Study

Measuring BDC's Impact on Clients (2008–2015)

May 2019

Table of contents

Author

Jovanka Charbonneau, Economist,
Business Development Bank of Canada (BDC)
jovanka.charbonneau@bdc.ca

Statistics Canada / Statistique Canada
Ottawa, Canada
K1A 0T6
www.statcan.gc.ca

March 14, 2019

Dear Readers,

Statistics Canada's Economic Analysis Division had the pleasure of collaborating with the Business Development Bank of Canada (BDC) to produce *Measuring BDC's Impact on Its Clients (2008-2015)*. The production of this report was made possible through its Canadian Centre for Data Development and Economic Research (CDER) program. CDER was established to facilitate approved analytical research using Statistics Canada's holdings of business and economic data in a secure manner. CDER maintains the confidentiality of the information provided by the business respondents (www.statcan.gc.ca/eng/cder/index).

In accordance with Statistics Canada's Directive on Record Linkage (www.statcan.gc.ca/eng/record/policy4-1), a list of firms in the BDC portfolio was linked to data on firm performance and survival at Statistics Canada to create the analytical database used to produce the non-confidential aggregate statistical outputs in this report. Record linkages at Statistics Canada are carried out for statistical purposes only, after satisfying a prescribed review and approval process (www.statcan.gc.ca/eng/record/gen).

The agreed-upon research design for the evaluation was then carried out at CDER in collaboration with BDC. This report was prepared by the Economic Analysis team from Corporate Development at BDC. Any error or omission is BDC's sole responsibility. Reliance on and use of the information herein is the reader's responsibility.

Kind regards,

Danny Leung

Danny Leung, Director
Economic Analysis Division
Statistics Canada

Canada

Highlights

BDC clients achieved better results in key performance metrics than they would have achieved if they had not turned to BDC. They also had a greater survival rate than comparable non-clients.

This report compares the performance of small and medium-sized businesses that received financing and advisory services from the Business Development Bank of Canada (BDC) with that of similar businesses that were not BDC clients.

Statistics Canada conducted the analysis presented in this report, using data gathered between 2008 and 2015. The report provides an objective and quantifiable assessment of BDC's impact on its clients.

Here are the report's highlights:

- BDC clients outperformed their peers in terms of revenue growth. On average, the revenue growth of clients that received both financing and advisory services was 9.3 percentage points higher than that of non-clients after one year. Revenue growth for clients that received only BDC financing was 8.0 percentage points higher, while it was 7.7 percentage points higher for clients that received only advisory services.
- BDC clients generated higher employment growth than non-clients. Specifically, employment growth of client firms was 4.3 percentage points higher than that of non-clients one year after clients received both BDC financing and advisory services.
- Clients that received financing from BDC between 2008 and 2014 saw higher productivity growth than comparable non-clients, on average. This positive impact of BDC financing increased over time, from 1.1 percentage points after one year to 1.3 after two years and 1.5 after three years.
- BDC clients had a greater survival rate than non-clients. One year after they received BDC services, the survival rate (the share of firms still in business) was 11 percentage points higher for clients that received only advisory services, 8 percentage points higher for clients that received both financing and advisory services and 7 percentage points higher for companies that received only financing.
- It was during the last recession that BDC had the greatest impact on its clients' survival rates. Businesses that became clients of BDC in 2008 and 2009 performed better in terms of revenue growth, employment growth and productivity growth. The results clearly highlight BDC's crucial role in supporting Canadian businesses during the last recession.

1 Why measure BDC's impact?

BDC's purpose is to support Canadian entrepreneurs by providing financing and advisory services tailored to the needs of their businesses. The goal is to help entrepreneurs build more robust and competitive businesses for the benefit of all Canadians. To measure its success in fulfilling this purpose, BDC asked Statistics Canada to conduct an independent evaluation of the Bank's impact on its clients.

BDC supports close to 56,000 entrepreneurs through 123 business centres across the country and online. At the end of March 2019, the BDC had committed close to $29 billion in debt and equity financing to Canadian entrepreneurs.

This study is the fourth version of BDC's economic impact assessment and measures BDC's impact using data from 2008 to 2015. The previous version used data from 2008 to 2012. Each successive version uses more data to generate more robust results.

