — leaving most potential borrowers relatively satisfied. While there is no solid data on the demand for VC and the rejection rate in the VC market,

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110. In 2002, there were 677 VC-backed firms in Canada and 1.8 million SMEs, compared to 2495 VC-backed companies and more than 16 million SMEs in the U.S.

anecdotal information indicates that turn-down rates outnumber acceptance rates by a large margin. This tendency is apparent in both the Canadian and U.S. VC markets — Canadian VC firms only finance 1 percent to 3 percent of proposals, and U.S. VC investors normally finance only one out of a hundred business plans they review.<sup>111, 112</sup> In fact, a comparison of the relative number of companies financed by VC in 2002, over the total number of SMEs in each country, reveals that more Canadian SMEs received VC than U.S. SMEs. In Canada, there were 677 VC-backed firms in 2002, out of 1.8 million SMEs, while, in the U.S., there were 2495 VC-back firms, out of 16 million SMEs.<sup>113</sup>

These numbers suggest that, in Canada and in the U.S., virtually all SMEs that seek VC are disappointed. However, an evaluation of the state of the VC market must take into account the structure and operation of the industry, and must not assume that a high turn-down rate represents a market inefficiency or gap. From a public policy point of view, complaints from companies are signals to encourage research to determine whether there are real imperfections or gaps in the market. Currently, the lack of data about the demand for VC funding, rejection rates and reasons for refusal are real impediments to identifying gaps in the market.

### *Government's perspective*

Government's objective is to balance economists' research about market gaps with investors and entrepreneurs' perspectives, and to design public policies to improve the allocation of resources in the economy. Public policy should foster the Canadian VC market's efficiency, and increase Canadian high-growth SMEs' access to VC. However, policy action might not be possible or appropriate in all circumstances, since not all complaints represent gaps (as discussed) and not all issues and gaps merit public policy initiatives; the private sector also has a vital role to play in addressing market gaps and imperfections. In fact, government should try to meet a number of considerations and principles before developing any policy intervention in the VC market. These considerations are explained after the following review of key outstanding issues.

## **2. Outstanding Issues Related to the Canadian Venture Capital Market**

Part II of this report demonstrated that the Canadian VC industry has been relatively dynamic over the 1996–2002 period and stands among the most developed VC markets in the world. Part II also showed that there is no apparent shortage of supply in Canada that needs direct public intervention. However, despite these positive signals, the Canadian VC market must overcome several structural and practical challenges to ensure continued growth and to meet its potential.

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111. E. Wayne Clendenning & Associates, *Assessment and Comparison of Key Issues Regarding the Operation of the Venture Capital Markets in Canada and in the US and their Implications for Private Sector Participants and Government Policy* (2002).

112. Paul Gompers, *A Note on the Venture Capital Industry* (Boston: Harvard Business School, 2001).

113. Swedish Foundation for Small Business Research ([www.fsf.se/Patterns/appendix.pdf](http://www.fsf.se/Patterns/appendix.pdf)).



Recognizing the challenges related to defining and identifying market gaps, this section identifies the main outstanding issues and impediments to the future development of the Canadian VC industry. Many of these issues, which are mostly associated with the relative youth of the Canadian VC industry, are interrelated and mutually reinforcing; issues that have ripple effects throughout the VC industry are among the most significant to the future of the industry, to innovation, and to economic growth. These are the following:

- **The shortage of investor-ready firms** that can meet VC investors' requirements and returns expectations has been identified as one of the main barriers to VC investment. Indeed, the presence of a critical mass of quality projects and businesses drives high returns and is essential to ensuring adequate fundraising and investment.
- **The low participation of institutional investors, and the related lack of funding and participation of private independent firms**, restricts the size of the Canadian VC market and limits its ability to fund firms that require large capital injections for continued growth and expansion. In turn, this limits firms' ability to optimize returns from their products, leading to lower VC fund returns, making fundraising more difficult because of less than optimal returns.
- **The shortage of VC fund management expertise and experience** is also identified as a main impediment to VC fundraising and investment. Indeed, the lack of VC skills and expertise will have a significant impact on VC fund managers' ability to evaluate risks and make appropriate investment decisions. This could result in bad investment decisions, or in limited VC investments in specific sectors that require a higher level of specialization and expertise, such as life sciences. Improving the skills and expertise of Canadian VC funds would likely result in higher returns and better funding of early-stage firms, life sciences, and other high technology firms.
- **The lower returns of Canadian VC funds, compared to U.S. VC funds and other investment vehicles**, represents a significant barrier to the participation of domestic and foreign investors, particularly institutional investors. Indeed, lower returns potentially reduce the level of fundraising activity and stunt the size of Canadian VC funds, which limits the VC industry's ability to provide adequate funding to high-growth-potential, early-stage and expansion firms in key sectors.

While these issues, presented in more detail in Table 25, may not meet any specific definition of gaps in the VC market, they represent significant imperfections that hinder the future growth of the Canadian VC industry and the ability of Canadian high-growth-potential SMEs to access VC.

In that context, this section concludes with a number of key principles and questions for further consideration by private sector stakeholders and government in the development of any future policy options.

**Table 25: Summary of Venture Capital Market Weaknesses, Related Government Actions and Outstanding Issues for Potential Action**

VC Market Weaknesses (Part II)	Related Government Actions (Part III)
<p><b>Environment and Structure of the VC Industry</b> — <i>Issues that may impair the VC market’s ability to secure optimal funding from domestic and foreign investors, which will limit investment in seed/start-up and expansion firms and threaten the VC industry’s growth as a viable private sector industry.</i></p>	
<p><b>Lower performance returns in Canada (compared to the U.S. and other investment vehicles)</b> — Since returns are the most important driver of VC activity, the lower returns of Canadian VC funds and the lack of awareness about performance information on the Canadian VC industry are likely the most significant impediments to the industry’s future growth.</p>	<p>The private sector’s leadership in developing industry and performance information has meant that the government has played a supporting, rather than a direct role in this area. Indeed, Industry Canada has provided financial assistance to Macdonald &amp; Associates Limited for the collection of quarterly and annual data and regular reporting on VC activity in Canada, as well as for validation and refinement of returns data methodology, to ensure the accuracy of performance benchmarks. Improved returns data were published by the CVCA in October 2003.</p>
<p><b>Improvements to tax system</b> — As summarized in Part II and Appendix E, a number of technical issues related to the tax and regulatory systems have been identified by the industry as outstanding impediments to VC fund-raising and investment. While many of these have been addressed in recent budgets, the following issues are still pending:</p> <ul style="list-style-type: none"> <li>• additional revisions to the QLP definition;</li> <li>• revision to withholding taxes on interest and dividends paid to non-residents;</li> <li>• revision to rollover for cross-border mergers; and</li> <li>• revisions to associated company rules.</li> </ul> <p><i>(See Appendix E for a description and the status of these issues.)</i></p>	<p>In previous federal budgets and economic updates (2000, 2001 and 2003), the federal government announced a series of measures and changes to the tax system. These measures, which are explained in Appendix E, were aimed at supporting VC investment in Canada:</p> <ul style="list-style-type: none"> <li>• tax cuts to encourage entrepreneurship and innovation, including reduction of corporate tax and capital gains inclusions rates and expansion of the tax rollover of capital gains;</li> <li>• amendments to the QLP definition and foreign property rule;</li> <li>• changes to Section 115.2 of the <i>Income Tax Act</i> regarding treatment of non-residents in partnerships;</li> <li>• phasing out of federal capital tax;</li> <li>• increasing the small business tax rate threshold; and</li> <li>• enhanced tax-free rollover of small business capital gains.</li> </ul>
<p><b>Smaller and younger VC industry and shortage of VC management expertise of Canadian VC funds</b> — The smaller size of VC funds and the lower number of VC managers with industrial and investment experience and expertise in Canada may hinder the future growth and specialization of the Canadian VC industry. This would reduce its ability to raise capital and interest in small, new and seed-stage financings, particularly for technology transfer and the commercialization of new ideas and products, since these require specialized industrial knowledge.</p>	<p>While there are no government programs explicitly tasked with training VC fund managers, in 2002 the three federal granting agencies (NSERC, CIHR and SSHRC) launched a pilot program to support three regional networks to train technology transfer/commercialization experts. These networks provide hands-on training in SMEs, VC and university technology transfer for people with advanced degrees who want to pursue careers in technology transfer and commercialization. The federal and provincial governments have also recently created several programs and funds to increase the supply of capital in Canada (particularly for R&amp;D and seed funding). These are described in Part III.</p>

VC Market Weaknesses (Part II)	Related Government Actions (Part III)
<p><b>Ensuring a strong angel investment market</b> — Given the strong links between VC and the other risk capital markets, such as the angel market, and angels’ importance to early-stage firms, the lack of information about angel investment, or a weak or inefficient angel investment market, is likely to limit Canadian SMEs’ financing options. This impact may be more acute for seed and start-up firms that are not yet ready to seek VC funding. Overall, this may limit the effectiveness of the Canadian VC market, which should serve as a transition between angel and IPO financing.</p>	<p>Industry Canada has conducted five studies to improve knowledge about the added values and practices of angel investors.<sup>a b c</sup></p> <p>Furthermore, Industry Canada, with Statistics Canada and the Department of Finance, is conducting a feasibility study to determine how the information on actual and potential angel investment could be collected and to develop a research protocol to collect these data, which is essential to the future development of policies aimed at supporting angel investments in Canada.</p> <p>Despite these important research projects, few initiatives to encourage angel investments have been developed. One such initiative was the Canadian Community Investment Plan (CCIP), implemented by Industry Canada from 1998–2002. This program, which was highly successful, but had a limited five-year mandate, was aimed at supporting networks between businesses and angel investors within participating communities.</p>
<p><b>Ensuring a strong IPO market</b> — Given the links between VC and the IPO market, a weak IPO market can limit VC activity. Indeed, exit potentials are critical to VC investment, since they permit VC investors to liquidate their investments and reinvest their funds in other high-growth-potential SMEs. A weak IPO market also increases pressure on the VC market to fund expansion and growth-stage firms — firms that should normally access the public market. In Canada, the key issues related to the structure and operation of the IPO market are:</p> <ul style="list-style-type: none"> <li>• performance and impact of CDNX on small businesses;</li> <li>• securities regulations reform to reduce administrative burdens and costs to businesses; and</li> <li>• lower performance of Canadian IPOs compared to American IPOs.</li> </ul>	<p>Given that securities regulations are mostly a provincial responsibility, the federal government has played a limited role in these issues. However, at the provincial level, the main initiative related to SMEs was the provincial securities regulators’ creation of the Junior Capital Pool,<sup>d</sup> which was replaced in March 2000 by the CDNX. The objective of this program was to provide a financing instrument that would permit businesses to access financing faster than a regular IPO would allow. Regarding securities regulations reform, the Canadian securities authorities, supported by some provincial securities regulators, have recently agreed to work on the harmonization of Canadian securities regulations to reduce administrative and regulatory burdens on Canadian SMEs and improve the effectiveness of Canadian public markets.</p> <p>At the federal level, a recent Industry Canada study, conducted by Cecile Carpentier, Maher Kooli and Jean-Marc Suret from Université Laval, will improve understanding and knowledge about the Canadian IPO market.</p>

a Alan Riding, Equinox Management Consultants Ltd.: 1) *Informal Equity Capital for SMEs: A Review of Literature* (2001); 2) *Practices and Patterns of Informal Investments* (2001); and 3) *Value Added by Informal Investors: Findings from a Preliminary Study* (2001).

b Ellen Farrell, *A Literature Review and Industry Analysis of Informal Investment in Canada: A Research Agenda* (2001).

c National Angel Organization, *Angel Investment in Canada: A Regional and National Perspective* (2003).

d The first *Junior Capital Pool* was created in Alberta in 1986, adopted in British Columbia in 1987 (under the name of *Venture Capital Pool*). In March 2000, these programs were replaced by the CDNX, which was adopted in British Columbia, Alberta, Saskatchewan and Manitoba and then in Ontario and Quebec.

VC Market Weaknesses (Part II)	Related Government Actions (Part III)
<b>Demand for VC</b> — <i>Issues that may limit the Canadian VC industry's opportunities for growth.</i>	
<p><b>Too few investor-ready firms in Canada</b> — Venture capitalists have identified the lack of quality deals as a major impediment to VC investment in Canada. Among their main concerns are the lack of management skills and experience, quality of business plans and market knowledge, and business owners' unwillingness to relinquish control of their businesses. This lack of quality deals may stunt the future growth of the Canadian VC industry, since the quality of businesses drives high returns as well as VC fund-raising and investment.</p>	<p>Several federal and provincial programs or initiatives are currently in place to provide general assistance to Canadian SMEs, including information on financing programs (<i>see Part III</i>). While these programs or services do provide information on risk capital financing, they are not particularly focussed on VC.</p> <p>Industry Canada has developed several programs related to risk capital:</p> <ul style="list-style-type: none"> <li>• Steps to Growth Capital — a self-study guide to help Canadian businesses prepare for and access growth capital.</li> <li>• Canada Community Investment Plan (CCIP) provided assistance to communities to develop better networks between businesses and angel investors. This program, which was highly successful, had a limited five-year mandate that ended in 2002.</li> <li>• Source of Financing — a Web search engine to help businesses locate sources of traditional or risk capital financing.</li> </ul> <p>As well, federal research agencies (e.g. NRC, NSERC) also provide managerial assistance and advice to businesses seeking to move from the R&amp;D stage to technology transfer and the commercialization of new products. NSERC and CIHR have launched new programs to help move university research closer to commercialization. These programs support proof of concept, technology enhancement and the development of business plans in collaboration with venture capitalists or SMEs.</p>
<p><b>Lack of information and knowledge of the actual demand for VC</b> — Evidence suggests that VC is only appropriate for a limited number of SMEs with very high growth potential. However, very little information is available on the actual demand for VC by Canadian firms, including acceptance/rejection rates by type of firm, sector and region. As a result, it is difficult to deduce the existence of a market gap and develop adequate policies to help Canadian SMEs access VC.</p>	<p>As part of the SME Financing Data Initiative, Industry Canada, Statistics Canada and the Department of Finance have been mandated with improving the quantity and quality of SME financing data. In particular, one issue that should be covered is the historical demand for VC financing, including the characteristics of firms that have sought and received VC.</p>
<b>Supply of VC</b> — <i>Issues that may affect Canadian VC funds' ability to raise funds and invest in firms that should receive VC financing.</i>	
<p><b>Low participation of institutional investors</b> — The low participation of institutional investors in the Canadian VC industry has been identified as one of the main impediments to the industry's future growth, as it limits the funding and size of Canadian VC funds and their ability to finance large deals. Among the key barriers to their participation are the lack of awareness and knowledge about the VC industry and about the existence of performance returns data on Canadian VC funds, lack of knowledge about the tax system and recent tax</p>	<p>Recently, the federal government has taken action to improve institutional investors' participation in the market. These include:</p> <ul style="list-style-type: none"> <li>• financial assistance to improve performance data and benchmarks by the CVCA and Macdonald &amp; Associates Limited;</li> <li>• BDC fund-of-funds to attract Canadian and U.S. pension plan funding; and</li> <li>• tax and regulatory changes aimed at removing technical barriers to pension funds' participation in the VC market.</li> </ul>

VC Market Weaknesses (Part II)	Related Government Actions (Part III)
<p>changes, shortage of internal expertise and knowledge about VC, and limited use (or confidence in) Canadian funds-of-funds and VC advisors such as gatekeepers.</p>	<p>Furthermore, Industry Canada and the provincial governments are studying institutional investments in Canada to assess current investment practices related to VC, existing barriers and potential motivators.</p>
<p><b>Low funding and participation of Canadian private independent funds</b> — Private independent funds are much more active players in the U.S. than they are in the Canadian VC industry. This may be explained by a lack of funding related to the structure and function of the Canadian VC industry, for example, the relatively low participation of institutional investors. Unstable funding may limit private independent funds' ability to finance and support medium-sized and large firms that have larger capital needs. Many of these firms are forced to seek financing in the U.S., which could lead to business migration to the U.S.</p>	<p>While no government programs or initiatives target private independent funds, the recent tax and regulatory changes that removed barriers to pension plans' funding of private independent funds should increase the funding and participation of private independent funds in the VC market.</p>
<p><b>Access to VC by early-stage firms, in particular seed and start-up firms and firms seeking VC funding for the first time</b> — While significant progress has been made in terms of VC investment in early-stage firms (particularly for seed and start-up firms), early-stage financing still raises concerns, particularly for firms in the technology transfer and pre-commercialization phases. In that regard, the key factors that restrict the flow of VC to seed and start-up firms and to firms seeking VC for the first time are:</p> <ul style="list-style-type: none"> <li>• the asymmetry of information between the businesses seeking VC and the suppliers of VC;</li> <li>• the lack of resources or VC fund management expertise and skills to identify technology with commercial potential, to add value and to work effectively with the financial community, including angel and VC investors; and</li> <li>• the lack of quality projects worthy of VC investment (e.g. lack of management expertise and skills of Canadian businesses; possible lack of funding for R&amp;D, technology transfer and commercialization).</li> </ul> <p>The lack of VC fund management skills and the lack of investor-ready firms are discussed in more detail above.</p>	<p>New federal and provincial programs have begun to help early-stage firms access VC financing, particularly through BDC, CED, ACOA, NRC, NSERC and Genome Canada (<i>see Part III for details on these programs</i>). These programs have likely increased the amount of VC invested in early-stage firms in recent years. As well, as discussed above, a number of provincial and federal programs help Canadian businesses access financing.</p>
<p><b>Role and impacts of LSVCCs</b> — LSVCCs have played a major role in the Canadian VC industry. However, since LSVCCs are supported by tax incentives, their strong presence in the VC market raises significant issues and questions, particularly from private VC players, who are concerned with their role and performance and their impact on private VC funds.</p>	<p>Since the establishment of LSVCC tax incentives, federal and provincial governments have made several revisions to expand or reduce the tax credits offered to investors in LSVCCs. These have resulted in fluctuations in LSVCCs' VC activities. Industry Canada is reviewing the importance and impact of LSVCCs to improve government's knowledge of their investment practices and performance and to determine their impacts and future role in the Canadian VC market. This analysis should be used to develop policy</p>

VC Market Weaknesses (Part II)	Related Government Actions (Part III)
	recommendations to ensure that LSVCCs continue to fill their social mandate of job creation and regional investment.
<p><b>Role and impact of foreign VC investors</b> — Foreign investors have played an increasing role in the Canadian VC industry since 1999. While this is certainly a positive development for the Canadian VC industry, it also raises some concerns related to the impacts of these investments on Canadian firms. A particular concern is the potential pressure on Canadian firms to move part of their operation or business to the U.S.</p>	<p>Some federal and provincial departments have been involved in networking and marketing activities to improve foreign investors' awareness about Canada and Canadian firms (e.g. participation in conferences and trade shows in the U.S. and Team Canada missions abroad). As well, Industry Canada has conducted a study on foreign VC investments in Canada to draw a profile of foreign investors and the Canadian firms that they finance. The final report is planned for publication in fall 2003. Based on the results of the study on foreign VC investment in Canada, Industry Canada may want to conduct a second study to assess the short- and long-term impacts of foreign VC on Canadian firms and the Canadian economy. Of particular interest are the strategic alliances or partnerships between Canadian and foreign investors, since these partnerships could benefit the Canadian VC industry (e.g. improved networks and skills of Canadian VC funds).</p>
<p><b>Lower concentration of VC activity in the Prairies and Atlantic Canada (and areas within other provinces or regions)</b> — While a high regional concentration of VC investment is common to all countries, it does raise significant issues and concerns in terms of regional economic development, particularly if many firms with high returns and growth potentials are not accessing VC because of location or other reasons. One possible explanation for this high regional concentration is the lack of a critical mass of high-growth-potential KBI firms in some regions, resulting in a low local demand for VC and a lack of marketing skills in some regional firms.</p>	<p>Federal government and regional agencies have established a number of quasi-equity programs in Western Canada, Quebec, Northern Ontario and the Atlantic Region to provide financing to firms that are unable or unwilling to raise VC or other equity financing. A number of provinces have established debt, quasi-equity and equity funds to provide financing to SMEs in their provinces, most notably in Saskatchewan, Manitoba, Québec and the Atlantic provinces. British Columbia, Nova Scotia, Newfoundland and Labrador and the Yukon have also created tax incentives to encourage investment in provincial SMEs. The SME Financing Data Initiative has been tasked with improving information on SME financing needs and demands, including debt and risk capital financing, through Statistics Canada's annual Survey on Financing of Small and Medium-sized Enterprises. In addition, Industry Canada is drawing on the 2000 survey results (among other sources) to collect data on the provision of risk capital to high-growth SMEs. This analysis will cover the number of high-growth SMEs by region, their job creation performance and their reliance on risk capital and informal investment, with particular attention to angel and VC investment. Furthermore, the work of sector-specific surveys by Statistics Canada also complements the FDI by conducting biannual surveys of biotechnology firms and provides information on sources of financing, financing success rates and breakdowns by size of business, in addition to other company information.</p>

### 3. Principles for Developing a Government Approach to Venture Capital

Despite the dichotomy between the different perspectives discussed, the difficulties in determining gaps in the VC market, and the fact that the Canadian VC market appears to be relatively efficient in terms of the allocation of VC investments to knowledge-based industry (KBI) sectors or regions with high concentrations of KBI firms, other key considerations may justify private sector and government action to address some of the weaknesses identified in Table 25 associated with this “infant” industry. Indeed, some of these issues may provide the opportunity for private sector stakeholders and government to collaborate to improve high-growth SMEs’ access to VC, and to enhance Canada’s innovation performance and economic growth.