This report seeks to answer the following questions:

1. **Do BDC clients create more jobs, generate more revenues and/or grow faster than similar firms that are not BDC clients?**
2. **Are BDC clients more productive and profitable than similar non-client firms?**
3. **Are BDC clients more likely to survive over time than similar non-client firms?**

2 Do BDC clients perform better?

BDC had a greater impact on clients that received both financing and advisory services.

The resounding answer is "Yes." Statistics Canada's results show that BDC clients performed significantly better than non-clients. BDC's impact was most pronounced on revenue growth, employment growth and survival rates. The impact differed slightly by type of service received. Specifically, clients that received both financing and advisory services benefitted the most, relative to the comparison group. The following sections provide more detail on the magnitude and duration of BDC's impact on clients.

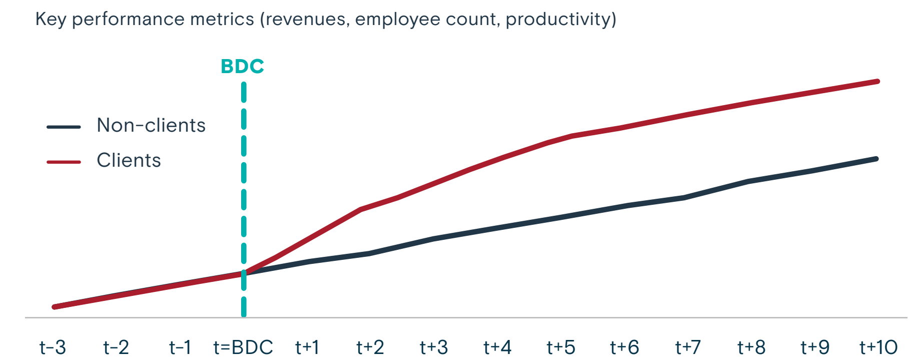
BDC's positive impact on clients persists through time

This study focuses on the impact that BDC services had on clients up to seven years following the delivery of a service. However, the effects indirectly persist for a longer period because BDC clients grow from a higher base after receiving the services.

Here is a numerical example. Consider two similar firms: One of them became a BDC client at the end of year (t) and the other did not. Assume that both firms generated revenues of $1.90 million and revenue growth of 2% in year (t). Statistics Canada data show that one year after becoming a BDC client, the client's revenue growth rate would be 9.3 percentage points higher than that of the non-client firm—in our example, the client's revenue growth rate would climb from 2.0% to 11.3%, while the non-client's growth rate would stay at 2.0%. In terms of dollars, the BDC client's revenues would jump from $1.90 million to $2.11 million, while the non-client's revenues would increase to $1.94 million.

Figure 1 illustrates an example of the impact BDC services had on clients. Specifically, as shown by the increasing slope of the red line, the growth rate of the key performance metrics reviewed in this study (revenues, employee count, productivity) increased in the five years following the delivery of the service. In this example, after the fifth year, the impact on growth rates was no longer significant and BDC clients grew at similar rates as their peers. Nevertheless, BDC clients grew from a higher base than their peers as a result of having received BDC services.

Figure 1 — How BDC's impact on clients evolves and persists over time

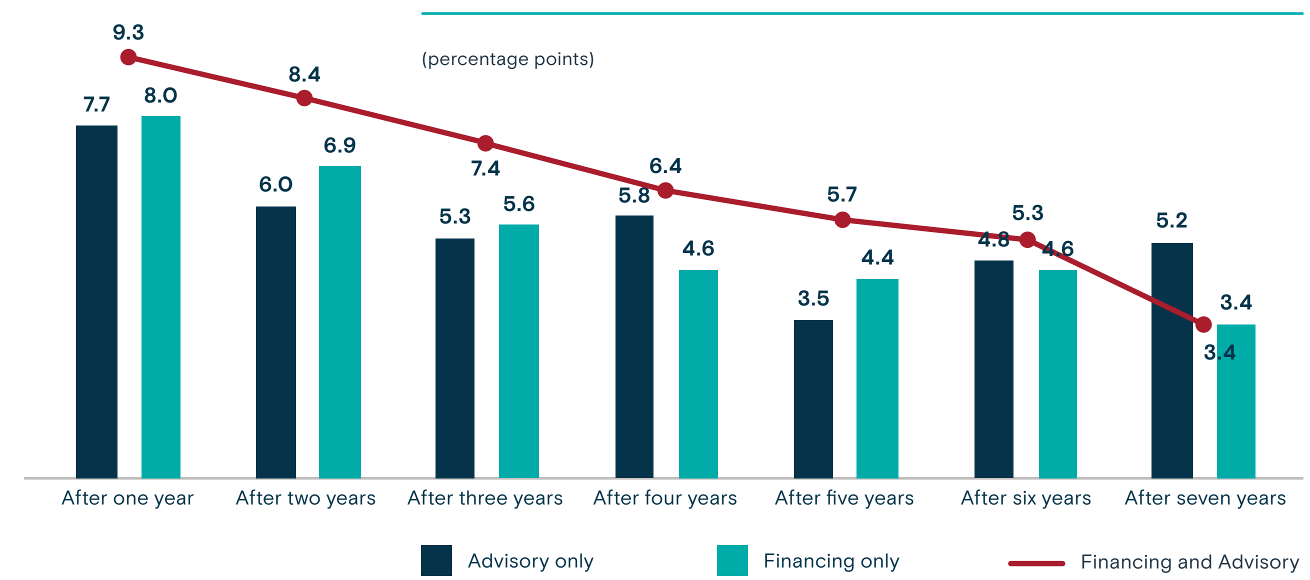


Impact on revenue growth

The results show BDC clients outperformed their non-client peers in terms of revenue growth, regardless of the type of BDC service the clients received. That said, BDC's impact was greatest among clients that received both financing and advisory services. On average, the revenue growth of clients that received both types of services was 9.3 percentage points higher than that of non-clients after one year. Revenue growth for clients that received only BDC financing was 8.0 percentage points higher, while it was 7.7 percentage points higher for clients that received only advisory services. BDC's positive impact on revenue growth diminishes over time but remains statistically significant for at least seven years.

Figure 2 provides an overview of the difference in revenue growth between BDC client subgroups and each comparison group of non-clients. Some caution is warranted when interpreting the growth rate differences after six and seven years. These results may be higher than they otherwise would be, due to the effects of the 2008–09 recession.

Figure 2 — Difference between the annual revenue growth rates of clients and non-clients