In terms of government involvement, however, it is critical to realize that public policy action involves potential risks, including the risk of possibly creating market distortions. Failing to consider these could compromise the future growth of the VC market and its ability to provide adequate funding to high-growth-potential Canadian SMEs. Consequently, following are key considerations and principles that should be taken into account prior to developing government policies related to VC.

#### *Role of venture capital financing*

First, it must be recognized that VC is not a panacea for all SME financing challenges in all sectors or regions. As discussed in Part I, VC is only appropriate for a very select group of high-growth-potential firms that can offer high returns to investors. As a result, any policy measures to improve access to VC by firms that may not offer adequate returns could impair overall VC industry returns, fundraising and investment. Furthermore, if some players in the market have access to subsidized sources of capital, or are not subject to disciplines such as profit maximization, their impacts have the potential to be far reaching and unexpected.

#### *Venture capital — a viable and private industry sector*

Second, it must also be acknowledged that VC has become a relatively large and important sector with its own structure, players, and investment practices and preferences. Ensuring that the VC industry continues to grow as a viable private sector will be critical to addressing the challenges faced by Canadian firms. In this context, following are fundamental questions:

- What is the optimal, or adequate, short- and long-term growth for the Canadian VC industry? How should Canada define its growth objectives and success (i.e. on what proxy or benchmarks)?
- What conditions are needed to achieve adequate and continued growth? Do they exist today in Canada?

- What are the key structural and supply-and-demand barriers to the growth of this industry? How can these barriers be overcome?
- What is the Government of Canada's role in ensuring that the Canadian VC sector operates efficiently and continues to grow as a sustainable private sector industry?

### *Role of government*

Third, it must be accepted that the Government of Canada's fundamental role in the overall SME financing context and in the VC market is to:

- Understand the VC industry's structure and function, its evolution and growth, and the remaining barriers to the VC industry's growth and prosperity;
- Work with other key players to ensure a stable and effective fiscal and policy framework (e.g. tax and regulatory systems) to support and maintain business development and growth, and encourage a viable and sustainable private sector VC industry; and
- Ensure effective coordination among government departments regarding risk capital research and initiatives, in order to create a coherent framework that will allow the private sector market to succeed.

### *Principles for government action*

Finally, recognizing that government plays a supporting role in ensuring a sound, dynamic VC market that can support the growth of innovative, productive, outward-oriented businesses, future policy actions need to consider VC in the broader context of the risk capital market.

Accordingly, a number of key principles should be used as tests in the review of any proposals aimed at addressing the outstanding issues identified in this section, and in the development of any future actions related to VC. To the extent possible, any government actions should:

1. **Fill identified market gaps or reduce long-term imperfections in the private market** through focussed interventions that would, preferably, target unmet needs and emerging sectors in Canada with high-growth potential, and have a definite exit strategy once the private sector can assume responsibility.
2. **Minimize distortion to the VC industry and other risk capital markets.** Taking into account that any policy can create market distortion, policy-makers should make government intervention the last resort, rather than the first.
3. **Be developed in partnership with the VC industry and business community** through regular consultations with key stakeholders to ensure support, validation and relevance to the market and a coordinated approach to stimulate activity through temporary policy and financial leadership.



4. **Include an evaluation framework (e.g. Results-Based Management and Accountability Framework)** to ensure a rigorous and regular evaluation of the program’s performance, and to measure impacts on the market. Programs that impair the market should be discontinued.

## 4. Key Questions for Further Consideration

Considering the key outstanding issues and principles for the development of government policy actions discussed, the following questions are aimed at guiding future discussion between private sector stakeholders and government regarding any actions to address the key outstanding issues faced by the Canadian VC industry and by Canadian SMEs.

Questions for further consideration include:

- Given market gaps and outstanding issues, including the role of government, what should private sector stakeholders and governments do to encourage the continued growth and development of the Canadian VC market?
- Many of the challenges facing the Canadian VC industry appear consistent with those faced by many adolescent industries, which fall within three broad categories: 1) the market infrastructure (including the policy environment); 2) the supply of VC (including the fundraising and investment environment); and 3) the demand for VC. In this context,
  - How can Canada ensure that the Canadian VC industry successfully navigates these challenges?
  - How can Canada accelerate the creation of more experienced and skilled managers (e.g. management and marketing skills) of high-growth companies and VC funds?
  - How can Canada better support pre-VC and seed financing of high-growth-potential and medium-sized firms?
  - Do labour-sponsored venture capital corporations and other government-owned funds and programs fulfill their mandates effectively? Have these reached maturity? Are there duplications of efforts? Are these initiatives and programs still appropriate or sustainable in the long term to ensure a growing private VC industry?

## CONCLUSIONS

As stated at the outset, the goal of this analysis was to provide a realistic assessment of the state of one element of the Canadian risk-capital market — VC — through a review of the following questions:

1. **What is the state of VC activity in Canada? What key trends, strengths and weaknesses characterize the VC industry?**
2. **What is the state of government action — federal and provincial — with respect to VC?**
3. **Where are the gaps or outstanding issues related to the VC market (e.g. structure, supply and demand)? How do bottlenecks in the VC industry dampen the development, innovation and growth of Canadian SMEs?**
4. **How can the policy environment ensure the continued growth of the Canadian VC industry and encourage the development of Canadian SMEs from small to medium-sized businesses? How can this environment improve Canada's innovation performance, create jobs and wealth, and encourage these firms to remain Canadian?**

In that context, and to ensure a common understanding and a coherent approach to VC, this report has provided a detailed explanation of the nature and function of VC financing and the characteristics of the firms usually funded by VC, as well as a detailed review of the evolution and key investment trends of the Canadian VC market over the 1996–2002 period. More particularly, the analysis has focussed on current strengths, weaknesses and policy issues related to the Canadian VC market in providing funding to Canadian high-growth-potential and innovative SMEs.

Despite the solid growth of VC activity experienced since 1996, the analysis portrays a relatively young VC industry (by U.S. standards) that faces specific challenges. These hurdles can be best summarized by four highly interrelated and mutually reinforcing issues:

- **Shortage of investor-ready firms**, particularly in terms of management and marketing skills required to lead to rapid growth and attract new sources of capital and VC investment.
- **Size and experience gap** in terms of: 1) capital under management by the Canadian VC industry; 2) size of Canadian VC funds; 3) average financings size; and 4) experience and expertise of Canadian VC fund managers, compared to their U.S. counterparts.
- **Low participation of institutional investors** as a source of funds to Canadian private independent funds.
- **Relatively lower returns of Canadian VC funds, compared to the U.S.**, and the need to improve awareness and confidence about the performance of the Canadian VC market.

These challenges facing the VC industry do not call for intervention by the public sector. Indeed, these challenges cannot be met by government or any other group alone, and will depend on

collaboration with the VC industry, institutional and other investors, the education and research community, and others.

In that context, and consistent with the catalyst role of government, this report has concluded with a number of key policy questions (see Part IV) to stimulate discussion among key private and public sector stakeholders and develop a coordinated and collaborative approach to address these identified outstanding issues.

As an ultimate outcome, this analysis and the discussion of its implications should help determine and clarify how the policy environment can ensure the continued growth of the Canadian VC industry and encourage the development of Canadian SMEs from small to medium-sized businesses — essential components for Canada to take advantage of the 21st-century economy.

## APPENDIX A: GLOSSARY OF TERMS<sup>114</sup>

**Note:** If a definition includes a term in *italics*, that term is defined elsewhere in the glossary.

**Agent:** A market intermediary who helps structure a private equity transaction.

**Angel investor:** An individual with high net worth who is active in venture financing and who invests in shares of private companies using his or her own money, typically at an early stage of the firms' growth. Angel investor is also known as an informal investor.

**Average company financing:** The total dollar value of capital invested divided by the total number of investee firms in a given period.

**Average deal size:** The total dollar value of capital invested divided by the total number of deals (or *financings* or *transactions*) in a given period.

**Buyout capital:** A specialized form of private equity, characterized chiefly by risk investment in established firms that are fundamentally changing their operations or strategies. Buyout funds are often called such, even if their mandates are not exclusively buyout related.

**Capital available for investment** (see *liquidity*): The total dollar value of *capital under management* less those resources that have already been invested by a private equity fund. In the case of labour-sponsored venture capital corporations (LSVCCs), reserves required by statutes are not included in liquidity calculations. The investment requirements of LSVCCs vary by region from 60 percent of capital raised to 80 percent of capital raised, so 20 to 40 percent of the capital under management in these funds is excluded from the liquidity calculation.

**Capital commitment:** Resources flowing from individual, institutional and other external sources to private equity funds.

**Capital gains:** The proceeds obtained on the sale of assets.

**Capital under management:** The total dollar value of capital resources, both invested and un-invested, in a private equity fund or the market as a whole. In the case of corporate and government groups, capital under management is generally invested capital plus annual allocation.

**Co-investment:** A transaction with two or more investors. It is also known as *syndication*. The average rate of co-investment is the total number of investments made in the total number of deals in a given period.

**Company buyback:** The redemption of private stock by the management of a *portfolio company*. This is a common *exit mechanism* for private equity funds.

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<sup>114</sup> Sources: Macdonald & Associates Limited; Industry Canada.

**Corporate fund:** A private equity fund that is a division or subsidiary of a financial or industrial corporation. See also *investor types*.

**Deal:** See *financings and investments*.

**Debt financing:** A form of financing, other than leasing or factoring and risk capital, that results in a debt on the part of the borrower.

**Disbursement:** The actual dollar amount flowing from a private equity fund or funds to a company in a given transaction.

**Due diligence:** The process of assessing the business and financial viability of a potential investment target, as well as the potential terms and conditions of an investment agreement.

**Early-stage financing:** Capital provided to a young or emerging company to facilitate its growth and development, as illustrated in *seed financing* and *start-up financing*. See also *stages of development*.

**Equity:** The residual value of a business or investment after all debts and other liabilities are settled.

**Equity financing:** Any form of financing that contributes to the equity of the business.

**Exit mechanism:** The strategic means by which a private equity fund liquidates its stake in a business and achieves optimal returns. There are multiple exit mechanisms, including the following.

- **Acquisition:** A third party acquires all shares of an investee company.
- **Company buyback:** A venture capital investor sells shares back to the company or management.
- **Initial public offering (IPO):** A venture investor disposes of its investments through a public offering after escrow requirements have been met or through continuous disposition after the IPO.
- **Merger:** A venture investor sells shares to the merged company.
- **Secondary sales:** A venture investor sells shares of the investee company to others.
- **Write off:** An investment is deemed to have lost its value and is written off.

**Expansion financing:** Capital provided to a company to facilitate its growth and development objectives. See also *stages of development*.

**Financial institutions:** Establishments that handle monetary affairs, including banks, trust companies, investment dealers, insurance companies, leasing companies and institutional investors.

**Financings and investments:** Transactions involving a private equity fund or funds, related to a given *portfolio company*. Each financing is made up of one or more investments, depending on the presence of co-investors. Financings are also known as deals. See also *size of financings*.

**First-time financing:** See *new investment*.

**Follow-on financing:** A supplementary round of financing in an existing *portfolio company* that builds on its original financing, generally in line with business growth and development. Venture-backed firms are often engaged in multiple follow-on deals.

**Fund:** A pool of capital established for the purposes of private equity activity. Often a *management company* will be responsible for several funds that may vary according to mandate or investment period.

**Fund manager:** See *management company*.

**Fund-of-funds:** A professionally managed intermediary vehicle in which individual and institutional investors allocate or pool assets for subsequent commitment to diversified private equity funds.

**Fund-raising:** The activity through which a private equity fund seeks to raise new capital commitments from external sources of supply.

**Gatekeeper:** A professional advisor or intermediary operating in the private equity market on behalf of clients, such as institutional investors.

**General partner:** The manager of a partnership's daily business affairs, who is responsible for the partnership's debt.

**Government fund:** A government-owned, private equity fund, usually organized through a federal or provincial agency or Crown corporation. See also *investor types*.

**Growth:** Funds provided for the major growth expansion of a company whose sales volume is increasing and which is breaking even or profitable. These funds are utilized for further expansion, marketing, and working capital or development of an improved product.

**Holding period:** The length of time an investor holds all or part of his or her interest in a *portfolio company*.

**Informal investor:** See *angel investor*.

**Initial public offering (IPO):** The sale or distribution of the privately held stock of a *portfolio company* on public markets for the first time. This is a common *exit mechanism* for private equity funds, especially VC funds.

**Institutional investor:** Pension funds, insurance companies, endowments, charitable foundations, mutual funds and other non-bank financial institutions that are often key suppliers to private equity funds. In Canada, certain large institutional investors also have in-house programs for direct market activity (see *investor types*).

**Internal rate of return (IRR):** The discount rate equating the present value of cash outflows with the present value of cash inflows.

**Investee company:** A firm that has secured an equity or quasi-equity investment from one or more VC investors. A company could attract more than one round of financing in a given year. It is also known as a *portfolio company*.

**Investment:** See *financings and investments*.

**Investor types:** The key players in the private equity industry, based on particular fund structures and sources of capital supply. In the United States, private equity is dominated by private independent funds, while Canadian activity is diversified across several major groups.

- **Corporate funds:** Subsidiaries of financial or industrial corporations.
- **Foreign investors:** Non-resident private equity funds or corporations active in Canada.
- **Government-owned funds:** Agencies or Crown corporations owned by the government, such as the Business Development Bank of Canada.
- **Institutional investors:** Funds managed inside certain large institutions.
- **Labour-sponsored venture capital corporations (LSVCCs):** Funds established with the benefit of government tax credits to individuals. See *LSVCCs* below.
- **Other investors:** Investors with an interest in specific private equity deals but without a permanent market presence.
- **Private independent funds:** Funds structured on *limited partnerships* and related vehicles.

**Knowledge-based industries (KBIs):** Since there is no consensus of a definition of KBIs, Industry Canada has proposed a two-tiered categorization of industries. Tier one includes a narrow band of science and technology-based firms, comprising knowledge producers. Tier two includes a broad band of “high technology” firms that, based on measures of research and development and knowledge worker inputs, could be considered businesses of innovators and high-knowledge users.

**Labour-sponsored venture capital corporation (LSVCC):** A professionally managed, private equity fund that raises capital on a retail basis from individual Canadians, with the assistance of federal and provincial government tax credits. LSVCCs operate according to certain legislative specifications. See also *investor types*.

**Late-stage financing:** See *stages of development*.

**Limited partner:** A structure in which the investor trades off limited liability for managerial control. The limited partner is only responsible for the amount of his or her investment, while the general partner retains full liability for the partnership.

**Limited partnership (LP):** A legal fund structure designed to raise capital from external sources, in which one or more of the partners has limited liability. The primary relationship in this structure is the general partner (the fund manager) and the limited partner (the capital source). The limited partnership legal structure was created to provide liability protection to “partners” who were seeking investment opportunities, but who did not want to participate in the actual management of the firm. While these limited partners are very much like corporation shareholders, the difference is that at least one partner must have unlimited liability.

**Liquidity:** The degree of difficulty an investor has in exchanging an asset for money deflated by the price level. The less difficulty an investor has in converting an asset to currency, the more liquid the asset.

**Love money:** Equity investments made by family and friends of a company's owner.

**Management buyout financing:** Capital provided to facilitate the takeover of all or part of a business entity by a team of managers.

**Management company:** The professional manager of a private equity fund or funds.

**Merger:** The strategic combination of one business entity with another, often with the assistance of private equity.

**Mezzanine financing:** 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.

**New investment:** The original round of financing in a company. Venture-backed firms typically receive further *follow-on financing* as they grow and develop in portfolios. New investment is also known as a first-time transaction.

**Other investor:** See *investor types*.

**Partnership:** A non-incorporated business venture of two or more individuals or companies. Profits and losses flow directly and equally to the partners.

**Patient capital:** This includes certain types of subordinated debt (sometimes called quasi-equity) and forms of risk capital, such as equity investments and retained earnings of owners, investments by family and friends (*love money*), private equity investments by knowledgeable outsiders (*angel investors*), private equity investments by institutions and organizations (*venture capital*), and public equity investments (through stock markets).

**Portfolio company:** A business entity that has secured at least one round of financing from one or more private equity funds. See also *investee company*.

**Preferred investment range:** A private equity fund's preferred scope for making investments. This varies by market segment, with many venture funds preferring ranges below \$10 million and many buyout and mezzanine funds preferring ranges between \$10 million and \$50 million or higher. See also *size of financings*.

**Private equity:** The generic term for the private market reflecting all forms of equity or quasi-equity investment (including informal investments). In a mature private equity market, there are generally three distinct market segments: *buyout capital*, *mezzanine capital* and *venture capital*.

**Private independent fund:** A professionally managed private equity fund that raises capital from external sources of supply, such as institutional investors. Most private independent funds use *limited partnerships* and related vehicles. See also *investor types*.



**Qualified limited partnership (QLP):** The 2001 budget eliminated the 30-percent ownership limitation for QLPs, so a limited partnership may be a QLP even though a limited partner, either alone or as part of a non-arm's-length group, has more than a 30-percent ownership interest in the partnership. However, for the purpose of the foreign property rules, any limited partner or group that holds more than a 30-percent interest in a QLP will be treated as owning a proportionate interest of each property owned by the QLP, including any foreign property. An ownership interest of 30 percent or less in a QLP will remain exempt from treatment as foreign property.

**Quasi-equity financing:** A type of financing that involves a mix of debt and equity. The equity allows investors to achieve a high rate of return upon the success of the company, while the debt component entails premium prices contributing to the return of the investor.

**Restructuring/turnaround financing:** Capital provided to an established firm, usually in a traditional sector, that is undergoing financial distress or a major reorganization, but that is perceived as having long-term commercial viability.

**Retained earnings:** The amount of earnings retained and reinvested in a business rather than distributed to shareholders as dividends.

**Return:** See *internal rate of return*.

**Risk capital:** Informal equity investments (*love money* and money from *angel investors*), *venture capital* and money from public equity markets.

**Risk capital financing:** Totally unsecured preferred equities normally having a set maturity date and a dividend return attached to them. In contrast, common equities have no fixed maturity date or dividend return but can receive dividends at the discretion of the company.

**Secondary Purchase:** Share purchases of private and public companies from other investors.

**Sectors:** Areas in which one might invest. They include the following.

- **Information technology:** Communications and networking, electronics and computer hardware, Internet, other IT services, semiconductors and software.
- **Life sciences:** Bio-pharmaceuticals, health care, medical devices and equipment; and medical/biotech software and information services.
- **Other information technology:** Electrical related, media and entertainment, other technologies, and specialty chemicals and advanced materials.
- **Traditional:** Consumer and business services, consumer products, manufacturing, miscellaneous and retailers.

**Seed financing:** Capital provided to facilitate commercialization of new product concepts, often from laboratories, research centres or entrepreneurs. If successful, seed financing may result in a start-up. See also *stages of development*.

**Size of financings:** Financial scope of transactions. See also *preferred investment range*. In the VC realm, there are four categories of deal size.

- **Very small deals:** Less than \$500 000.
- **Small deals:** Less than \$1 million.
- **Mid-sized deals:** Between \$1 million and \$5 million.
- **Large deals:** Greater than \$5 million.

**Small and medium-sized enterprises (SMEs):** Firms with fewer than 500 employees and less than \$50 million in annual revenues.

**Small Business Investment Company (SBIC):** Established in 1958 and licensed and regulated by the Small Business Administration (SBA) in the U.S., SBICs are privately owned and managed investment firms that use their own capital, plus funds borrowed at favourable rates with an SBA guarantee, to make VC investments in small businesses in start-up and growth situations. SBICs are profit-motivated businesses. They provide equity capital, long-term loans, debt-equity investments and management assistance to qualifying small businesses.

**Specialized fund:** A private equity fund strategy that focusses on specific investment targets (such as sectors and stages of development).

**Stages of development:** Critical points on the growth continuum for firms assisted by VC and other types of private equity. Typically, a venture-backed company receives cumulative rounds of financing to facilitate its progression from one stage of development to the next.

- **Early Stages of Development:**
  - **Seed stage:** A developing business entity that has not yet established commercial operations and needs financing for research and product development.
  - **Start-up stage:** A business in the earliest phase of established operations needing capital for product development, initial marketing and other goals.
  - **Other early stage:** A firm that has begun initial marketing and related development and needs financing to achieve full commercial production and sales.
- **Late Stages of Development:**
  - **Expansion stage:** An established or near-established company that needs capital to expand its production capacity, marketing and sales.
  - **Acquisition/buyout stage:** An established or near-established firm that needs financing to acquire all or a portion of another business entity for growth purposes, such as an acquisition for expansion financing.
  - **Turnaround:** An established or near-established company that needs capital to address a temporary situation of financial or operational transition.
- **Other Stages of Development:** Includes *secondary purchase*, or the sale of portfolio assets among investors, and working capital.

**Start-up financing:** Capital provided to facilitate the first-time establishment of a legal company structure around a marketable product concept. See also *stages of development*.

**Subordinated debt:** A financial instrument with qualities of both debt and equity, often used in transactions as an alternative, or complement, to pure equity. This is a non-conventional financing instrument whereby the lender accepts a reduced rate of interest in exchange for equity participation. See also *mezzanine financing*.

**Syndication:** See *co-investment*.

**Turnaround financing:** See *restructuring/turnaround financing* and *stages of development*.

**Valuation policy:** The method or guidelines a private equity fund uses to determine the value of its portfolio assets.

**Venture capital (VC):** A specialized form of private equity, characterized chiefly by high risk investment in new or young companies following a growth path (see *stages of development*) in technology and other value-added sectors. The capital invested usually comes from companies privately held by VC firms, through the underwriting of newly issued stock, convertible bonds or both.

**Venture capital firm:** A financial corporation established by individuals, institutions or governments to undertake and manage VC investments in high risk businesses.

**Venture capital fund:** An investment fund established by a venture capital firm, usually in the form of a limited partnership, to attract funds from individual and institutional investors for the purposes of undertaking venture capital investments.

**Venture capitalist:** A person investing in a company or companies that have an element of risk but that offer potentially above-average returns.

## APPENDIX B: SUMMARY OF FEDERAL GOVERNMENT PROGRAMS

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<b>Atlantic Canada Opportunities Agency (ACOA)</b>			
<b>ACF Equity Atlantic Inc.</b>	<ul style="list-style-type: none"> <li>This VC firm manages a \$30 million VC fund targeted at growth-oriented SMEs in the Atlantic region.</li> <li>Capital is provided through a partnership between ACOA, the four Atlantic provincial governments, seven chartered banks and a credit union.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity and equity investments</b></li> <li>Investments from \$500 000 to \$1.5 million are available to innovative companies in all industrial sectors, including high-knowledge areas such as information technology, life sciences and marine technology.</li> <li>The fund can invest up to \$3 million in any one company. An ACF representative is a member of the investee company's board of directors and the fund provides strategic advice and assistance.</li> </ul>	<ul style="list-style-type: none"> <li>Active and fully committed.</li> <li>ACF has invested \$18.2 million in 13 companies and has leveraged a further \$80 million in VC. The balance of the fund is reserved for follow-on investments.</li> <li>In 2002, a total of \$2.8 million was invested.</li> </ul>
<b>Atlantic Innovation Fund</b>	<ul style="list-style-type: none"> <li>With \$300 million over five years, AIF provides risk capital to companies at the R&amp;D stage.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments</b></li> <li>The fund is focussed on key KBI cluster investments and it supports commercially relevant R&amp;D in Atlantic Canada.</li> </ul>	<ul style="list-style-type: none"> <li>Active and to become fully committed in 2003.</li> <li>AIF Round I in July 2002 approved 47 investments totalling \$155 million. This was leveraged by a further \$185 million.</li> <li>On September 9, 2003, the Minister of State for ACOA announced that \$136 million under the AIF would be invested in 54 R&amp;D projects in Atlantic Canada.</li> </ul>
<b>Atlantic Region Investment Fund</b>	<ul style="list-style-type: none"> <li>ACOA has participated in three Atlantic region investment funds: Telecom Applications Research Alliance (TARA), PEI Capital and NB Workers Investment Fund.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity and equity investments</b></li> <li>These funds include TARA, a \$2.2 million fund from ACOA; and PEI Capital, a \$2-million fund from ACOA.</li> </ul>	<ul style="list-style-type: none"> <li>Active. A total of \$1.8 million invested in 2002.</li> </ul>
<b>Business Development Program (BDP)</b>	<ul style="list-style-type: none"> <li>BDP is a risk capital fund that provides repayable financing to SMEs, primarily for innovation and export promotion.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investment</b></li> <li>The loans are in the form of patient capital with flexible terms of repayment.</li> </ul>	<ul style="list-style-type: none"> <li>Active. Every year, BDP lends between \$70 million and \$80 million to local SMEs.</li> </ul>

## CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<b>Business Development Bank of Canada (BDC)</b>			
<b>Innovation Loans and Subordinate Financing</b>	<ul style="list-style-type: none"> <li>Loans support profitable growing businesses that lack tangible assets to offer as security.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments</b></li> <li>Loans of up to \$250 000 are available for expansion purposes, with flexible repayment conditions.</li> <li>Investments of between \$250 000 and \$5 million are available for expansion, market development and management buyouts.</li> </ul>	<ul style="list-style-type: none"> <li>Offered through all BDC branches in Canada.</li> <li>In 2002, BDC Subordinate Financing invested \$107 million in 549 transactions.</li> </ul>
<b>Seed Financing Fund</b>	<ul style="list-style-type: none"> <li>BDC is establishing a technology seed investment program to increase the supply of seed financing.</li> </ul>	<ul style="list-style-type: none"> <li><b>Equity investments (targeted at suppliers of VC)</b></li> <li>The seed fund could make pre-seed, seed, and start-up VC investments and leverage more VC funds from both BDC and other VC investors.</li> <li>In a typical project, BDC will make pre-seed and seed investments and attempt to leverage other funds from governments, angels and other seed investors to get the project launched.</li> </ul>	<ul style="list-style-type: none"> <li>A total of \$40 million was invested in four seed funds: Western Technology (\$10 million), Eastern Technology (\$15 million), T2C2/Bio (\$7.5 million) and T2C2/Info (\$7.5 million).</li> </ul>
<b>Specialized VC Funds</b>	<ul style="list-style-type: none"> <li>BDC wants to increase the supply of VC in Canada and to support private fund managers.</li> </ul>	<ul style="list-style-type: none"> <li><b>Equity investments (targeted at suppliers of VC)</b></li> <li>BDC acts as a limited partner and limits its participation to a maximum of 20 percent of the size of the fund.</li> </ul>	<ul style="list-style-type: none"> <li>BDC is actively investing and has participated in five funds. It intends to invest in 12 to 15 funds.</li> <li>A total of \$38 million was invested in five specialized funds.</li> </ul>

## CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<b>Venture Capital</b>	<ul style="list-style-type: none"> <li>BDC makes VC investments at any stage of a company's development, from seed to growth, and from acquisition or expansion to turnaround, including both private and publicly listed companies.</li> </ul>	<ul style="list-style-type: none"> <li><b>Equity investments</b></li> <li>BDC has invested primarily in early-stage companies in the life sciences, advanced technology, telecommunications and information technology sectors.</li> <li>BDC makes first-round investments ranging from \$500 000 to \$3 000 000, either as a sole investor or as a syndicate partner. The average transaction size is between \$1.5 million and \$2 million.</li> <li>In addition, through its inclusion on the investee company's board of directors, BDC provides management support.</li> </ul>	<ul style="list-style-type: none"> <li>From 1994 to October 2002, BDC made cumulative VC investments totalling \$406 million, 90 percent of which was invested in KBIs.</li> <li>Of this \$406 million, 74 percent was early-stage financing and 22 percent was expansion-stage financing.</li> <li>Regionally, 39 percent was invested in Ontario, 28 percent in Quebec and 21 percent in British Columbia. The remainder went to the Prairie (7 percent) and Atlantic (5 percent) regions.</li> <li>In 2002, BDC held 4 percent of the Canadian VC market by value (\$89.7 million) and 7 percent by numbers with a total of 57 financings.</li> <li>BDC's VC operations continue to grow and BDC has consolidated its role as an early-stage investor in KBIs.</li> </ul>
<b>Canada Economic Development for Quebec Regions (CED)</b>			
<b>Multimedia Experimentation Fund</b>	<ul style="list-style-type: none"> <li>The fund supports the pre-start-up phase of technology projects within the multimedia field.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (patient repayable and non-repayable financing)</b></li> <li>The fund is an initiative of CED in partnership with Alliance NumeriQC that provides non-repayable financial support covering a portion of the project's pre-start-up costs, as well as repayable financial support covering expenses incurred for business incubation services.</li> <li>The non-repayable contribution of the fund can amount to a maximum of \$50 000 or 50 percent of the pre-start-up costs. In exceptional cases, this amount can be extended to \$75 000 per project.</li> <li>Repayable financing can cover up to a maximum of \$25 000 for incubation services.</li> </ul>	<ul style="list-style-type: none"> <li>Active. Funding for this program amounts to \$2.4 million over three years (or about \$800 000 per year).</li> </ul>

## CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<p><b>IDEA-SME</b></p>	<ul style="list-style-type: none"> <li>• IDEA-SME fosters the establishment of strategic enterprises.</li> <li>• IDEA-SME promotes SME's increased competitiveness through innovation and productivity and through strengthening of commercialization capabilities.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Quasi-equity investments (patient repayable financing)</b></li> <li>• Investments cover eligible costs under IDEA-SME.</li> <li>• Repayable financing will normally not exceed 50 percent of eligible costs.</li> </ul>	<ul style="list-style-type: none"> <li>• As a member of the Industry Portfolio, the agency has 14 business offices across Quebec. All the new initiatives supported by CED during the 2001–02 fiscal year should over time generate investment totalling more than \$1.7 billion across Quebec.</li> <li>• The strategic outcome is to foster enterprise development to support pre-start-up, start-up and expansion with total financial assistance of \$192 million in 1100 SMEs.</li> <li>• CED manages the Community Futures Program and has horizontal initiatives working closely with several departments and agencies in the Industry Portfolio and other federal and provincial departments, such as the DFAIT Program for Export Market Development (PEMD), which has made 244 repayable contributions since 1999.</li> </ul>
<p><b>Société de soutien aux projets d'imagerie numérique pour le cinéma (SPINC)</b></p>	<ul style="list-style-type: none"> <li>• This project supports young, innovative enterprises in cinema, television and Web TV.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Quasi-equity investments (patient repayable financing)</b></li> <li>• The project provides repayable financing to a maximum of \$100 000 per project.</li> </ul>	<ul style="list-style-type: none"> <li>• Funding for this program from IDEA-SME amounts to \$3 million over three years.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<p><b>Community Futures Programs</b></p> <p><b>Community Futures Development Corporations (CFDCs)</b></p>	<ul style="list-style-type: none"> <li>CFDCs are governed by volunteers on the boards of directors.</li> <li>Non-profit corporations are financed by Industry Canada and by the federal regional development agencies that finance local SMEs.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity and equity investments</b></li> <li>CFDCs provide businesses with loans, loan guarantees or equity investments of up to \$125 000.</li> <li>The CFDC's board of directors assesses and approves investment applications.</li> </ul>	<ul style="list-style-type: none"> <li>Active. As of March 31, 2002, 57 Quebec CFDCs had invested \$111 million.</li> <li>In Ontario, from 1997 to 2002, CFDCs provided \$96.4 million in Northern Ontario and \$108.4 million in Southern Ontario. However, CFDCs made very few equity investments during that period.</li> <li>In Atlantic Canada, from April 1, 1995, to March 31, 2002, 41 CFDCs made 8400 loans to SMEs, totalling \$220 million. In addition, for 2001–02, CFDCs undertook guarantee and equity activities totalling \$287 000.</li> <li>In Western Canada, between April 1995 and September 2002, 90 CFDCs made 13 862 loans totalling \$336 million, of which \$141 million was invested in British Columbia, \$113 million in Alberta, \$45 million in Saskatchewan and \$37 million in Manitoba.</li> <li>This program is ongoing and active in all regions.</li> </ul>



**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<p><b>CFDC Investment Pools</b></p>	<ul style="list-style-type: none"> <li>Individual CFDCs have not been able to meet requests for financing above their normal maximum of \$125 000. This fact has led to the development of various types of pooling arrangements among CFDCs under the leadership of the regional agencies.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity and equity investments</b></li> <li>In the case of FedNor, CFDCs in Eastern and Northeastern Ontario have initiated two types of resource pooling arrangements.</li> <li>Five Eastern Ontario CFDCs have an agreement to pool resources to undertake equity and quasi-equity investments of over \$125 000.</li> <li>In Northeastern Ontario, CFDCs work together to facilitate larger investments by combining funds from individual CFDCs in each deal.</li> <li>In Western Canada, CFDCs in both Alberta and British Columbia have established loan pool arrangements and a study is under way to develop a mechanism for CFDCs to set up a similar pool in Saskatchewan and Manitoba.</li> <li>In Atlantic Canada, the Atlantic Canada Community Business Investment Fund will pool ACOA's annual allocation of CFDC investment funds in a central account. This money will provide individual CFDCs with additional repayable funds to address increases in lending demand.</li> </ul>	<ul style="list-style-type: none"> <li>Active.</li> <li>The Eastern Ontario pool has invested \$2.1 million in quasi-equity financing over the past 18 months and has leveraged an additional \$11 million from other investors. No equity investments have been made. It has also not been able to attract funding for the pool from other investors.</li> <li>The Northeastern Ontario facility has concluded deals totalling \$3.3 million and has leveraged a further \$8.7 million.</li> <li>This program is being explored further to determine whether it can be expanded across Ontario and perhaps into other regions.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
Federal Economic Development Initiative in Northern Ontario (FedNor)			
<b>Applied R&amp;D Programs</b>	<ul style="list-style-type: none"> <li>These programs support SME R&amp;D, which increases the SME's overall competitive position in Northern Ontario.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments that increase demand for VC</b></li> <li>These programs will cover the costs to develop new products and services in Internet technologies, telecommunication and information systems; IT hardware and software; and generally high value-added products.</li> <li>Costs associated with first-time marketing of the results of this R&amp;D may also be eligible if identified when application is made for R&amp;D funding.</li> <li>Contributions will normally not exceed 50 percent of eligible costs, to a maximum of \$500 000.</li> </ul>	<ul style="list-style-type: none"> <li>Active (founded in 1997).</li> <li>A limited program in terms of uptake. Loans totalled \$2.7 million from 1999 to February 2003.</li> </ul>
<b>FedNor/BDC — Loan Loss Reserve Fund</b>	<ul style="list-style-type: none"> <li>This fund leverages up to \$15 million in funding for SMEs and projects that require growth capital.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (loan loss reserve)</b></li> <li>Eligible loan sizes will be between \$25 000 and \$500 000.</li> <li>FedNor's support for this Loan Loss Reserve Fund is calculated at 20 percent of eligible loans made by the BDC.</li> </ul>	<ul style="list-style-type: none"> <li>Active. Program effective December 2002 to December 2005.</li> <li>As of June 30, 2003, 13 loans had provided \$1.2 million.</li> </ul>

## CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<b>FedNor/Credit Unions — Loan Loss Reserve Fund</b>	<ul style="list-style-type: none"> <li>This fund leverages up to \$15 million in commercial lending for SMEs among participating Northern Ontario credit unions.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (loan loss reserve)</b></li> <li>Eligible loan sizes are between \$25 000 and \$500 000.</li> <li>FedNor's support for this Loan Loss Reserve Fund is calculated at 20 percent of eligible loans made by participating credit unions.</li> </ul>	<ul style="list-style-type: none"> <li>Active. Program effective January 2001 to March 2004. Initial uptake was slow but has been increasing steadily. By May 31, 2003, 26 loans totalling \$4.1million had been approved.</li> </ul>
<b>Genome Canada</b>			
<b>Genome Canada</b>	<ul style="list-style-type: none"> <li>Genome Canada is the primary funding and information resource relating to life sciences, genomics and proteomics in Canada.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments and R&amp;D grants that increase the demand for VC</b></li> <li>Genome Canada will invest, case by case and through competitions, in companies that conduct promising R&amp;D. It is also developing a proof of concept for a seed investment fund and is establishing close links with international VC sources.</li> <li>It received \$300 million from the Government of Canada to establish five genome centres across Canada, which work closely with provincial governments, the private sector, the financial community, and national and international foundations to support genomics research.</li> </ul>	<ul style="list-style-type: none"> <li>Active.</li> <li>In April 2001, a first competition was announced, involving \$136 million to support 17 projects.</li> <li>A second competition in April 2002 provided \$155 million to support 34 projects.</li> <li>Genome Canada projects are ongoing and proposals have been made to expand these programs.</li> <li>In September 2002, Genome Canada made its first investment, \$6.2 million in a Quebec start-up biotechnology company.</li> </ul>

## CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<b>National Research Council (NRC)</b>  <b>Industrial Research Assistance Program (IRAP)</b>	<ul style="list-style-type: none"> <li>This program provides cost-shared financing of research and pre-competitive development technical projects.</li> <li>IRAP also provides advisory services through industrial technology advisors. One third of these advisors are NRC employees and two thirds work for network members who receive contributions from NRC.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments and R&amp;D grants that increase the demand for VC</b> For smaller companies, funding for between 40 and 50 percent of eligible project costs is available, to a maximum of \$15 000.</li> <li>For larger companies (with fewer than 500 employees), funding is available for between 40 and 50 percent of project costs, to a maximum of \$350 000, for up to 36 months.</li> </ul>	<ul style="list-style-type: none"> <li>Active.</li> <li>From 1996 to March 2002, IRAP provided financing totalling \$493 million, with \$97.7 million of that coming in 2001–02.</li> </ul>
<b>Natural Sciences and Engineering Research Council (NSERC)</b>  <b>Networks of Centres of Excellence (NCEs)</b>	<ul style="list-style-type: none"> <li>NCEs mobilize Canada's research talent in the academic, private and public sectors and apply this talent to develop the economy and improve Canadians' quality of life. The NCE program is an integral part of the federal government's Innovation Strategy and is provided with \$77.4 million per year. The program is a tri-council initiative (NSERC, SSHRC and CIHR), in partnership with Industry Canada. NSERC hosts the NCE directorate.</li> </ul>	<ul style="list-style-type: none"> <li><b>Increase demand for VC</b> The NCE program currently funds 21 NCEs in life sciences, information and communication technologies, environment, engineering and manufacturing.</li> <li>Networks bring together top researchers from universities across the country to work with industry and government on research projects of strategic importance for the country.</li> <li>More than 1500 partners, including 778 companies, participate in these NCEs. In an average year, these NCEs will do the following: leverage additional cash and in-kind contributions in excess of \$80 million, create close to 10 spin-off companies, file more than 70 patents and negotiate more than 100 licences, and train more than 1500 graduate students.</li> <li>For more details on the NCE program and individual NCEs, consult the NCE Web site at <a href="http://www.nce-gc.ca">www.nce-gc.ca</a></li> </ul>	<ul style="list-style-type: none"> <li>Active. Total funding of \$77.4 million per year.</li> <li>The NCE program runs regular competitions to renew existing networks and to launch new ones. The 2003 competition launched two new NCEs. The next competition, for NCEs that will start in 2005, was announced in March 2003.</li> <li>NCEs have been associated with more than 90 spin-off companies. NCEs help research teams transfer their technology to industry, to launch spin-off companies and to secure start-up funding.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<p><b>NSERC</b></p>	<ul style="list-style-type: none"> <li>• Canada's largest university research funding body invests in people, discovery and innovation to build a strong Canadian economy and to improve the quality of life of all Canadians.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>R&amp;D grants that increase the demand for VC</b></li> <li>• NSERC annually supports more than 9000 university professors through its research grants and more than 15 500 students through its scholarship, fellowship and grant programs.</li> </ul>	<ul style="list-style-type: none"> <li>• NSERC invests over \$611 million per year (exclusive of flow-through programs) in university-based research in the natural sciences and engineering.</li> </ul>
<p><b>NSERC — Research Partnership Programs</b></p>	<ul style="list-style-type: none"> <li>• These programs stimulate university–industry collaboration to accelerate knowledge and technology transfer and industry investment in research and training by sharing the risks, costs and benefits of research.</li> <li>• These programs support university-based research, applications development, technology transfer and people.</li> <li>• These programs support proof of concept, technology transfer and cost sharing with VC and Canadian-based business.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Programs that increase demand for VC</b></li> <li>• NSERC's research partnership programs support almost 700 university-based projects with industry and government partners, stimulating industry investment in research (\$100 million in cash and \$70 million in kind in 2002), technology transfer and commercialization.</li> <li>• Specific programs include the following: <ul style="list-style-type: none"> <li>– <b>Strategic Projects</b> (research in targeted areas of national importance with non-academic partners)</li> <li>– <b>Research Networks</b> (research clusters with partners)</li> <li>– <b>Collaborative R&amp;D Grants</b> (joint university–industry projects, shared costs)</li> <li>– <b>Research Partnership Agreements</b> (universities, industry and labs collaborate and share costs)</li> <li>– <b>Industrial Research Chairs</b> (industry shares the costs with university and NSERC)</li> <li>– <b>NSERC–IRAP/University–SME Projects</b> (joint pilot to increase the interaction of universities and SMEs in national and international projects)</li> <li>– <b>Idea to Innovation</b> (supports university research through the early stages of proof of concept and technology validation leading to cost sharing with VC or Canadian SMEs at the point of technology transfer and commercialization)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• NSERC's research partnership programs are ongoing, with new applications accepted throughout the year.</li> <li>• In 2002–03, NSERC will invest \$117.5 million or 20 percent of its annual budget in programs to stimulate and support research collaborations among university, industry and government researchers, and to encourage technology transfer.</li> <li>• NSERC, through its Ideas to Innovation Program (launched in 2003), Intellectual Property Management Program (launched as a tri-council initiative in 2001) and the Networked Training Initiative (launched in 2002), supports activities that directly affect the technology transfer and commercialization of university research results.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996-2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
		<ul style="list-style-type: none"> <li>- <b>Intellectual Property Management</b> (joint NSERC, CIHR and SSHRC program that provides \$5 million per annum in critical infrastructure support for the intellectual property management, technology transfer and commercialization of university- and hospital-based research results, focussing on increasing the flow of IP to Canadian companies by increasing the expertise and expanding their services and networks)</li> <li>- <b>Regional Training Initiative</b> (NSERC, CIHR and SSHRC pilot program that supports three regional networks, in Quebec, the Atlantic and the West, to train increased numbers of experts in technology transfer and commercialization and SMEs and VC participate in this program as training venues).</li> </ul>	

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<p><b>Technology Partnerships Canada (TPC)</b></p>	<p><b>TPC</b></p> <ul style="list-style-type: none"> <li>Technology Partnerships Canada (TPC) is a Special Operating Agency of Industry Canada with a mandate to provide strategic conditionally repayable contributions in the areas of research and development, and demonstration projects that will produce economic, social and environmental benefits to Canadians.</li> <li>The program supports both large-scale technology R&amp;D and demonstration projects, as well as smaller projects aimed at SMEs (firms with 500 employees or less) through the TPC-IRAP initiative. In addition, TPC's Supplier Development Initiative (SDI) provides support to SMEs in the aerospace and defence industry.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (patient repayable financing)</b></li> <li>Established in 1996, TPC had initial funding of \$150 million. Incremental increases since that time bring TPC's annual budget to approximately \$300 million.</li> <li>The TPC agency delivers two separate and distinct programs: the TPC research and development (TPC R&amp;D) program, and the h2 Early Adopters (h2EA) program.</li> <li>The TPC R&amp;D program supports individual companies in pre-competitive development projects that develop new technologies. It also encourages the development of SMEs in all regions across the country.</li> <li>The h2EA program supports demonstration projects, which will enable groups of two or more to test and showcase their existing technologies in working integrated models that will contribute to the development of a hydrogen economy.</li> </ul>	<ul style="list-style-type: none"> <li>As of March 31, 2002, approximately \$1.9 billion in investment sharing for 424 active projects had been approved by TPC. These investments include 365 R&amp;D projects initiated by SMEs, or 86 percent of all TPC projects. These figures include IRAP-TPC.</li> <li>TPC has reviewed its operations and will be asking Cabinet for administrative and operational changes to better position the program to support innovation.</li> </ul>
<p><b>IRAP-TPC Initiative</b></p>	<ul style="list-style-type: none"> <li>The IRAP-TPC initiative is a partnership with NRC's Industrial Research Assistance Program (IRAP) that was launched in 1998 to help TPC deliver its mandate toward SMEs.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (repayable R&amp;D funding)</b></li> <li>IRAP-TPC has a \$30 million annual budget (shared between TPC and NRC's IRAP). This initiative provides financial assistance to SMEs (500 or fewer employees) with eligible project costs of under \$1.5 million (\$3 million as of March 2003).</li> </ul>	<ul style="list-style-type: none"> <li>IRAP-TPC has a \$30 million annual budget, shared between IRAP and NRC.</li> <li>The IRAP-TPC partnership was renewed in March 2003 for five additional years.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996-2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<b>Western Economic Diversification (WD)</b>			
<b>Agricultural Value-Added Fund</b>	<ul style="list-style-type: none"> <li>This program was originally offered jointly with CIBC and the FCC to provide loans to agricultural processors. Recently, CIBC ended its participation in the fund.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (patient repayable loans)</b></li> <li>Loans can range from \$50 000 to \$1 million and have repayment periods of up to 10 years. Interest can be capitalized for up to two years and up to two thirds of principal payments can be postponed through the term of the loan.</li> </ul>	<ul style="list-style-type: none"> <li>Active. Funding under the FCC fund is scheduled to continue until September 2005.</li> </ul>
<b>Knowledge and Growth Fund</b>	<ul style="list-style-type: none"> <li>This is a cooperative venture between WD and VanCity Capital Corporation to provide loans with flexible repayment schedules to SMEs in British Columbia's traditional industries.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments</b></li> <li>This funding has been used for R&amp;D, commercial product development, new production capacity, market development and export expansion.</li> <li>The fund provides patient loans of up to \$500 000, with exceptions for larger amounts if they fit within the spirit of the program.</li> </ul>	<ul style="list-style-type: none"> <li>Active. Financing under the VanCity fund is scheduled to continue until April 2004.</li> </ul>
<b>Knowledge and Growth Loan Fund</b>	<ul style="list-style-type: none"> <li>Supporting new product R&amp;D and market expansion in Western Canada, this fund and its predecessor fund (the Knowledge-based Industries Loan Fund) have been cooperative ventures between WD and the BDC that provide patient capital (quasi-equity) loans to SMEs.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (patient repayable loans)</b></li> <li>This equity-style financing is composed of term loans that have flexible repayment terms geared to earnings.</li> <li>This fund does not involve any dilution of ownership or loss of control on the part of entrepreneurs.</li> <li>The loans are for up to \$250 000 per project and include a mentoring program.</li> </ul>	<ul style="list-style-type: none"> <li>Active. Financing under the current BDC fund is scheduled to continue until April 2004.</li> <li>Financing under the four major funds with the BDC, CIBC, VanCity and Farm Credit Canada (FCC) totalled \$92 million to September 30, 2002. In addition, another \$62 million was provided by two former funds with Royal Bank and TD Bank, but these have been discontinued. These funds were supported by conditionally repayable loan loss reserves of \$23.2 million contributed by WD.</li> </ul>



**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<p><b>Knowledge-Based Business Loan Fund</b></p>	<ul style="list-style-type: none"> <li>The Knowledge-based Business Loan Program is a cooperative venture between WD and CIBC that provides patient capital (quasi-equity) loans to SMEs in Western Canada. It also funds R&amp;D, new production capacity and market development.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (patient repayable loans)</b></li> <li>Originally limited to information technology, the fund now includes development, manufacturing, marketing, or application of a technology across a variety of sectors.</li> <li>Loans are available with flexible repayment terms for up to \$1 million per borrower, with exceptions for projects that fit within the spirit of the program.</li> </ul>	<ul style="list-style-type: none"> <li>Active. Financing under the CIBC fund is scheduled to continue until March 2004.</li> </ul>
<p><b>Small Business Conservation Finance Programs</b></p>	<ul style="list-style-type: none"> <li>These are cooperative ventures between WD, VanCity Credit Union and EcoTrust Canada to provide access to patient capital for SMEs that have a positive influence on ecosystems in British Columbia and that cannot access conventional financing.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (patient repayable loans)</b></li> <li>These funds provide patient capital loans of up to \$500 000, with exceptions for larger amounts if they accord with the spirit of the programs.</li> </ul>	<ul style="list-style-type: none"> <li>Financing under these programs is under review.</li> </ul>
<p><b>Other Departments</b></p>			
<p><b>Farm Credit Canada (FCC)</b></p>			
<p><b>FCC Ventures</b></p>	<ul style="list-style-type: none"> <li>FCC Ventures provides equity and quasi-equity financing to SMEs involved in value-added food manufacturing and processing, manufacturing of agricultural equipment, commercial processing, commercial-scale farming, agricultural support or ag-biotech industries.</li> </ul>	<p><b>Quasi-equity and equity investments</b></p> <ul style="list-style-type: none"> <li>Investments are focussed on early- to mature-stage companies and initial investments range from \$500 000 to \$2.5 million.</li> <li>Investments can include common and preferred equity, convertible debt, debt with warrant and high-yield debt.</li> <li>These investments are generally held for five to seven years, during which time the FCC is an active investor, particularly in earlier stages.</li> </ul>	<ul style="list-style-type: none"> <li>Fund of \$50 million established in 2002 for agricultural industry.</li> <li>No investment has been made yet.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996-2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<p><b>Export Development Corporation (EDC)</b></p>	<ul style="list-style-type: none"> <li>• EDC Equity provides medium-term equity capital to Canadian companies so that they can meet evolving challenges in global markets.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Equity investments</b></li> <li>• Investments are restricted to a maximum investment in any one company, project or fund to the lesser of \$10 million or 25 percent of share capital.</li> <li>• EDC invests in a wide range of equity structures, including investment in Canadian exporters, investment in a foreign company or project if a Canadian company is required to invest in a foreign company to win a contract or expand its export, and investment in a fund to support growth-oriented Canadian exporters or foreign companies procuring goods and services from Canada.</li> </ul>	<ul style="list-style-type: none"> <li>• By the end of 2003, investment portfolio increased to \$2.9 million.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<p><b>Cape Breton Development Corporation</b></p>	<p><b>Cape Breton Growth Fund (CBGF)</b></p> <ul style="list-style-type: none"> <li>The Cape Breton Growth Fund (CBGF) delivers the economic adjustment fund established by the Government of Canada and the Government of Nova Scotia in the wake of the federal government's decision to downsize and privatize the Cape Breton Development Corporation (Devco).</li> <li>The CBGF uses the fund to promote and assist, either alone or in conjunction with any person or the Government of Canada or the Government of Nova Scotia or any agency of either of those governments, the financing and development of industry on Cape Breton to provide employment outside the coal-producing industry and to broaden the island's economic base.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity and equity investments</b></li> <li>Access to capital can take the form of secured or unsecured loans, interest-bearing or interest-free loans, equity or grants.</li> <li>Projects are evaluated based on whether the assistance leverages other private or public funding, whether the project focuses on long-term sustainable growth and whether the project helps create long-term sustainable jobs.</li> </ul>	<ul style="list-style-type: none"> <li>Active.</li> <li>The CBGF is a \$61-million contribution from the Government of Canada and a \$12-million contribution from the Government of Nova Scotia.</li> <li>In May 2001, Prince Colliery, the only remaining Devco mine, announced that it was closing. At that time, another \$18 million was added to the CBGF for economic development and \$10 million was directed to Enterprise Cape Breton Corporation to be invested in the most affected communities.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996-2002**

PROGRAM	GOAL/OBJECTIVES	DESCRIPTION	STATUS
<b>Proposed Direct Investment Programs</b>			
<b>ACOA — ACF Replacement Fund</b>	<ul style="list-style-type: none"> <li>ACOA is working with ACF Equity Atlantic to develop plans for a replacement fund.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity and equity investments</b></li> <li>The fund plans to attract between \$30 million and \$50 million in new private sector money. The new fund would have an Atlantic focus and would invest in early-stage, technology-based companies.</li> </ul>	<ul style="list-style-type: none"> <li>Not active. To be launched.</li> </ul>
<b>CED — Partnership Loan and Investment Funds</b>	<ul style="list-style-type: none"> <li>CED may create or re-establish loan and investment funds in partnership with financial institutions that will share a financial risk that is somewhere between conventional financial products and VC.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity investments (patient repayable financing)</b></li> <li>High technology SMEs would use these funds to get financing that falls between conventional financial products and VC. The project will lend money for business projects that are too risky for venture capitalists.</li> </ul>	<ul style="list-style-type: none"> <li>Discussions are under way to re-establish funds in partnership with financial institutions.</li> </ul>
<b>FedNor — VC Pilot Project</b>	<ul style="list-style-type: none"> <li>To increase the availability of, and access to, equity financing for SMEs in Northern Ontario.</li> </ul>	<ul style="list-style-type: none"> <li><b>Quasi-equity and equity investments</b></li> <li>Under development.</li> </ul>	<ul style="list-style-type: none"> <li>Proposal under review.</li> </ul>

## APPENDIX C: SUMMARY OF PROVINCIAL GOVERNMENT AND TERRITORIAL GOVERNMENT PROGRAMS

PROGRAM	GOALS/OBJECTIVES	DESCRIPTION
<b>Alberta</b>		
	Alberta does not offer any direct financing programs to SMEs.	
<b>British Columbia</b>		
	British Columbia does not offer any direct financing programs to SMEs.	
<b>Manitoba</b>		
<b>Manitoba Industrial Opportunities Program (MIOP)</b>	<ul style="list-style-type: none"> <li>MIOP provides highly flexible support to encourage companies to expand in Manitoba.</li> </ul>	<ul style="list-style-type: none"> <li>MIOP uses a repayable secured loan type of financing, which may include some forgiveness of interest in return for commitments to provide economic benefits.</li> </ul>
<b>Provincially Supported Capital Markets Supply Programs</b>	<ul style="list-style-type: none"> <li>Vision Capital Fund</li> <li>Manitoba Capital Fund</li> <li>Manitoba Science and Technology Fund (MST)</li> <li>Renaissance Capital Manitoba Ventures Fund</li> <li>Western Life Sciences Venture Fund LP (WLSVF)</li> </ul>	<ul style="list-style-type: none"> <li>Vision Capital is a \$45.1-million fund that makes VC investments in the \$100 000 to \$4.5-million range (fully invested).</li> <li>Manitoba Capital is capitalized at \$25 million and provides subordinated debt investment in the \$250 000 to \$2.5-million range (fully invested).</li> <li>MST is a \$10-million pool of risk capital that will invest from \$100 000 to \$1.5 million in early-stage science and technology companies.</li> <li>Renaissance is a \$10-million pool of risk capital that will invest from \$300 000 to \$1.5 million in information technology, communications, health care and value-added agriculture companies.</li> <li>WLSVF is a \$45-million VC fund that creates, acquires and develops early- and later-stage human biomedical technology companies.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	GOALS/OBJECTIVES	DESCRIPTION
<p><b>New Brunswick</b></p> <p><b>Financial Assistance to Industry Program</b></p>	<ul style="list-style-type: none"> <li>This program, offered by the Department of Business New Brunswick, provides working capital or term loan guarantees as the preferred method of financial assistance. It can also provide a direct loan as an alternative, if guarantees cannot be secured.</li> </ul>	<ul style="list-style-type: none"> <li>The maximum amount of assistance under both forms of financial assistance is \$200 000. The loans are usually guaranteed for between 3 and 5 years, while the term of direct loans ranges from 3 to 10 years. Interest rates on loan guarantees vary with the bank lending rate, while direct loans will be made at the provincial lending rate, which will be fixed for the term of the loan.</li> </ul>
<p><b>Newfoundland and Labrador</b></p>		
<p><b>Small Business Seed Capital Equity Program</b></p>	<ul style="list-style-type: none"> <li>This program offers small businesses located and operating in Newfoundland and Labrador equity financing up to \$50 000 per applicant, normally on a one-time-only basis.</li> </ul>	<ul style="list-style-type: none"> <li>The business getting the loan must match the loan with its own funds. It can use the loan to buy fixed and intangible assets and as working capital.</li> </ul>
<p><b>Nova Scotia</b></p>		
<p><b>Business Development Corporation</b></p>	<ul style="list-style-type: none"> <li>The Corporation provides loans and loan guarantees to SMEs. It also takes a lead role in structuring financial packages using its own funds as well as investor equity and funding from other public and private sources.</li> </ul>	<ul style="list-style-type: none"> <li>The manufacturing sector uses the loans to expand existing businesses and for start-ups outside the Halifax area, particularly in rural areas that are ill served by commercial lenders. The Corporation also focusses on innovative solutions to specialized financing situations for high technology, aerospace, pharmaceutical and environmental technology companies. Interest rates are comparable to current market rates and amortization terms are flexible, while loans may be repaid at any time without interest or penalty.</li> </ul>
<p><b>Ontario</b></p>		
<p>Ontario does not offer any direct financing programs to SMEs.</p>		
<p><b>Prince Edward Island</b></p>		
<p><b>Island Investment Development Inc. (IIDl)</b></p>	<ul style="list-style-type: none"> <li>IIDI is a Crown corporation that uses the Island Funds and Prince Edward Island Century 2000 Fund to attract businesses through the federal Immigrant Investor Program.</li> </ul>	<ul style="list-style-type: none"> <li>IIDI helps experienced businesspeople emigrate to Canada and contribute to the province's economy by applying their risk capital to business ventures in P.E.I. For the 2001–02 fiscal year, such immigrants invested approximately \$4 million.</li> </ul>

## CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002

PROGRAM	GOALS/OBJECTIVES	DESCRIPTION
<b>Quebec</b>		
<b>Innovatech</b>	<ul style="list-style-type: none"> <li>The Innovatech structure consists of government VC funds aimed at three regions: Montréal, Québec and south Quebec. These funds help investors in technological companies from start-up to success.</li> </ul>	<ul style="list-style-type: none"> <li>Innovatech specializes in pre-start-up and start-up financial assistance to technology-intensive companies. In addition to investing, Innovatech also helps generate added value and optimal growth for its investee companies by providing support and serving as a credible catalyst to attract other financial partners.</li> </ul>
<b>Investissement-Québec</b>	<ul style="list-style-type: none"> <li>Investissement-Québec offers financial help to businesses in the manufacturing, tourism, cooperative and recycling sectors, and to certain service companies.</li> </ul>	<ul style="list-style-type: none"> <li>Investissement-Québec manages a number of Québec government financial assistance programs that accelerate economic development, that help start and expand companies, and that bolster growth in exports, research and innovation.</li> </ul>
<b>Société générale de Québec (SGF)</b>	<ul style="list-style-type: none"> <li>SGF is an industrial and financial holding company that provides development capital to both small and large enterprises. It also takes part in managing every investee company and provides needed expertise to ensure success.</li> </ul>	<ul style="list-style-type: none"> <li>SGF can invest up to \$2 billion over five years.</li> </ul>
<b>CDP Capital</b>	<ul style="list-style-type: none"> <li>CDP Capital — Private Equity manages all investments made by the Caisse de dépôt et placement du Québec primarily in partner companies that are not publicly traded, as well as investment made through specialized private equity funds. The group has three main subsidiaries: CDP Capital (Technology Ventures) specializes in biotechnology, information technologies and industrial technologies; CDP Capital (Communications) invests in telecommunications and media; and CDP Capital Americas invests in other sectors.</li> </ul>	<ul style="list-style-type: none"> <li>In 2002, the net disbursements pertaining to investment activities totalled almost \$600 million. The fair value of the portfolio held by CDP Capital (Private Equity) was \$11.6 billion, distributed among 932 companies and funds, while net assets stood at \$10.5 billion or 13.5 percent of depositors' net assets.</li> </ul>
<b>Saskatchewan</b>		
<b>Crown Investments Corporation (CIC) of Saskatchewan</b>	<ul style="list-style-type: none"> <li>CIC is a provincial agency that invests in commercially viable businesses that need at least \$5 million in provincial capital, generally in the form of either equity or a combination of equity and debt.</li> </ul>	<ul style="list-style-type: none"> <li>CIC will normally invest in new or expanding businesses and in the advanced product development or pre-commercialization of a product or technology. Its targeted strategic sectors are agriculture and related industries, biotechnology and information technology.</li> </ul>
<b>Saskatchewan Government Growth Fund (SGGF)</b>	<ul style="list-style-type: none"> <li>SGGF participates in the federal Immigrant Investor Program, with \$157 million in capital to finance new, existing and turnaround businesses in Saskatchewan.</li> </ul>	<ul style="list-style-type: none"> <li>SGGF normally invests between \$1 million and \$3 million, but at least \$500 000, in a broad range of industries.</li> </ul>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996-2002**

PROGRAM	GOALS/OBJECTIVES	DESCRIPTION
<p><b>Yukon Yukon Venture Loan Guarantee Program (VLGP)</b></p>	<ul style="list-style-type: none"> <li>This program involves a partnership between the VLG and the seven major Canadian chartered banks to provide, on application by a bank, a partial guarantee of a business loan in the event of loss.</li> </ul>	<ul style="list-style-type: none"> <li>This program is available to new and expanding Yukon businesses that develop and distribute new products or services or that focus on exports of goods or services, import substitution, high technology and information services. The guarantee can apply to loans of between \$10 000 and \$100 000 and equals 65 percent of the principal of the venture loan, based on the net loss on the loan. Recipients must repay within six years, with an interest rate ranging from 3 percent to 10 percent over the chartered banks' prime rate.</li> </ul>



## APPENDIX D: CONTACTS FOR GOVERNMENT PROGRAMS

### 1. Federal Government Programs

PROGRAM	CONTACT NAME	CONTACT INFORMATION
<b>Atlantic Canada Opportunities Agency (ACOA)</b>		
<b>ACF Equity Atlantic Inc.</b> <b>ACF Replacement Fund</b> <b>Business Development Program</b> <b>Atlantic Region Investment Fund</b>	Jean-Guy Poirier Manager	P.O. Box 6051 Moncton NB E1C 9J8      OR 3rd Floor, 644 Main Street Moncton NB E1C 1E2 Tel.: (506) 851-3772 OR 1-800-561-7862 Fax: (506) 851-7403 <a href="http://www.acoa.ca">www.acoa.ca</a>
<b>Atlantic Innovation Fund</b>	Brent Carter Manager	P.O. Box 6051 Moncton NB E1C 9J8      OR 3rd Floor, 644 Main Street Moncton NB E1C 1E2 Tel.: (506) 851-6766 OR 1-800-561-7862 Fax: (506) 851-7403 <a href="http://www.acoa.ca">www.acoa.ca</a>
<b>Business Development Bank of Canada (BDC)</b>		
<b>Venture Capital Programs</b> <b>Fund-of-Funds</b> <b>Seed Financing Fund</b> <b>Specialized VC Fund</b> <b>VC</b>	Michel Ré Senior Vice-President, Emerging Markets  Charles Cazabon Vice-President, VC	5 Place Ville Marie, Suite 1450 Montréal QC H3B 5E7 Tel.: (514) 283-8030 Fax: (514) 283-5144 <a href="mailto:michel.re@bdc.ca">michel.re@bdc.ca</a> <a href="http://www.bdc.ca">www.bdc.ca</a>  Tel.: (514) 496-0708 Fax: (514) 283-5144 <a href="mailto:charles.cazabon@bdc.ca">charles.cazabon@bdc.ca</a> <a href="http://www.bdc.ca">www.bdc.ca</a>
<b>Innovation Loans and Subordinate Financing</b>	Roger Giraldeau Vice-President, Subordinate Financing	5 Place Ville Marie, Suite 1450 Montréal QC H3B 5E7 Tel.: (514) 496-8443 Fax: (514) 283-5144 <a href="mailto:giraldeau.roger@bdc.ca">giraldeau.roger@bdc.ca</a> <a href="http://www.bdc.ca">www.bdc.ca</a>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	CONTACT NAME	CONTACT INFORMATION
<b>Canada Economic Development for Quebec Regions (CED)</b>		
<b>Multimedia Experimentation Fund</b> <b>IDEA–SME Fund</b> (Innovation and Productivity development of markets and exports and Regional Strategic Initiatives (RSI) Funds) <b>Partnership Loan and Investment Funds</b> (Discussions to re-establish funds under way with financial institutions) <b>SPINC</b>	Lise Moras (CED)	Tour de la Bourse 800 Victoria Avenue Suite 2800, P.O. Box 247 Montréal QC H4Z 1E8 Tel.: (514) 283-8866 Fax: (514) 283-4131 <a href="mailto:Lise.moras@dec-ced.gc.ca">Lise.moras@dec-ced.gc.ca</a> <a href="http://www.dec-ced.gc.ca">www.dec-ced.gc.ca</a>
	SPINC	333 Richmond Street Montréal QC H3J 1T9 Tel.: (514) 932-8877 Fax: (514) 932-7277 <a href="mailto:info@spinc.ca">info@spinc.ca</a> <a href="http://www.spinc.ca">www.spinc.ca</a>
<b>Canada Community Futures Corporations</b>		
<b>Western Canada</b>	Stephen Lamoureux Manager	1500 Canada Place 9700 Jasper Avenue NW Edmonton AB T5J 4H7 Tel.: (780) 495-7010 Fax: (780) 495-4557 <a href="mailto:stephen.lamoureux@wd.gc.ca">stephen.lamoureux@wd.gc.ca</a> <a href="http://www.wd.gc.ca">www.wd.gc.ca</a>
<b>Ontario</b>	General	Tel.: 1-877-333-6673 <a href="http://www.fednor.ic.gc.ca">www.fednor.ic.gc.ca</a> For a list of all Ontario CFDCs, see <a href="http://strategis.ic.gc.ca/SSG/fn00818e.html">http://strategis.ic.gc.ca/SSG/fn00818e.html</a>
<b>Quebec</b>	Stéphane Dufour Director, Local Entrepreneurship	Tour de la Bourse 800 Victoria Avenue Suite 2800, P.O. Box 247 Montréal QC H4Z 1E8 Tel.: (514) 496-7612 Fax: (514) 283-7491 <a href="http://www.dec-ced.gc.ca">www.dec-ced.gc.ca</a>
<b>Atlantic Canada</b>	Philippe Dupuis Manager, Community Economic Development	P.O. Box 6051 Moncton NB E1C 9J8      OR 3rd Floor, 644 Main Street Moncton NB E1C 1E2 Tel.: (506) 851-6496 OR 1-800-561-7862 Fax: (506) 851-2966 <a href="http://www.acoa.ca">www.acoa.ca</a>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

<b>PROGRAM</b>	<b>CONTACT NAME</b>	<b>CONTACT INFORMATION</b>
<b>Federal Economic Development Initiative in Northern Ontario (FedNor)</b>		
<b>Applied R&amp;D Program</b>	Paul Podstawka Senior Technology Officer	19 Lisgar Street, Room 307 Sudbury ON P3E 3L4 Tel.: (705) 671-0697 OR 1-877-333-6673 Fax: (705) 671-0717 <a href="http://strategis.ic.gc.ca/SSG/fn00800e.html">http://strategis.ic.gc.ca/SSG/fn00800e.html</a>
<b>VC Pilot Project (Proposed)</b>	Sharon Taylor Senior Access to Capital Officer	70 Foster Drive, Suite 600 Sault Ste. Marie ON P6A 6V4 Tel.: (705) 941-2083 OR 1-877-333-6673 Fax: (705) 941-2085 <a href="http://strategis.ic.gc.ca/SSG/fn00800e.html">http://strategis.ic.gc.ca/SSG/fn00800e.html</a>
<b>Genome Canada</b>		
<b>Genome Canada</b> (Project Funding Competitions)	Dr. Cindy Bell Vice-President, National Genomics Program  Marc Lepage Executive Vice-President, Corporate Development	150 Metcalfe Street, Suite 2100 Ottawa ON K2P 1P1 Tel.: (613) 751-4460 Fax: (613) 751-4474 <a href="mailto:cbell@genomecanada.ca">cbell@genomecanada.ca</a> <a href="mailto:mlepage@genomecanada.ca">mlepage@genomecanada.ca</a> <a href="http://www.genomecanada.ca">www.genomecanada.ca</a>
<b>National Research Council (NRC)</b>		
<b>Industrial Research Assistance Program (IRAP)</b>	Margot Montgomery Director General	Room 269, Building M-55 1200 Montreal Road Ottawa ON K1A 0R6 Tel.: (613) 993-0695 OR 1-877-994-4727 Fax: (613) 954-0501 <a href="mailto:margot.montgomery@nrc.gc.ca">margot.montgomery@nrc.gc.ca</a> <a href="http://irap-pari.nrc-cnrc.gc.ca/">http://irap-pari.nrc-cnrc.gc.ca/</a>
<b>Natural Sciences and Engineering Research Council (NSERC)</b>		
<b>Networks of Centres of Excellence (NCEs)</b>	Jean-Claude Gravel Director	350 Albert Street Ottawa ON K1A 1H5 Tel.: (613) 996-0409 Fax: (613) 992-7356 <a href="mailto:Jean-claude.gravel@nrc.gc.ca">Jean-claude.gravel@nrc.gc.ca</a> <a href="http://www.nce.gc.ca">www.nce.gc.ca</a>
<b>Research Partnerships Programs Regional Training Initiatives</b>	Janet Walden Vice-President	350 Albert Street Ottawa ON K1A 1H5 Tel.: (613) 996-1545 Fax: (613) 992-5337 <a href="mailto:Janet.walden@nserc.ca">Janet.walden@nserc.ca</a> <a href="http://www.nserc.ca">www.nserc.ca</a>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROGRAM	CONTACT NAME	CONTACT INFORMATION
<b>Idea to Innovation</b>	Guy Drapeau Portfolio Manager	350 Albert Street Ottawa ON K1A 1H5 Tel.: (613) 996-2145 Fax: (613) 992-5337 <a href="mailto:Guy.drapeau@nserc.ca">Guy.drapeau@nserc.ca</a> <a href="http://www.nserc.ca">www.nserc.ca</a> <a href="http://www.nserc.ca/guide/b4_e.htm">www.nserc.ca/guide/b4_e.htm</a>
<b>Technology Partnerships Canada (TPC)</b>		
<b>TPC R&amp;D TPC h2 Early Adopters (h2EA)</b>	General (will be referred to a representative of the local office)	Technology Partnerships Canada 300 Slater Street, 10th Floor Ottawa ON K1A 0C8 Tel.: 1-800-266-7531 Fax: (613) 954-9117 <a href="mailto:tpc@ic.gc.ca">tpc@ic.gc.ca</a> <a href="http://tpc.ic.gc.ca">http://tpc.ic.gc.ca</a>
<b>IRAP–TPC Initiative</b>	General (will be referred to one of 60 representatives at the nearest regional office)	1-877-994-4727 <a href="http://irap-pari.nrc-cnrc.gc.ca">http://irap-pari.nrc-cnrc.gc.ca</a>
<b>Western Economic Diversification (WD)</b>		
<b>Agriculture Value-Added Fund (WD/FCC) Knowledge and Growth Loan Fund (WD/BDC) Knowledge and Growth Fund (WD/VanCity) Knowledge-Based Business Loan Fund (WD/CIBC) Small Business Conservation Finance Program</b>	Ron Sellen Manager, Operations Service Delivery Partnerships	P.O. Box 777 250 – 240 Graham Avenue Winnipeg MB R3C 2L4 Tel.: (204) 983-8665 Fax: (204) 983-1280 <a href="mailto:Ron.Sellen@wd.gc.ca">Ron.Sellen@wd.gc.ca</a> <a href="http://www.wd.gc.ca">www.wd.gc.ca</a>
<b>Farm Credit Canada (FCC)</b>		
<b>FCC Ventures</b>	General	1800 Hamilton Street P.O. Box 4320 Regina SK S4P 4L3 Tel.: (306) 780-8100 OR 1-888-332-3301 Fax: (306) 780-5792 <a href="http://www.fcc-fac.ca">www.fcc-fac.ca</a> OR <a href="http://www.fcc-fac.com">www.fcc-fac.com</a>
<b>Export Development Canada (EDC)</b>		
<b>EDC Equity</b>	General	Export Development Canada 151 O’Connor Street Ottawa ON K1A 1K3 Tel.: (613) 598-2500 Fax: (613) 237-2690 <a href="http://www.edc.ca">www.edc.ca</a>

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PROGRAM	CONTACT NAME	CONTACT INFORMATION
<b>Finance Canada</b>		
<b>Tax Issues</b>	Sonia Beaulieu General Counsel	Justice Canada Finance – Tax Counsel Division 140 O’Connor Street, 17th Floor, East Tower Ottawa ON K1A 0G5 Tel.: (613) 992-4827 Fax: (613) 992-2571 <a href="http://www.fin.gc.ca">www.fin.gc.ca</a>
<b>Department of Foreign Affairs and International Trade (DFAIT)</b>		
<b>S &amp; T Program</b>	Robert C. Lee Principal Advisor	125 Sussex Drive Ottawa ON K1A 0G2 Tel.: (613) 995-2224 Fax: (613) 944-2452 <a href="mailto:robert.lee@dfait-maeci.gc.ca">robert.lee@dfait-maeci.gc.ca</a> <a href="http://www.infoexport.gc.ca/science/menu-en.htm">www.infoexport.gc.ca/science/menu-en.htm</a>
<b>Silicon Valley VC Finance Mentoring Program and VC Advisory Board</b>	Mark Ritchie Business Development Officer	Canadian Consulate Trade Office 333 West San Carlos Street, Suite 945 San Jose CA U.S. 95110 Tel.: (408) 289-1157 ext. 3358 Fax: (408) 289-1168 <a href="mailto:mark.ritchie@dfait-maeci.gc.ca">mark.ritchie@dfait-maeci.gc.ca</a> <a href="http://www.cdntrade.com">www.cdntrade.com</a>

## 2. Provincial Government Programs

PROGRAMS	CONTACT NAME	CONTACT INFORMATION
<b>British Columbia</b>		
<b>Employee Share Ownership Program</b> <b>Equity Capital Program</b>	General (will be referred to a representative of the local office)	Ministry of Small Business, Tourism, and Culture 4th Floor, 1405 Douglas Street Victoria BC V8W 9W1 Tel.: (250) 387-0225 OR 1-800-665-6597 Fax: (250) 387-1080 <a href="mailto:ecp@tbc.gov.bc.ca">ecp@tbc.gov.bc.ca</a> <a href="http://www.beb.sb.gov.bc.ca">www.beb.sb.gov.bc.ca</a>
		OR Ministry of Small Business, Tourism, and Culture Suite 629, 999 Canada Place Vancouver BC V6C 3C1 Tel.: 1-800-665-5457 Fax: (604) 844-1862
<b>Labour-Sponsored Venture Capital Corporations</b>	Hillar Kalmar Senior Vice-President, Investments  Les Lyall Senior Vice-President, Working Ventures	GrowthWorks Box 11170, Royal Centre 2600 – 1055 W. Georgia Street Vancouver BC V6E 3R5 Tel.: (604) 633-1418 OR 1-800-563-3863 Fax: (604) 669-7605 <a href="mailto:hillar.kalmar@growthworks.ca">hillar.kalmar@growthworks.ca</a> <a href="mailto:les.lyall@growthworks.ca">les.lyall@growthworks.ca</a> <a href="http://www.wofund.com">www.wofund.com</a> OR <a href="http://www.growthworks.ca">www.growthworks.ca</a>
<b>Manitoba</b>		
<b>Industrial Opportunities Program</b>	Jim Kilgour, Director Financial Services Manitoba Industry, Trade and Mines	500 – 155 Carlton Street Winnipeg MB R3C 3H8 Tel.: (204) 945-7626 Fax: (204) 945-1193 <a href="mailto:jkilgour@gov.mb.ca">jkilgour@gov.mb.ca</a> <a href="http://www.gov.mb.ca/itm/trade/invest/busfacts/govt/govt4.html">www.gov.mb.ca/itm/trade/invest/busfacts/govt/govt4.html</a>