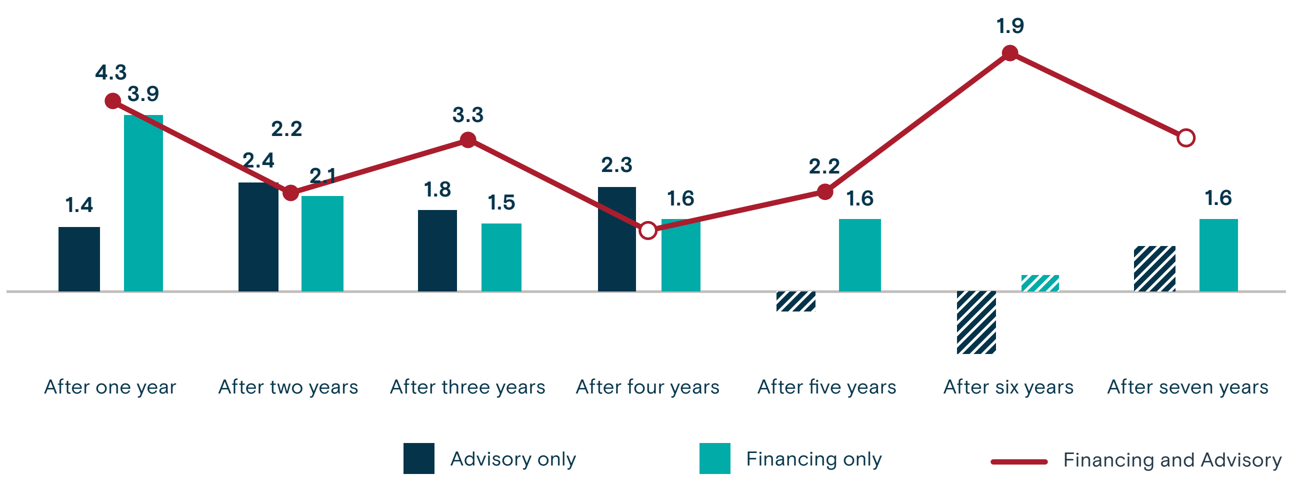
Source: Statistics Canada

Impact on employment growth

According to Statistics Canada, BDC clients generated higher employment growth than non-clients. Specifically, employment growth at client firms was 4.3 percentage points higher than the comparison group one year after clients received both BDC financing and advisory services. Employment growth was 3.9 percentage points higher among clients that received BDC financing only and 1.4 percentage points higher among clients that received only advisory services. BDC clients generated greater employment growth for up to three years after receiving the Bank's services. The impact on clients was less consistent beyond this time period.

Figure 3 — Difference between the annual employment growth rates of clients and non-clients (percentage points)

(percentage points)



Note: Hatchered bars, empty circles and missing numbers mean that the difference estimated between BDC clients and non-clients is not statistically different from zero.

Source: Statistics Canada

Impact on productivity

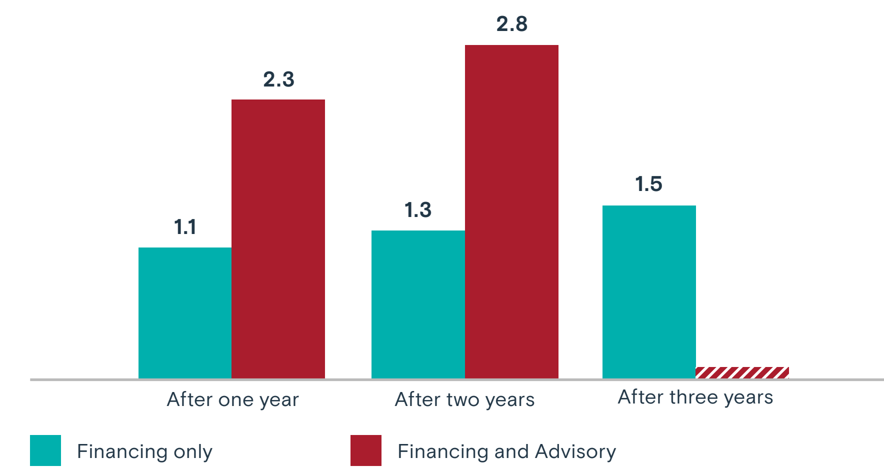
Statistics Canada's analysis shows that productivity growth of BDC clients was higher than that of non-client peers[1]. Specifically, the annual productivity growth rate of BDC financing clients was 1.1 percentage points higher than that of the control group after one year. The positive impact of BDC financing increased over time to 1.3 percentage points after two years and 1.5 percentage points after three years.

For clients that received both BDC financing and advisory services, productivity growth was 2.3 and 2.8 percentage points higher than non-clients after the first and second year, respectively. Statistics Canada's analysis did not show that BDC advisory services, when considered alone, influenced productivity growth, except during the last recession.

1 For the purpose of this analysis, labour productivity (as measured by sales/employment) was used as a proxy to measure a business's overall productivity.

Figure 4 — Difference between the annual productivity growth rates of clients and non-clients

(percentage points)



Note: Hatchered bars and missing numbers mean that the difference estimated between BDC clients and non-clients is not statistically different from zero.

Source: Statistics Canada

Impact on survival rates

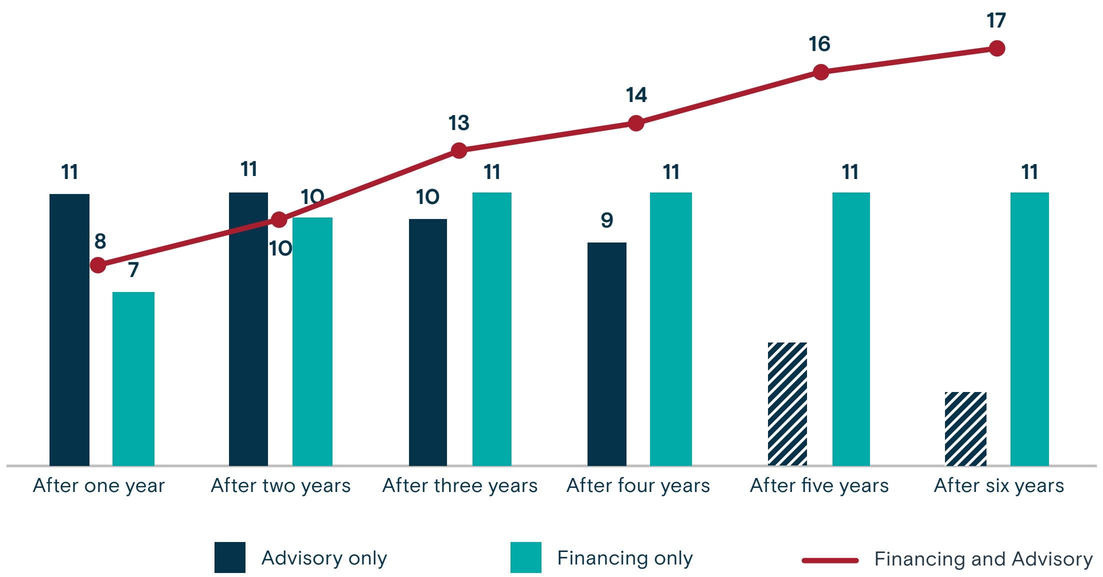
Annual survival rates[2] (the share of companies still in business after a year) were higher for BDC clients than non-client firms. Statistics Canada's analysis shows that, one year after receiving BDC services, survival rates were 11 percentage points higher for clients that received only advisory services, 8 percentage points higher for clients that received both financing and advisory services and 7 percentage points higher for companies that received only financing. BDC's impact on survival rates also persisted over time. After four years, the survival rate of BDC clients that received both financing and advisory services was 14 percentage points higher than that of comparable non-clients. Figure 5 provides an overview of the difference in survival rates and shows that the difference in rates persisted, and even increased, over time.

Some caution should be exercised when interpreting the survival rates after five and six years, due to the impact of the 2008–09 recession. The next section discusses this issue in more detail.

2 To obtain consistent survival rates, Statistics Canada considered that a business died if it had missing information on revenues and employment for two consecutive years. It follows that the survival rates are defined for firms birthed between 2005 and 2013, on the period 2005–2014 as a death cannot be assigned in 2015 because data for 2016 was not available at the time Statistics Canada did the analysis.

Figure 5 — Difference between the survival rates of clients and non-clients

(percentage points)



Note: Hatchered bars and missing numbers mean that the difference estimated between BDC clients and non-clients is not statistically different from zero.

Source: Statistics Canada

3 BDC's impact during a recession

Businesses that became clients of BDC during the last recession performed better and had a higher survival rates than similar non-client firms.

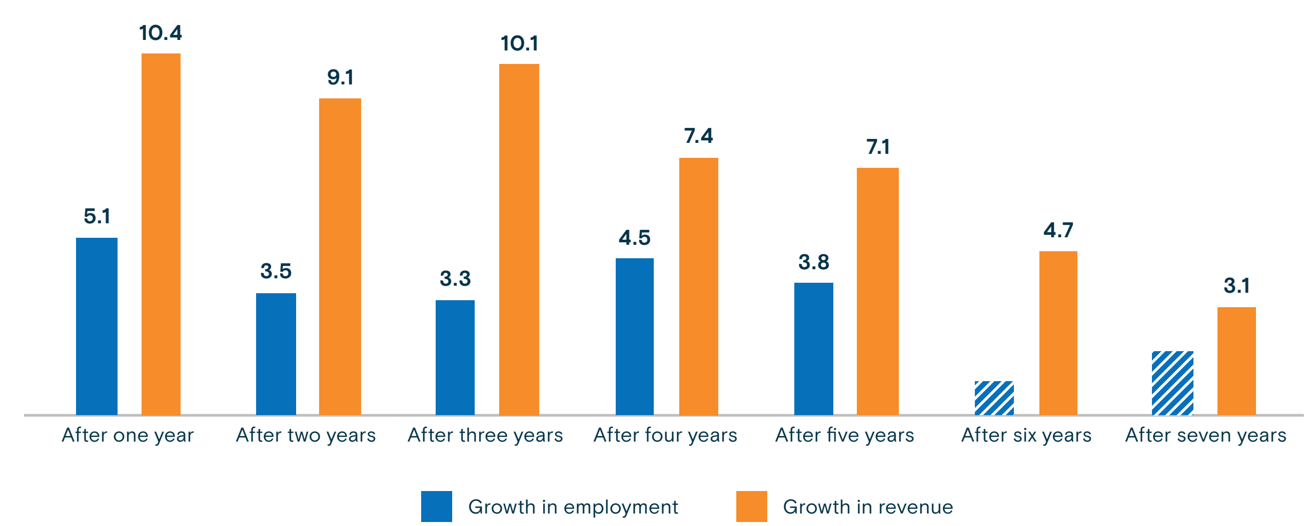
This section looks at the performance of firms that received BDC services during the 2008–09 recession. The clients BDC supported during this period showed higher sales, employment and productivity growth than non-clients.