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PROGRAMS	CONTACT NAME	CONTACT INFORMATION
<b>Equity Tax Credit Program</b>	Kristal Benton Financial Consultant Financial Services Manitoba Industry, Trade and Mines	500 – 155 Carlton Street Winnipeg MB R3C 3H8 Tel.: (204) 945-7343 Fax: (204) 945-1193 <a href="mailto:kbenton@gov.mb.ca">kbenton@gov.mb.ca</a> <a href="http://www.gov.mb.ca/itm/financial/capital.html">www.gov.mb.ca/itm/financial/capital.html</a> OR The Winnipeg Stock Exchange 600 – One Lombard Place Winnipeg MB R3B 0X3 Tel.: (204) 987-7070 <a href="http://www.wse.ca">www.wse.ca</a>
<b>Provincially Supported Capital Markets Supply Programs</b>	Manitoba Industry, Trades and Mines Financial Services Branch	Center for International Business 1100 – 259 Portage Avenue Winnipeg MB R3B 2A9 Tel.: (204) 945-0125 Fax: (204) 945-3977 <a href="mailto:itmweb@gov.mb.ca">itmweb@gov.mb.ca</a> <a href="http://www.gov.mb.ca/itm/financial/">www.gov.mb.ca/itm/financial/</a>
	Vision Capital Fund Bill McCance	Suite 800 167 Lombard Avenue Winnipeg MB R3B 0V3 Tel.: (204) 925-5450 Fax: (204) 925-5469 <a href="http://www.gov.mb.ca/itm/financial/capital.html">www.gov.mb.ca/itm/financial/capital.html</a>
	Crocus Investment Fund (this is an LSVCC fund) Kelvin Maloney Manager, Private Equities	303 – 275 Broadway Winnipeg MB R3C 4M6 Tel.: (204) 925-2401 Fax: (204) 942-2785                      OR The Crocus Building 5th Floor, 211 Bannatyne Avenue Winnipeg MB R3B 3P2 Tel.: (204) 925-7789 OR 1-800-361-7777 <a href="mailto:kmaloney@crocusfund.com">kmaloney@crocusfund.com</a> <a href="http://www.crocusfund.com">www.crocusfund.com</a>
	Ensis Growth Fund (this is a new LSVCC fund) Harold Heide Vice-President, Investments	Suite 1120 – 200 Graham Avenue Winnipeg MB R3C 4I5 Tel.: (204) 949-3715 Fax: (204) 949-0591 <a href="mailto:hheide@ensis.mb.ca">hheide@ensis.mb.ca</a> <a href="http://www.ensis.mb.ca">www.ensis.mb.ca</a>
	Manitoba Capital Fund Ken Praznuik President	Suite 2195, 360 Main Street Winnipeg MB R3C 3Z3 Tel.: (204) 925-8401 Fax: (204) 949-0602 <a href="http://www.gov.mb.ca/itm/financial/capital.html">www.gov.mb.ca/itm/financial/capital.html</a>

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PROGRAMS	CONTACT NAME	CONTACT INFORMATION
	Manitoba Science & Technology Fund Karen Crawford Assistant Controller	303 – 275 Broadway Winnipeg MB R3C 4M6 Tel: (204) 925-2401 Fax: (204) 942-2785 <a href="http://www.gov.mb.ca/itm/financial/capital.html">www.gov.mb.ca/itm/financial/capital.html</a>
	Renaissance Capital Manitoba Ventures Fund Kevin Hooke Wellington West Capital	400 – 200 Waterfront Drive Winnipeg MB R3B 3P1 Tel.: (204) 925-2250 Fax: (204) 942-6194 <a href="http://www.gov.mb.ca/itm/financial/capital.html">www.gov.mb.ca/itm/financial/capital.html</a>
<b>New Brunswick</b>		
<b>Financial Assistance to Industry Program</b>	General (will be referred to a representative of the local office)	Business New Brunswick P.O. Box 6000 Fredericton NB E3B 5H1 Tel.: (506) 453-3890 OR 453-2474 Fax: (506) 444-4182 <a href="http://www.gnb.ca/0398/e/fin.asp">www.gnb.ca/0398/e/fin.asp</a> <a href="http://www.cbosc.org/nb">www.cbosc.org/nb</a>
<b>Newfoundland and Labrador</b>		
<b>Direct Equity Tax Credit Program</b>	Marlene Crane	Department of Finance Taxation and Fiscal Policy Branch Government of Newfoundland and Labrador P.O. Box 8700 St. John's NL A1B 4J6 Tel.: (709) 729-3665 Fax: (709) 729-2277 <a href="mailto:taxadmin@mail.gov.nl.ca">taxadmin@mail.gov.nl.ca</a> <a href="http://www.gov.nf.ca/fin/direquity.html">www.gov.nf.ca/fin/direquity.html</a>
<b>Small Business Seed Capital Equity Program</b>	Regional Operations (will be referred to the appropriate regional office)	Department of Industry, Trade & Rural Renewal Government of Newfoundland and Labrador Confederation Building, West Block P.O. Box 8700 St. John's NL A1B 4J6 Tel.: (709) 729-7000 Fax: (709) 729-4884 <a href="http://www.gov.nf.ca/itrd/programs.htm">www.gov.nf.ca/itrd/programs.htm</a>
	General (will be referred to the appropriate Business Information Officer)	Canada/Newfoundland and Labrador Business Service Centre 90 O'Leary Avenue P.O. Box 8687 St. John's NL A1B 3T1 Tel.: 1-800-668-1010 Fax: (709) 772-6090 <a href="http://www.cbosc.org/nf">www.cbosc.org/nf</a>



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PROGRAMS	CONTACT NAME	CONTACT INFORMATION
<b>Nova Scotia</b>		
<b>Business Development Corporation</b>	General	c/o Nova Scotia Business Inc. Suite 520 – World Trade & Convention Centre 1800 Argyle Street P.O. Box 2374 Halifax NS B3J 3E4 Tel.: (902) 424-6650 1-800-297-2124 (Nova Scotia) 1-800-260-6682 (North America) Fax: (902) 424-5739 <a href="mailto:Econ.bdc@gov.ns.ca">Econ.bdc@gov.ns.ca</a> <a href="mailto:nsbi@gov.ns.ca">nsbi@gov.ns.ca</a> <a href="http://www.novascotiabusiness.com">www.novascotiabusiness.com</a>
<b>Equity Tax Credit Program – Community Economic Development (CED) Corporations</b>	Kevin Redden Business Policy Analyst	Fiscal Policy Division Nova Scotia Department of Finance P.O. Box 187 Halifax NS B3J 2N3 Tel.: (902) 424-7379 Fax: (902) 424-0690 OR (902) 424-0590 <a href="mailto:Econ.paynecj@gov.ns.ca">Econ.paynecj@gov.ns.ca</a> <a href="http://www.gov.ns.ca/ecor/ced/nsegtxcr">www.gov.ns.ca/ecor/ced/nsegtxcr</a>
<b>Labour-Sponsored Venture Capital Tax Credits</b>	Kevin Redden Business Policy Analyst	Fiscal Policy Division Nova Scotia Department of Finance 1723 Hollis Street, 6th Floor P.O. Box 187 Halifax NS B3J 2N3 Tel.: (902) 424-7379 Fax: (902) 424-0590 <a href="mailto:reddenkg@gov.ns.ca">reddenkg@gov.ns.ca</a> <a href="http://www.cbosc.org">www.cbosc.org</a>
<b>Ontario</b>		
<b>Ontario Investment and Employee Ownership Program</b> <b>Labour-Sponsored Investment Fund (LSIF) Program</b> <b>Community Small Business Investment Funds</b> <b>Employee Ownership Program</b> <b>Labour-sponsored VC Funds</b>	General (will be referred to a representative of the local Business Investment Plans Section)	Income Tax Related Programs Branch Ministry of Finance 33 King Street West Oshawa ON L1H 8H5 Tel.: (905) 433-6000 OR 1-800-263-7965 Fax: (905) 433-6777 <a href="http://www.trd.fin.gov.on.ca">www.trd.fin.gov.on.ca</a> For a list of all Ministry of Finance Tax Offices and contacts, see <a href="http://www.trd.fin.gov.on.ca">www.trd.fin.gov.on.ca</a>

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PROGRAMS	CONTACT NAME	CONTACT INFORMATION
<b>Prince Edward Island</b>		
<b>Island Investment Development Inc. (IID)</b>	Beverly McQuillan Program Officer Janet West Program Officer	94 Euston Street, 2nd Floor Charlottetown PE C1A 1W4 Tel.: (902) 894-0351 Fax: (902) 368-5886 <a href="mailto:bamcquil@gov.pe.ca">bamcquil@gov.pe.ca</a> <a href="mailto:jswest@gov.pe.ca">jswest@gov.pe.ca</a> <a href="http://www.gov.pe.ca">www.gov.pe.ca</a>
<b>Quebec</b>		
<b>Innovatech</b>	Montréal-based	2020 University Street, Suite 1527 Montréal QC H3A 2A5 Tel.: (514) 864-2929 Fax: (514) 864-4220 General Inquiries <a href="mailto:info@innovatech.qc.ca">info@innovatech.qc.ca</a> <a href="http://www.innovatech.qc.ca">www.innovatech.qc.ca</a>
	Québec City-based	10, Pierre-Olivier Chauveau Québec QC G1R 4J3 Tel.: (418) 528-9770 OR 1-866-605-1676 Fax: (418) 528-9783 <a href="http://www.innovatechquebec.com/www/home.html">www.innovatechquebec.com/www/home.html</a>
<b>Investissement-Québec</b>	General	393, Saint-Jacques Street, Suite 500 Montréal QC H2Y 1N9 Tel.: (514) 873-4375 OR 1-866-870-0437 Fax: (514) 873-5786 <a href="http://www.invest-quebec.com">www.invest-quebec.com</a>
<b>Labour-Sponsored Venture Capital Corporations</b>	General (will be referred to the regional office): 1-866-463-6642	Développement économique et régional Industrie et commerce 710, place D'Youville Québec QC G1R 4Y4 Tel.: (418) 691-5950 Fax: (418) 644-0118 OR 380, rue St-Antoine Ouest Montréal QC H2Y 3X7 Tel.: (514) 499-2550 Fax: (514) 873-9913 <a href="http://www.mic.gouv.qc.ca">www.mic.gouv.qc.ca</a>
<b>CDP Capital</b>	Paul Juneau	Centre CDP Capital 1000, place Jean-Paul-Riopelle Montréal QC H2Z 2B3 Tel.: (514) 847-2434 Fax: (514) 847-2498 <a href="http://www.cdpcapital.com">www.cdpcapital.com</a>

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PROGRAMS	CONTACT NAME	CONTACT INFORMATION
<b>Société générale de financement du Québec (SGF)</b>	General	600, de la Gauchetière West, Suite 1700 Montréal QC H3B 4L8 Tel.: (514) 876-9290 Fax: (514) 395-8055 <a href="mailto:info@sgfq.com">info@sgfq.com</a> <a href="http://www.sgfqc.com">www.sgfqc.com</a>
<b>Saskatchewan</b>		
<b>Crown Investments Corporation of Saskatchewan</b>	Murray Mucha Manager, Investment Funds	400 – 2400 College Avenue Regina SK S4P 1C8 Tel.: (306) 787-6851 (general) (306) 787-2736 (direct) Fax: (306) 787-8125 <a href="mailto:mmucha@cicorp.sk.ca">mmucha@cicorp.sk.ca</a> <a href="http://www.gov.sk.ca">www.gov.sk.ca</a> <a href="http://www.cicorp.sk.ca">www.cicorp.sk.ca</a>
<b>Labour-Sponsored Venture Capital Corporations</b>	General Investment Services	Saskatchewan Industry and Resources 3rd Floor, 2103 – 11th Avenue Regina SK S4P 3V7 Tel.: (306) 787-2252 Fax: (306) 787-3872 <a href="mailto:saskatchewan@cbsc.ic.gc.ca">saskatchewan@cbsc.ic.gc.ca</a> <a href="http://www.cbsc.org/sask/sbis/">www.cbsc.org/sask/sbis/</a>
<b>Saskatchewan Government Growth Fund</b>	Government of Saskatchewan	400 – 2400 College Avenue Regina SK S4P 3V7 Tel.: (306) 787-8573 OR 1-800-667-4374 Fax: (306) 787-0294 <a href="http://gtds.gov.sk.ca">http://gtds.gov.sk.ca</a> <a href="http://www.sggfmc.com">www.sggfmc.com</a>
<b>Yukon (joint with Government of Yukon)</b>		
<b>Yukon Small Business Investment Tax Credit</b>	Val Mather Economic Development — YTG	P.O. Box 2703 Whitehorse YT Y1A 2C6 Tel.: (867) 667-5016 Fax: (867) 667-8601 <a href="mailto:val.mather@gov.yk.ca">val.mather@gov.yk.ca</a> <a href="http://www.cbsc.org/yukon">www.cbsc.org/yukon</a>
<b>Yukon Venture Loan Guarantee Program</b>	Val Mather Economic Development — YTG	P.O. Box 2703 Whitehorse YT Y1A 2C6 Tel.: (867) 667-5016 Fax: (867) 667-8601 <a href="mailto:val.mather@gov.yk.ca">val.mather@gov.yk.ca</a> <a href="http://www.cbsc.org/yukon">www.cbsc.org/yukon</a>

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**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

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PROGRAMS	CONTACT NAME	CONTACT INFORMATION
	Bob Snyder Economic Development — YTG	P.O. Box 2703 Whitehorse YT Y1A 2C6 Tel.: (867) 667-3014 OR 1-800-661-0408 Fax: (867) 393-6944 <a href="http://www.economicdevelopment.gov.yk.ca/general/ventureloan.html">www.economicdevelopment.gov.yk.ca/ general/ventureloan.html</a>

## APPENDIX E: SUMMARY OF RECENT TAX MEASURES AND OUTSTANDING TAX ISSUES

Government plays an important role in creating the framework to enhance the financial resources needed for a dynamic VC sector. The federal government has acknowledged this in its recent strategy laid out in “Achieving Excellence” and with the introduction, in the 2000, 2001 and 2003 federal budgets, of several measures aimed at supporting VC investments in Canada. Following is a summary of the key measures, their description and impacts on the VC industry, and the status of their implementation.

### 1. SUMMARY OF RECENT TAX MEASURES AND CHANGES

CHANGES	DESCRIPTION	STATUS
<p><b>October 2000</b></p>	<p><b>Tax cuts to encourage entrepreneurship and innovation</b></p> <ul style="list-style-type: none"> <li>• To secure a more prosperous future for Canadians, the government is taking steps to promote entrepreneurship and make Canada more internationally competitive.</li> <li>• Corporate tax reductions — The 28 percent general corporate tax rate was reduced to 21 percent by 2004, starting with a one-point reduction on January 1, 2001. Further two-point cuts will take effect in each of the following three years.</li> <li>• Capital gains inclusion rate — Previously reduced to two thirds from three quarters as of February 28, 2000, it was further reduced to one half as of October 18, 2000.</li> <li>• Tax rollover of capital gains — Tax-free rollovers were expanded and made available to more businesses. The size of eligible investment was increased to \$2 million from \$500 000 and the size of small businesses eligible for the rollover will be increased to \$50 million from \$10 million. This measure was expanded as of October 18, 2000.</li> <li>• The government has also announced a measure to defer the income inclusion of benefits from employee stock options as of February 28, 2000.</li> </ul>	<p>All effective.</p>

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CHANGES	DESCRIPTION	STATUS
<p><b>Budget 2001</b></p> <p><b>Amendments to the definition of Qualified Limited Partnership (QLP)</b></p>	<ul style="list-style-type: none"> <li>• For tax-exempted investors like pension funds, limited partnerships that do not qualify as QLP are considered foreign property for the purposes of the income tax rules.</li> <li>• Elimination of the 30 percent ownership restrictions for QLPs — Limited partnership may be a QLP even though a limited partner, either alone or as part of a non-arm's-length group, has more than 30 percent ownership interest in the partnership. Any limited partner or group that holds more than 30 percent interest in a QLP will be treated as owning a proportionate interest of each property owned by the QLP, including any foreign property. For example, if the assets are Canadian, they will be treated as Canadian, in contrast to the past rule, which deemed them to be foreign. An ownership interest of 30 percent or less in a QLP will remain exempt from treatment as foreign property.</li> </ul>	<p>To be implemented through amendment to Income Tax Regulations, which have been published in <i>Canada Gazette</i> in May 2003. Further changes were announced in budget 2003 (<i>see below</i>).</p>
<p><b>Amendment to section 115.2 of the <i>Income Tax Act</i>, which pertains to business income, to make it easier for non-residents who invest through partnerships to retain Canadian investment managers and advisors.</b></p>	<ul style="list-style-type: none"> <li>• Before the announcement of the measure, a partnership was a “qualified non-resident” only if none of its members were resident in Canada. Thus, a partnership that has some non-resident members could not rely upon the assurance that section 115.2 provides.</li> <li>• Section 115.2 was modified to apply to partnerships and their members, and to enable the non-resident members of a partnership to avail themselves of the assurance provided by the section. First, the definition “qualified non-resident” was changed so that it will no longer include a partnership, but will instead apply separately to each partner. Second, the rule will be changed to provide that a “qualified non-resident” is not considered to carry on business in Canada solely because a Canadian resident provides investment management and administration services to the non-resident or to a partnership of which the non-resident is a member. It should be noted that this assurance extends only to the non-resident partners: a partner who is resident in Canada is not a “qualified non-resident” and cannot benefit from section 115.2.</li> </ul>	<p>Implemented through Bill C-49 — “An Act to implement certain provisions of the budget tabled in Parliament on December 10, 2001,” which received Royal Assent on March 27, 2002.</p>

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CHANGES	DESCRIPTION	STATUS
<b>Budget 2003</b>		
<p><b>Changes to QLP rules</b></p> <ul style="list-style-type: none"> <li>• In response to industry concerns, the budget proposes the following changes to the QLP rules: <ul style="list-style-type: none"> <li>– The requirement that QLP units be identical will be relaxed to accommodate differences in units that do not impact on the share or nature of the partnership’s income or loss allocated among limited partners. With this change, matters such as variations in voting rights, the right to participate in investment advisory committees and co-investment rights will not be taken into account in determining whether the units of a QLP are identical.</li> <li>– The manner in which the foreign property limit is applied to QLPs will be changed to more closely reflect the manner in which the limit is applied to mutual fund trusts. This means that a QLP unit will generally not be treated as foreign property during a calendar year, provided the QLP satisfied the foreign property limit throughout the previous calendar year. This change will prevent a QLP from permanently losing its status as a QLP solely because its foreign property holdings exceeded the 30 percent limit at some point in the past.</li> <li>– The QLP rules will be modified to provide that a partnership does not lose its QLP status solely because of a temporary fluctuation in the general partner’s share of the partnership’s income as a result of the limited partners having priority in the ordering of distributions.</li> <li>– The investment limitations on a QLP will be relaxed to allow a QLP to invest, as a limited partner, in units of other QLPs. However, for the purpose of applying the foreign property limit to the investing QLP, the units of the other QLP will be treated as foreign property of the investing QLP in the same proportion as the foreign property held by the other QLP.</li> </ul> </li> </ul>	<p>These measures will apply for the 2003 and subsequent taxation years.</p> <p>Draft regulations to be published in <i>Canada Gazette</i> Part I in summer–fall 2003.</p>	
<p><b>Phasing out of federal capital tax</b></p>	<ul style="list-style-type: none"> <li>• Elimination of federal capital tax on large corporations over a period of five years and increase the threshold at which it begins to apply from \$10 000 000 to \$50 000 000 in 2004.</li> </ul>	<p>Implemented through Bill C-28 — “An Act to implement certain provisions of the budget tabled in Parliament on February 18, 2003,” which received Royal Assent on June 19, 2003.</p>
<p><b>Threshold for small business tax rate increased to \$300 000</b></p>	<ul style="list-style-type: none"> <li>• Increase to \$300 000 from \$200 000, in increments of \$25 000, starting in 2003, the annual amount of active business income of a small business corporation that is eligible for the special 12 percent federal corporate income tax rate.</li> </ul>	
<p><b>Tax-free rollover of small business capital gains enhanced</b></p>	<ul style="list-style-type: none"> <li>• Expand the capital gains rollover for eligible small business by eliminating the original investment limit and the reinvestment limit and by allowing an eligible reinvestment to be made in the year of disposition of the original investment shares or within 120 days after the year.</li> </ul>	

**2. SUMMARY OF OUTSTANDING TAX ISSUES<sup>a</sup>**

PROPOSED CHANGES	DESCRIPTION/RATIONALE	STATUS
<p><b>Modification to the qualification requirements for a Qualified Limited Partnership (QLP)</b></p>	<ul style="list-style-type: none"> <li>• The definition of QLP should be amended in order to remove its current restrictive technical aspects and to permit a typical Canadian VC or private equity fund to constitute a QLP. In such a typical fund:                             <ul style="list-style-type: none"> <li>– there is only one class of limited partnership interests, although these interests may be treated differently in limited situations;</li> <li>– the general partner (GP) is entitled to a “carried interest” (often 20 percent), which is a participation in the profits of the fund provided to the GP in light of its contributions to the fund;</li> <li>– the fund invests in shares and debt of Canadian and non-Canadian firms although occasionally the fund may invest in mutual funds, trust units or other partnership interests or an existing investment of the fund may be exchanged for mutual funds, trust units or partnership interests; and</li> <li>– the fund acquires and disposes of its assets in a commercially desirable order and manner, such that, at any time, the foreign property held by the fund may represent more than 30 percent of the cost amount of all property held by the fund.</li> </ul> </li> <li>• This proposed modification would allow a typical Canadian VC or private equity fund to qualify as a QLP, permitting the fund to benefit from QLP rules (see above changes made to QLP definition and rules). This would likely increase the participation of Canadian venture capitalists and equity funds in the VC market.</li> </ul>	<p>Most of these concerns have been addressed in the 2003 budget. Draft regulations are expected to be published in the <i>Canada Gazette</i> in summer–fall 2003.</p>

<sup>a</sup> As submitted by the CVCA.