Impact on revenue and employment growth

Statistics Canada's analysis shows that clients that received both financing and advisory services during the recession generated higher revenue and employment growth than non-clients. Specifically, BDC clients that received both services in 2008 generated 10.4 percentage points higher revenue growth and 5.1 percentage points higher employment growth in 2009 than non-clients. The impact on revenue growth remained positive over most of the period studied—until 2015. The impact on employment growth was found to be not statistically significant after 2013 (year 5). Figure 6 illustrates the difference in annual growth rates between 2009 and 2015.

Figure 6 — Difference in revenue and employment growth between clients that received both BDC services in 2008 and non-clients

(percentage points)



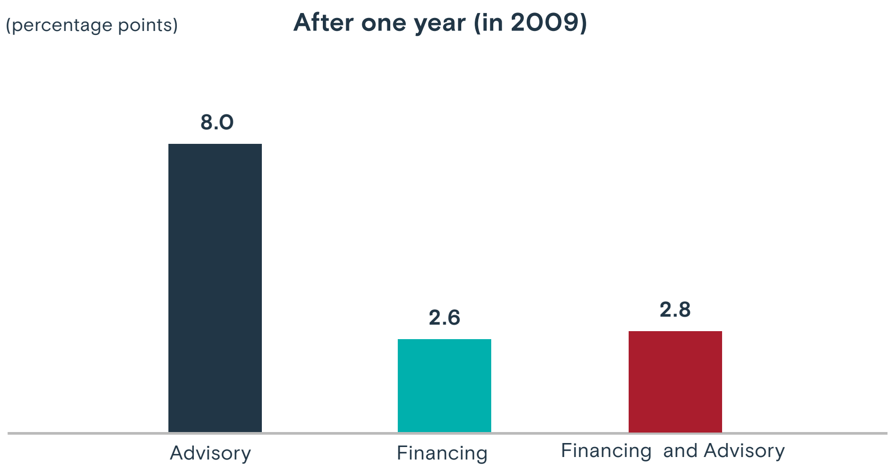
Note: Hatchered bars and missing numbers mean that the difference estimated between BDC clients and non-clients is not statistically different from zero.

Source: Statistics Canada

Impact on productivity

Both financing and advisory services had a positive impact on productivity growth of clients supported during the recession[3]. For clients that received advisory services in 2008, productivity growth was 8.0 percentage points greater than that of non-clients in 2009. Businesses that received BDC financing or both financing and advisory services also generated higher productivity growth, but the difference was more moderate at 2.6 and 2.8 percentage points, respectively.

Figure 7 — Difference in productivity growth rates between clients that received BDC services in 2008 and non-clients