**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROPOSED CHANGES	DESCRIPTION/RATIONALE	STATUS
<p><b>Revision to withholding taxes on interest and dividends paid to non-residents</b></p>	<ul style="list-style-type: none"> <li>Withholding tax provisions should be revised to make it cheaper and easier for Canadian companies to access U.S. and other foreign capital. The amendment should provide an exemption (or reduction) from withholding tax on interest paid by a resident of Canada to a non-resident person with whom the debtor is dealing at arm's length on portfolio investments.</li> <li>Part XIII of the <i>Income Tax Act</i> should also be amended to add a provision which would enable the general partner of a partnership to elect in prescribed form to act as agent in connection with compliance with withholding tax obligations under part XIII. Notice of the election would be provided to any person who would otherwise make a payment to the partnership which otherwise would be subject to withholding under part XIII. Payments could be made to such partnerships without any requirement to withhold tax under part XIII.</li> <li>The general partner would be responsible for remitting to the CCRA the withholding tax applicable to the portion of the payment attributable to the interests of the non-resident partners in the partnership. The general partner would be liable for failure to withhold and remit the required withholding tax in the same manner as an agent under subsection 215(3) of the Act.</li> </ul>	<p>Discussions are being conducted between Finance Canada and the VC industry.</p>
<p><b>Revision to rollover for cross-border mergers</b></p>	<ul style="list-style-type: none"> <li>Canadian tax laws impose a cash tax obligation on Canadian investors who receive no cash, only high-risk illiquid shares in private companies in cross-border merger transactions. The rationale to change this is that cash taxes should not be payable prior to the time when cash proceeds are received by the taxpayer.</li> <li>In the October 2000 <i>Economic Statement and Budget Update</i>, the government undertook to consult with interested parties on a tax deferral provision that specifically addressed tax-deferred cross-border share-for-share exchanges. At the same time, the government noted that a basic requirement for such a mechanism is that it protect Canada's tax base.</li> <li>This would encourage Canadian entrepreneurs to establish their new businesses as Canadian incorporated companies and thus keep the capital market activity to Canadian lawyers, accountants and investment bankers. Overall, this would reinforce Canada's financial industry.</li> </ul>	<p>A draft of legislative proposals will be released in the near future for public review and comment.</p>

**CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002**

PROPOSED CHANGES	DESCRIPTION/RATIONALE	STATUS
<p><b>Revisions to associated company rule</b></p>	<ul style="list-style-type: none"> <li>• The <i>Income Tax Act</i> contains the concept of “associated corporations,” which are burdensome for both corporations and venture capitalists because they cause corporations to be regarded as associated if they have accessed capital from the same VC source.</li> <li>• Furthermore, these associated corporations must share a single \$200 000 small business deduction. The association can increase a corporation’s liability to pay large corporations’ capital tax and reduce its ability to access SR&amp;ED tax credits.</li> <li>• The CVCA is proposing to add a definition of VC to subsection 256(1) of the Act so that investments made by a “Canadian Venture Capitalist” in corporations would be ignored for purposes of the association rules. Following is the proposed definition of “Canadian Venture Capitalist”:             <ol style="list-style-type: none"> <li>a) an enterprise or related group of enterprises whose principal business is investing in the securities of SMEs;</li> <li>b) has funds in excess of \$10 million under management or committed for investment;</li> <li>c) is managed by full-time employees whose activities, powers and compensation are governed by contract;</li> <li>d) has specific investment objectives, restrictions and strategies set out in its substantiating documents;</li> <li>e) acts as a fiduciary in terms of predominantly managing funds owned by parties other than its managers, or alternatively;</li> <li>f) has been designated a VC Corporation by a Canadian Securities Commission or is an LSVCC under the <i>Income Tax Act</i>.</li> </ol> </li> <li>• This change would ensure that corporations that are associated only because they have accessed capital from the same VC source will not be penalized for tax purposes. This would provide Canadian firms with access to capital on a more cost-effective basis, from both domestic and foreign sources.</li> </ul>	<p>Discussions are being conducted between Finance Canada and the VC industry.</p>

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## APPENDIX H: SUMMARY OF REPORT FINDINGS

CONTENT	FINDINGS
<b>INTRODUCTION</b>	
<b>Background</b>	Financing high-growth SMEs identified as a key to Canada’s innovation performance. KBI firms’ difficulties in accessing risk capital represent major challenges and impediments to growth. Angel investment and VC play a critical role by financing high-growth-potential firms.
<b>Goals</b>	To provide a realistic assessment of the state of VC in Canada, its current role, and its potential impact on Canada’s economic policy goals. To answer four key questions: <ol style="list-style-type: none"> <li>1. <i>What is the state of VC activity in Canada? What key trends, strengths and weaknesses characterize the VC industry?</i></li> <li>2. <i>What is the state of current government action related to VC? Are the approaches to VC issues consistent across the government?</i></li> <li>3. <i>Where are the gaps in the market? How do bottlenecks in the VC industry dampen the development, innovation and growth of Canadian SMEs?</i></li> <li>4. <i>How can the policy environment encourage the continued growth and development of Canadian SMEs? How can this environment improve Canada’s innovation performance, create jobs and wealth, and encourage these firms to remain Canadian?</i></li> </ol>
<b>PART I — VC IN THE OVERALL SME FINANCING CONTEXT</b>	
<b>What is VC?</b>	VC is long-term, hands-on equity investment made by professional investors in new, young and rapidly growing companies in high technology sectors, such as information technology and life sciences. VC is expensive and time consuming for entrepreneurs. Only a few firms have the potential to attract VC interest and a minority will secure VC (677 in 2002 over 1.8 million SMEs compared to 2495 VC-backed firms in the U.S. over 16 million SMEs). VC is active investment — Venture capitalists hold a large ownership position, monitor and control the destiny of the firm, provide advice, help recruit management, analyze market opportunities and provide access to professionals. VC is risky and transitional investment — Venture capitalists assume great risks based on performance projections of new concepts. Once rapid growth is achieved, venture capitalists liquidate capital to recycle it into new VC investments. VC is often a bridge between angel investment and initial public offerings. VC is often made through syndicates and in several rounds of financing depending on the stage of the firms and the achievement of predetermined performance milestones.
<b>Characteristics of Firms Financed by VC</b>	High commitment from entrepreneurs in terms of their own money being invested in their firms. High-growth and high-returns potentials (35–40 percent). Strong and experienced management team. Willing to give up a share of ownership (about 30 percent and up to a maximum of 50 percent). Solid market potential (international orientation, innovative technology, etc.). High R&D spending. Concentrated in information technology, life sciences and other technology sectors.

## CANADIAN VENTURE CAPITAL ACTIVITY: ANALYSIS OF TRENDS AND GAPS 1996–2002

CONTENT	FINDINGS
<b>Financing Context for VC</b>	<p>VC is only one financing option for Canadian SMEs. Other options include debt financing, leasing, quasi-equity (patient capital), love money, angel investment, VC and public market financing. Financing needs of a firm depend on type of business, growth prospects, stage of development and market conditions.</p> <p>While debt financing is the most commonly used form of financing, risk capital is more appropriate for fast-growth and KBI firms as it is more flexible and more patient.</p> <p>VC is more appropriate for start-up firms and firms in the early and expansion stages. As the firm expands and matures, initial public offerings and mezzanine financing provides adequate amounts of capital and exit avenues for venture capitalists.</p> <p>As a result, there is a strong interdependence between each of the financing markets — factors that affect angel investments and IPO markets will likely affect the availability of VC and vice versa.</p>
<b>Impacts of VC</b>	<p>Significant economic impacts through the financing of a small number of high-growth, innovative companies that can make significant contributions to economic growth and new wealth creation in Canada.</p> <p>This impact comes in the form of the financial support provided by venture capitalists and added-value services such as hands-on technical, managerial and strategic expertise that help improve the firms' chances of success.</p> <p>For these reasons, VC plays a crucial role in financing innovative, high-growth-potential Canadian companies.</p>
<b>PART II — ANALYSIS OF STATE OF VC ACTIVITY TRENDS, 1996–2002</b>	
<b>Goal</b>	<p>To answer the question:</p> <ul style="list-style-type: none"> <li>• <i>What is the state of VC activity in Canada? What key trends, strengths and weaknesses characterize the VC industry?</i></li> </ul>
<b>Total VC Activity Trends</b>	<p>VC industry in Canada is dynamic and experienced solid growth between 1996 and 2002:</p> <ul style="list-style-type: none"> <li>• investments increased by 139 percent from \$1 billion to \$2.5 billion with a peak at \$5.8 billion in 2000;</li> <li>• number of VC-backed firms grew by 38 percent from 490 to 677, with 1006 in 2000;</li> <li>• average deal size reached \$3.0 million in 2002, a 72 percent increase;</li> <li>• 152 new funds have been created since 1996, bringing the total to 282 in 2002, a 117 percent increase;</li> <li>• new capital raised grew by 88 percent from \$1.7 billion in 1996 to \$3.2 billion in 2002, with \$4.6 billion in 2001;</li> <li>• capital available for investment reached \$7.4 billion in 2002, a 27 percent increase from \$2.5 billion in 1996; and</li> <li>• capital under management grew by 217 percent from \$7.1 billion in 1996 to \$22.5 billion in 2002.</li> </ul> <p>Despite slower activity level since 2001, the Canadian VC industry has remained relatively solid and has outperformed expectations.</p> <p>Venture capitalists in Canada remain positive for 2003 with improved confidence in general economic outlook, exit valuations and continued accumulation of available funds.</p>
<b>Structure of VC Industry</b>	<p>VC investors organize VC firms (through private partnerships) that establish one or more VC funds to raise capital and then invest it in SMEs based on pre-established criteria.</p> <p>The number of funds, their ability to raise capital and their investment preferences have influenced the evolution of the Canadian VC industry and will continue to do so in the future.</p> <p>During 1996–2002, the number of VC firms increased by 92 percent (from 95 to 182) and the number of VC funds increased by 117 percent (from 130 to 282).</p> <p>Increasing trends toward specialization of VC funds (e.g. information technology and life sciences) and away from geographic concentration in central Canada (e.g. number of funds increased in all regions between 1996 and 2002).</p> <p>Both Canadian and U.S. VC investors tend to invest through syndicates (i.e. in partnership with other VC investors) to share the burdens of due diligence, capital contribution and risk.</p> <p>Syndication ratio was 2.2 investors per financing in 2002 in Canada and 2.9 in the U.S.</p>

CONTENT	FINDINGS
<b>International Comparison</b>	<p>Canada's VC industry was more diversified and stable than its American counterpart between 1996 and 2002:</p> <ul style="list-style-type: none"> <li>• Canadian VC investments increased by 139 percent compared to 78 percent in the U.S.;</li> <li>• number of financings grew by 39 percent in Canada compared to 9 percent in the U.S.;</li> <li>• number of firms financed increased by 38 percent in Canada against 17 percent in the U.S.;</li> <li>• average deal size grew by 72 percent in Canada compared to 59 percent in the U.S.; and</li> <li>• capital under management grew by 217 percent in Canada against 496 percent in the U.S.</li> </ul> <p>The comparative strength of the Canadian VC industry can be explained by the recent technology burst (which was more pronounced in the U.S.) and by the fact that the Canadian industry is relatively young compared to that in the U.S.</p> <p>However, the comparison of VC investment and VC under management as percentages of GDP reveals that the Canadian VC market has been less volatile than the U.S. VC market and has averaged comparable performance between 1990 and 2001.</p> <p>As a result, Canadian VC investments now stand at 7 percent of the value of U.S. VC investments and Canadian VC investment per capita reached 83 percent (\$99 per person) of the corresponding U.S. figure (\$119), approaching the Innovation Strategy target of raising VC investment per capita to U.S. levels by 2010.</p> <p>Canada ranked among leading OECD countries in terms of VC investments as a percentage of GDP and second for early-stage and expansion firms as a percentage of GDP.</p> <p>Caution must be exercised when making international comparisons due to discrepancies in terminology, methodology and definitions.</p>
<b>Deal Size Trends</b>	<p>Due to the significant rise in syndication and the increase in capital raised and invested, the average deal size in Canada grew by 72 percent, from \$1.7 million in 1996 to \$3.0 million in 2002. The average deal size over the 1996–2002 period was \$2.7 million.</p> <p>This trend toward larger transactions (mostly driven by the growth of deals over \$5 million) suggests increasing maturity of the Canadian VC industry in terms of capital raised and in access to growth capital for high technology firms, as well as the general state of the Canadian economy. However, it does raise an important policy issue: is this trend the result of a shift in VC investors' interest toward more mature, less risky, larger investments in later-stage firms? If so, what are the impacts on seed and start-up firms seeking smaller VC deals?</p> <p>Another important issue is that despite this increasing trend toward larger deals, an important gap remains compared to the average deal size in the U.S. and some firms, such as expansion firms and firms in the life sciences sector, may not be able to get sufficient capital to expand or to bring a product to market.</p>
<b>New Versus Follow-On Trends</b>	<p>With the emergence of the Canadian VC industry in the early and mid-1990s, new financings increased significantly. However, this trend has shifted to follow-on financing since 1996, and particularly since 2001.</p> <p>Follow-on investments increased by 362 percent from \$391 million in 1996 to \$1.8 billion in 2002 (versus an increase of only 1 percent of new financings over the same period from \$639 million to \$646 million).</p> <p>The typical ratio between follow-on and new financings was 60:40 over the 1996–2002 period (compared to 74:26 in 2002).</p> <p>While this can be explained by recent market turmoil and the general decline of VC investment in most countries, it does raise an important issue for policymakers related to the functioning of the VC industry and its ability to finance new and young companies seeking first-time VC financing.</p>

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<b>Stage of Development Trends</b>	<p>Added to the trends toward larger deals and follow-on financings, the stage of development trends confirm the increasing difficulties facing seed and start-up stage firms in securing small and new VC financing.</p> <p>While early-stage investments have increased by 255 percent since 1996, from \$295 million in 1996 to \$1 billion in 2002 and represented 42 percent of total investments in 2002 (and 61 percent in 2001), later-stage investments still dominate VC activity in Canada with 58 percent of total investments (or \$1.4 billion).</p> <p>The typical ratio of early-stage versus later-stage investments was 40:60 for 1996–2002.</p> <p>Despite the 546 percent increase in seed investments since 1996 (from \$15 million in 1996 to \$94 million in 2002), firms seeking seed financing continue to experience difficulties in accessing VC with only 4 percent of total VC investments in 2002 going to seed-stage firms (or 9 percent of early-stage investments).</p>
<b>Sectoral Trends</b>	<p>Sectoral VC activity trends since 1996 confirm both the nature of VC, which usually better fits fast-growing and technology firms, and the importance of VC for high technology firms which attracted an average of 80 percent of all VC investments between 1996 and 2002.</p> <p><b>Information Technology</b> – These firms have been driving VC activity (particularly in Ontario) with an average of 53 percent of total VC investments during the 1996–2002 period (and 70 percent and 65 percent in 2001 and 2002). This increased importance of these investments is reflected by 368 percent growth of VC investments in information technology firms from \$340 million in 1996 to \$1.6 billion in 2002.</p> <p><b>Life Sciences</b> – Despite a constant average share of total VC investments of 19 percent between 1996 and 2002, VC investments in life sciences firms have increased by 103 percent from \$228 million to \$463 million (with most of this growth occurring in 2000 with \$826 million and 2001 with \$651 million). Life sciences investments in Canada are concentrated in Quebec and British Columbia.</p> <p><b>Traditional</b> – While VC investments in traditional sectors have declined by 27 percent between 1996 and 2002 — resulting in a decrease of their relative importance to total VC activity — the average share of total VC investments remained higher than that of Life Sciences investments with 24 percent of total investments over the period.</p> <p>The increasing importance of high technology firms and their large financing needs may explain the decline in traditional sector investments. VC investments in the traditional sector remained relatively strong in Manitoba and Saskatchewan with an average share of 68 percent and 60 percent of the provinces’ investments over 1996–2002.</p> <p><b>Other Technology</b> – While the other technology sectors represented a small average share of total VC activity since 1996 (4 percent of total), the number of financings in these firms increased by 118 percent between 1996 and 2002, which is better growth in the number of deals than in the other sectors.</p>
<b>Regional Trends</b>	<p>As seen in other countries (particularly in the U.S.), VC activity in Canada is highly concentrated in a few regions with Ontario (Ottawa), Quebec (Montréal), and British Columbia (Vancouver) attracting the majority of investment. In these three provinces, market patterns are very similar — a dedicated technology-oriented focus.</p> <p>A number of factors explain this concentration of VC activity: investors’ preference for opportunities located within a reasonable distance and for high technology and high-growth-potential firms, which are normally concentrated in a few regions (as suggested by the distribution of KBI firms across regions).</p> <p>Despite this concentration, a significant increase in VC activity — amount invested, number of financings and number of VC funds — was observed in all provinces and regions over 1996–2002.</p> <p><b>Ontario</b> (Ottawa) is the clear leader of VC activity in Canada with an average share of total VC of 49 percent between 1996 and 2002. VC investments have increased by 165 percent since 1996 from \$487 million to \$1.3 billion in 2002 (peak at \$3.4 billion). Given the strong focus on information technology in Ontario, the average deal size in Ontario was \$4.6 million for 1996–2002, higher than the national average of \$2.7 million.</p>

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	<p><b>Quebec</b> (Montréal) VC investments are characterized by a higher number of small VC transactions, a strong focus on biotechnology and a relatively low level of foreign VC. Investments in Quebec increased by 125 percent since 1996 (from \$323 million to \$722 million), representing an average share of 31 percent of total investment between 1996 and 2002. Quebec dominated all regions in terms of the number of financings with a 48 percent average share of total financing between 1996 and 2002. The number of transactions increased by 50 percent, from 269 in 1996 to 404 in 2002. The average deal size in Quebec was \$1.7 million for the 1996–2002 period (and \$2.6 million in 2002).</p> <p><b>British Columbia</b> (Vancouver) experienced strong growth in VC activity since 1996, 134 percent from \$107 million to \$251 million in 2002, with an average share of total VC activity of 11 percent between 1996 and 2002. The average deal size in British Columbia was \$3.3 million during the 1996–2002 period, higher than the \$2.7 million average in Canada.</p> <p><b>Prairies</b> — Despite an overall 93 percent increase of VC investments in the Prairies from 1996–2002, from \$82 million to \$159 million, the average share of total investment declined by 19 percent between 1996 and 2002, resulting in an average share of 7 percent for the period (and 6 percent in 2002). The average deal size of \$1.8 million was also lower than the national average of \$2.7 million, 1996–2002.</p> <p><b>Atlantic Canada</b> attracted a small portion of total VC investments since 1996 with only 2 percent of the total. This share of total VC activity was similar to its share of total KBI firms (3 percent), but lower than the region’s share of GDP (6 percent). Total Atlantic investments still grew 33 percent, from \$33 million in 1996 to \$44 million in 2002. The average deal size, lower than the national average, was \$1.7 million for the 1996–2002 period (and \$2.2 million in 2002). The number of VC funds more than doubled from 5 in 1996 to 11 in 2002.</p>
<b>Investor Type Trends</b>	<p>While the relative importance of each investor type has varied between 1996 and 2002, LSVCCs and foreign investors clearly drive most of the VC activity in Canada.</p> <p><b>LSVCCs</b> (dominated by a few very large players, such as Vengrowth) had the largest average annual shares of total VC investment in Canada with 22 percent of the market over 1996–2002. However, this period also marked the decline of the LSVCCs’ market share from 40 percent in 1996 to 25 percent in 2002. This trend was the result of relatively modest 53 percent growth of LSVCC investments over the period (from \$410 million to \$627 million in 2002).</p> <p><b>Foreign Investors</b> (mostly from the U.S.) followed closely with an average of 20 percent of the overall VC investments — from just 3 percent in 1996 to 26 percent in 2002 — a 766 percent increase. This was the result of a remarkable 2021 percent increase in foreign investments over the period (from \$31 million to \$650 million, with a peak at \$1.5 billion in 2000).</p> <p><b>Institutional Investors</b> were the third largest players (mostly large public sector pension funds toward the end of the 1996–2002 period) with an average share of 7 percent of total investment. While this represents a 52 percent decline in their market share, from 15 percent in 1996 to 7 percent in 2002, their total investment grew by 15 percent over the period (from \$159 million to \$182 million).</p> <p><b>Private Independent Funds</b> were fourth with a 17 percent average annual market share over the 1996–2002 period (dropping by 32 percent from 19 percent in 1996 to 13 percent in 2002). Their investments grew by 58 percent over the period from \$198 million to \$313 million.</p> <p><b>Corporate Funds</b> increased investment by 34 percent over the period (from \$108 million to \$144 million) capturing an average annual market share of 9 percent (which represents a 40 percent decline from 10 percent in 1996 to 6 percent in 2002).</p> <p><b>Government Funds</b> increased their activity by 433 percent over the 1996–2002 period from \$62 million to \$329 million with an average annual share of 11 percent.</p>
<b>Canadian VC Investment Abroad Trends</b>	<p>Investment made by Canadian VC firms outside Canada experienced a remarkable 757 percent growth since 1996 and particularly since 1999 from \$62 million in 1996 to \$347 million in 1999, to \$997 million in 2000, and to \$536 million in 2002.</p> <p>Average deal size of these investments was \$4.4 million in 2002, higher than the national average deal size of \$3 million in 2002. This can be explained by the strong focus on information technology and life sciences and on large deals.</p>

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	<p>Investment preferences are toward follow-on investments with an average ratio of 60:40 between 1996 and 2002 and 57:43 in 2002; later-stage financings with a typical ratio of 60:40 between 1996 and 2002 and 58:42 in 2002; and information technology and life sciences sectors with 39 percent (\$208 million) and 35 percent (\$187 million) of total VC in 2002.</p> <p>These numbers suggest a growing trend toward globalization of the VC market in North America and improved networks between Canadian and American investors.</p>
<p><b>Conclusions</b></p>	<p><b>Strengths</b></p> <p>Solid overall growth of Canada’s VC market since 1996, despite a shaky economy and difficult market conditions. Compared to the U.S., the Canadian VC industry has demonstrated a more gradual and continuous growth curve since 1990 and has showed more stability since 2001. Canada is among the leading OECD countries in terms of VC investments as a percentage of GDP, particularly for early-stage financing.</p> <p>The average deal size, while smaller than in the U.S., has increased significantly since 1996, from \$1.7 million to \$3 million in 2002.</p> <p>The early-stage focus of Canadian VC activity in recent years has shown an appetite for higher risks by Canadian venture capitalists. This stronger focus on early-stage investments has not been seen in the U.S.</p> <p>Trends in sectoral distribution of VC activity since 1996 reinforce the critical importance of VC for high-growth and technology firms — firms that continue to attract the majority of VC activity in Canada and in the U.S. They also support the fact that, because of its nature and characteristics, VC is generally used by a limited number of high-growth-potential firms and, as a result, plays a critical role in Canada’s innovation performance.</p> <p>Despite the concentration of VC activity in Ontario, Quebec and British Columbia, the total pool of VC activity and the number of VC funds have increased significantly across all regions since 1996. This demonstrates a certain level of dynamism, even in provinces and regions that have traditionally been on the outside of the VC community.</p> <p>The nature and role of different types of VC investors in Canada have evolved in lock step with the overall development of the market over the last 7 years:</p> <p><i>LSVCCs</i> regained their status as key players in 2002. However, their importance had declined significantly over the 1999–2002 period, suggesting that LSVCCs have performed the counter-cyclical role anticipated of them. This may be attributed to the active participation of a few very large LSVCCs, such as Vengrowth.</p> <p><i>Foreign investors</i> (who mostly invest through syndicates with Canadian venture capitalists) have become critical players in the Canadian VC industry. Their increased interest in Canada has contributed to the relative growth, vitality and stability of the Canadian VC market since 1999.</p> <p><i>Institutional investors</i> increased their participation in the supply of VC. However, they still play a limited role in terms of investments. Their increased participation over the past 2 years to the inflows of capital, the new tax measures announced in recent federal budgets and the publication of performance returns benchmarks should lead to increased investments by these investors in the future.</p> <p>Canadian VC investors increased their investments outside the country by 757 percent between 1996 and 2002, with most of this growth occurring since 1999.</p>

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<p><b>Policy Issues</b></p>	<p><b>Weaknesses</b></p> <p><b>Structure of VC Industry</b></p> <p><b>Smaller size and lower specialization level of Canadian VC funds</b> — The Canadian VC market remains behind the U.S. VC market in terms of maturity and sophistication. Canada has fewer funds (and these are not optimally funded), and probably lacks the expertise and experience required for greater specialization. This hinders the ability of the Canadian VC industry to appropriately fund seed and start-up firms in a number of key industries (e.g. biotechnology). As well, there are impacts on the capacity to support the continuous expansion and growth of mid- and large-sized firms, which usually have higher capital needs.</p> <p><b>Too few venture capitalists with management experience and knowledge</b> — A recent study from Industry Canada and Wayne Clendenning (2002) revealed that Canadian venture capitalists (90 Canadian VC investors reviewed) tend to originate in the financial and banking industry and may not have the expertise required to understand or accept the risks related to a specific industry. On the other hand, some other VC firms are highly specialized, but may lack the financial skills required to adequately assess risk. As a result, building strong VC fund managers in Canada appears to be a key element and may support the future growth of the Canadian VC industry.</p> <p><b>Lower performance returns in Canada</b> — Recent data published by the CVCA show much lower mid- and long-term performance for Canadian VC funds (with returns of 15.7 percent for 3 years and 13.3 percent for 5 years compared to 49.3 percent and 36 percent in the U.S.). While the returns for one year (as of December 31, 2001) were higher in Canada, these mid- and long-term results raise significant structural challenges for the Canadian VC industry — they may send negative signals about the quality of Canadian investment opportunities. Furthermore, VC investors, who seek to maximize returns, may choose to invest outside Canada, where investment returns are higher.</p> <hr/> <p><b>Demand for VC</b></p> <p><b>Lack of “investor-ready” firms</b> — Several structural factors in the Canadian VC market act as brakes on new investment: business plans, market knowledge and managerial acumen are underdeveloped; business owners are unwilling to relinquish managerial control in exchange for liquidity. In fact, the lack of managerial skills is often identified as the major challenge faced by Canadian venture capitalists in finding investment opportunities. Therefore, there is a strong need to improve the managerial skills of Canadian firms so that they can develop to their full potential. This is also important as the lack of good opportunities may result in the constriction of deal flow for future rounds of VC investments. Fostering an environment that ensures a sufficient pool of VC, one that is conducive to the establishment of innovative firms, and one that encourages the commercialization of research, should be the cornerstone of any new policy on VC.</p> <p><b>Lack of knowledge about the demand for VC and informal investments</b> — The importance of VC’s role in financing high-technology firms cannot be understated. However, VC is only appropriate for a limited number of firms in specific sectors with high-growth potentials. Very little information is available on the demand for VC by Canadian firms. For example, how many Canadian firms really need VC financing or how many firms have sought VC and what is the approval rate? This review also raises the issue of the lack of information on the demand for informal investments and quasi-equity investments. This lack of information about the real demand for risk capital is a major barrier in identifying the gaps in the market. Looking at the supply side only provides half of the story.</p>



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	<p><b>Supply of VC</b>  <b>Low participation from institutional investors</b> due, in part, to a lack of knowledge about the performance of VC funds, and high costs associated with due diligence and deal selection, and linked to the lack of experienced VC fund managers in Canada; lack of an institution-friendly market infrastructure with effective advisors, such as American-style gatekeepers; and lack of vehicles that address organizational barriers to participation, such as funds-of-funds. (<i>However, three funds-of-funds have recently been created in Canada to assist Canadian pension funds in making VC investments.</i>)</p> <p><b>Low funding and participation of private independent funds</b> compared to the U.S. If the Canadian VC industry continues to grow as a viable and sustainable private sector industry, private independent funds should become the dominant players in the industry (as they are in the U.S.). Without greater participation of pension funds in Canada, private VC firms in Canada are unlikely to raise the capital needed to become the cornerstone of a viable and sustainable private sector VC industry.</p> <p><b>Role and impacts of LSVCCs</b> — While LSVCCs have undoubtedly played a critical role in the development of the VC industry in Canada, a detailed review of their importance and future role is appropriate. For example, does the Canadian government play a larger role in the Canadian VC industry than the U.S. government in its market? What are the impacts of LSVCCs on the Canadian VC industry compared to the impacts of SBICs in the U.S.?</p> <p><b>Increasing difficulties for new and younger firms to access VC</b>, in particular, small financing amounts of less than \$1 million, new deals, and seed financing for commercialization of new ideas and products.</p> <p><b>Challenges for mid-sized and expansion firms in accessing larger VC for their continuous growth</b> — Lower average deal sizes and anecdotal evidence suggest that the Canadian VC industry may have a limited capacity to support and fund mid- and large-sized firms. As a result, Canadian firms have to seek funding in the U.S. and eventually move part of their business and operation south. More research is being conducted to better understand the impact of foreign VC investments on Canadian firms.</p> <p><b>Regional concentration</b> — The disparity in the regional concentration of VC activity and venture capitalists’ affinity for high technology firms is not unique to Canada. These trends may reflect a number of weaknesses at several levels, including a continued reluctance of venture capitalists to invest in remote areas due to the need to oversee and provide value-added services to their portfolio firms, a lower level of KBI firms and regional activities in high technology sectors (despite the recent emergence of technology centres in some regions), more limited access to significant markets (e.g. U.S.), a lack of demand for VC in some regions and a lack of marketing skills in some regional firms.</p>
<b>PART III — STATE OF CURRENT GOVERNMENT ACTIONS</b>	
<b>Goal</b>	<p>To answer the question:  <i><b>What is the state of current government action related to VC? Are the approaches to VC issues consistent across the government?</b></i></p>
<b>Key Government Players in VC</b>	<p>Most of the responsibilities aimed at ensuring an efficient fiscal, regulatory and policy framework that supports business development and encourages a strong private sector VC market lie with the Department of Finance.</p> <p>Industry Canada’s policies, programs and services support the development of an innovative economy that will create new jobs and wealth across Canada. Industry Canada strives to achieve these goals by working in several different areas: innovation through science and technology, trade and investment, growth of SMEs and the economic growth of Canadian communities.</p> <p>The Industry Portfolio is composed of 16 organizations (departments, agencies, tribunals and Crown corporations) that report to the Minister of Industry or through the Minister to Parliament. It has a total budget of approximately \$4.7 billion, and its member organizations employ 18 000 people across the country.</p> <p>Coordination between the various members improves governance, policy, legislation and program coordination and assures that programs and services are consistent with government objectives.</p>

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	The provincial government also plays a critical role related to the VC market through different tax measures and incentives and direct and indirect programs targeted at both SMEs and the suppliers of VC.
<b>Overview of Current Government Programs Related to VC</b>	<p>The federal government’s basic role in the VC market is to establish a fiscal, regulatory and policy framework that fosters an effective marketplace by supporting business start-ups and growth and encourages a sustainable private sector VC industry. The government has several instruments available to reach these ends: balanced budgets, low inflation and interest rates, low and competitive tax rates, efficient regulations that balance the need for investor safety and investors’ risk appetites, well-funded R&amp;D, etc.</p> <p>Over the last several years, federal and provincial governments have sought to improve SMEs’ access to risk capital, including patient capital, VC and other financing instruments. There are three broad areas of government intervention — indirect measures oriented toward the suppliers of VC, such as tax and regulatory measures and LSVCCs; direct quasi-equity or equity government investment programs; and programs and initiatives aimed at building a critical mass of VC-ready Canadian businesses — that provide general assistance, information and support to Canadian SMEs.</p> <p>While there are a few key direct investment government programs in place, only a few of them are major (e.g. BDC and EDC) and most of the programs reviewed and presented in Part III are indirect measures targeted at the suppliers of VC rather than at SMEs (e.g. LSVCC tax credits and tax measures aimed at supporting foreign and pension fund investments).</p>
<b>Conclusions and Areas for Further Investigation</b>	<p>In total, investments by provincial and federal government funds accounted for 38 percent of total VC investments. However, the future of the VC market in Canada will depend, in large part, on the participation of private sector players, particularly institutional investors.</p> <p>Institutional investors in Canada have been much less active in the VC market than their counterparts in the U.S. American institutional investors accounted for 78 percent of funds raised over 1996–2002, while Canadian institutional investors contributed 12 percent of the funds raised during the period. In 2002, however, Canadian institutional investors accounted for 54 percent of the total funds raised. The increased contribution of institutional investors will be key to the continuous expansion of the Canadian VC market.</p>
<b>PART IV — IMPROVING ACCESS TO VC BY HIGH-GROWTH SMEs: AN ANALYSIS OF REMAINING ISSUES AND GAP S AND POLICY ISSUES</b>	
<b>Goal</b>	<p>To answer the questions:</p> <p><i>Where are the gaps in the market? How do bottlenecks in the VC industry dampen the development, innovation and growth of Canadian SMEs?</i></p> <p><i>How can the policy environment encourage the continued growth and development of Canadian SMEs? How can this environment improve Canada’s innovation performance, create jobs and wealth, and encourage these firms to remain Canadian?</i></p>
<b>What is a “Gap” in the VC Market?</b>	<p>An imperfection or weakness related to geography, laws, transaction costs or regulations that impede supply and demand from clearing in the market, with the result that the market does not function efficiently. Information asymmetry, which occurs when the suppliers of capital have less information than the owners of the firms seeking financing, can result in shortages in the market or market inefficiencies.</p> <p>Unfortunately, there is a significant shortage of information on the demand for VC. Therefore, it is extremely difficult to determine whether there are gaps in the VC market and, if there are, to identify them clearly. There is a need to improve the quality of data on the demand for VC by type of firm and location, and to assess the approval/rejection rate and reasons for rejections.</p>
<b>Identification of Remaining Issues, Concerns and “Gaps”</b>	<p>Breakdowns of recipients of VC across stages of firms, age of firms, regions and their growth record to investigate “gaps” related to the supply of VC investment available to firms at various stages of development.</p> <p>Studies over time of the trends in the size of VC investments and its impact on the supply of VC available to early-stage and mid-sized firms.</p> <p>Specialized studies of pension plan and other institutional participation in the VC market.</p> <p>Studies of the linkages between business evolution, ownership structure and managerial</p>

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	<p>capabilities of firms. Specialized studies of the breakdown of management ability by stage of firm to assess management competencies at various stages of development.</p>
<p><b>Principles for Development of Government Approach to VC</b></p>	<p>Fundamental role of government is to put in place a fiscal and policy framework that will support business development and growth and encourage a viable and sustainable private sector VC industry. Key basics for development of any policy action in VC:</p> <ol style="list-style-type: none"> <li>1. Fill a market gap in the private market — Taking into account the definitional challenges outlined above, any government actions should be aimed at addressing an identified gap in the market and preferably exit when private sector takes over.</li> <li>2. Minimize distortion to VC industry and other risk capital markets — Government intervention should be the last, rather than the first, resort and should take into account any potential distortion that could result from government intervention. The goal of government policymaking is a sound VC market (viable, sustainable and growing) that can support the growth of innovative, productive, outward-oriented businesses. This orientation needs to consider VC in the wider context of the risk capital markets.</li> <li>3. Develop partnerships with the VC industry and stakeholders.</li> </ol>
<p><b>Outstanding Issues Related to the VC market</b></p>	<p>Lower returns of Canadian VC funds compared to U.S. VC funds and other investment vehicles. Lower participation of institutional investors and the concomitant lack of funding and participation of private independent firms. Shortage of investor-ready firms in terms of management and marketing skills. Shortage of VC fund management expertise and experience. Difficulties securing VC for early-stage firms and firms seeking first-time VC. Low level of awareness about recently published performance information on Canadian VC funds. Lack of information and knowledge of the actual demand for VC. Regional disparities in VC investment levels in the Prairies and, to a lesser extent, Atlantic provinces (compared the regional levels of GDP and KBI firms).</p>
<p><b>Policy Questions</b></p>	<p>Considering the key outstanding issues and principles for the development of government policy actions discussed above, the following questions are aimed at guiding future discussion between private sector stakeholders and government regarding the elaboration of any actions to address the key outstanding issues faced by the Canadian VC industry and by Canadian SMEs.</p> <ul style="list-style-type: none"> <li>• Given these gaps and outstanding issues and the role of government, what should be done by both private sector stakeholders and government to encourage the continued growth and development of the Canadian VC market?</li> <li>• Many of the challenges facing the Canadian VC industry appear consistent with the challenges faced by many adolescent industries, which fall within three broad categories: 1) the market infrastructure, including the policy environment; 2) the supply of VC, including fund-raising and investment environment; and 3) the demand for VC.</li> </ul> <p>In this context:</p> <ul style="list-style-type: none"> <li>• What can Canada do to ensure the Canadian VC industry successfully navigates these challenges?</li> <li>• How can Canada accelerate the creation of more experienced and skilled managers of high-growth companies (e.g. management and marketing skills) and of VC funds?</li> <li>• How can Canada better support pre-VC and seed financing of high-growth firms, as well as expansion financing of mid-sized firms, and encourage these firms to remain Canadian?</li> <li>• Where are we in terms of LSVCCs and other government-owned funds and programs? Have these reached maturity? Are there duplications of efforts? Are these initiatives and programs still appropriate or sustainable in the long term to ensure a growing private VC industry?</li> </ul>
<p><b>Areas and Issues for Further Research</b></p>	<p>In addition to these questions, following are a number of areas and issues for further research. These research ideas or initiatives could be conducted in partnership with or collaboration between the federal and provincial governments, as well as with private sector and industry organizations.</p>

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	<p><b>Current Research Projects</b></p> <ul style="list-style-type: none"><li>➤ Institutional investments and private equity in Canada</li><li>➤ Actual versus potential angel investments in Canada</li><li>➤ Assessment of the importance, impact and future role of LSVCCs in the Canadian VC market.</li></ul> <p><b>Potential Future Research Initiatives to be considered</b></p> <ul style="list-style-type: none"><li>➤ Evaluation of actual and potential demand for VC</li><li>➤ Assessment of management ability of Canadian SMEs</li><li>➤ Review of funds-of-funds and gatekeeper models</li><li>➤ VC fund management skills development</li><li>➤ Due diligence and evaluation of business proposals</li><li>➤ Database of government-funded firms at the pre-seed VC firms</li><li>➤ Review of the U.S. Small Business Investment Corporation (SBIC) program</li><li>➤ Performance of Canadian IPO market.</li></ul>