Source: Statistics Canada

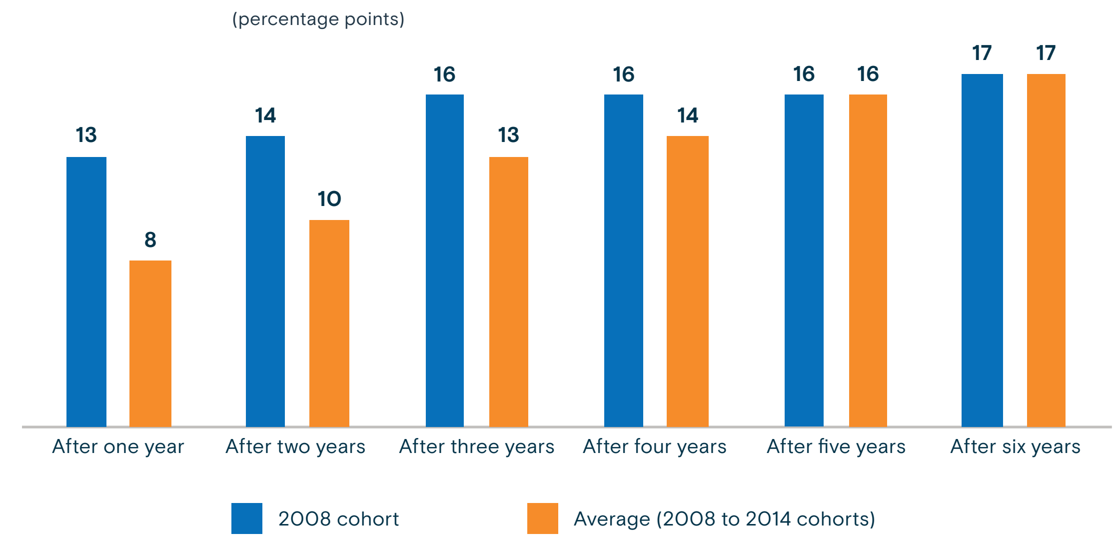
Impact on survival rate

BDC clients that received both advisory services and financing had higher survival rates than their non-client peers. Interestingly, BDC's greatest impact on survival rates was among clients BDC supported during the recession. Specifically, the survival rate for clients that received financing and advisory services in 2008 was 13 percentage points higher than that of non-clients after the first year. For clients supported between 2008 to 2014, the average difference between BDC clients and comparable non-clients was 8 percentage points after the first year. This demonstrates BDC's strong role in helping businesses during times of economic difficulty.

Figure 8 compares BDC's impact on clients it supported during the recession (the 2008 cohort) to its average impact on clients it supported between 2008 to 2014, relative to the survival rates of non-clients during the same periods.

3 For the purpose of this analysis, labour productivity (as measured by sales/employment) was used as a proxy to measure a business's overall productivity.

Figure 8 — Difference between the survival rates of clients that received both BDC services and non-clients



Source: Statistics Canada

4 Conclusion

This study demonstrates BDC's positive impact on businesses. It shows that BDC clients achieved better results in terms of revenue growth, employment growth and business survival rates than they would have achieved if they had not turned to BDC. Clients using both financing and advisory services tended to show even stronger results on key performance indicators.

The performance of BDC clients compared to non-clients remained positive over time, regardless of the economic cycle. Interestingly, BDC's positive impact on survival rates was greatest during the recession. That highlights BDC's important role in supporting businesses in difficult times.

5 Annex: Certain traits of this study

This study has all the key elements of a rigorous economic impact analysis. First, it was carried out by an independent third party, Statistics Canada. Second, the indicators selected to evaluate BDC's impact were those typically used to measure business performance, and they were related to BDC's goal of promoting the success of robust and competitive businesses. Statistics Canada had enough information on the businesses to carry out longitudinal analyses, as well as enough data to set up comparison groups that were sufficiently close to the client groups. Finally, Statistics Canada used sophisticated statistical tools to determine whether BDC clients performed better than non-clients and, if so, to what extent.

How was BDC's impact measured?

The results presented in this report were estimated by Statistics Canada using actual data from tax filings, administrative records, and other sources of information on small and medium-sized businesses. The estimates provide an independent and objective assessment of BDC's impact on its clients.

Statistics Canada used a three-stage approach to assess BDC's impact. Each step is described below.

1. **Statistics Canada identified more than 45,000 companies that had received BDC financing or advisory services between 2008 and 2015.**

   BDC provided Statistics Canada with a list of 23,537 financing and 4,573 advisory services clients that had received services between 2013 and 2015. This information was added to the list of more than 30,000 financing and advisory services clients provided to Statistics Canada to develop past versions of this report.

   Statistics Canada matched the list of BDC clients to its own database, the Business Register. The matches were made using three indicators: company name, address and telephone number. Matches were only retained if at least two of the three indicators were an exact match, or if at least one indicator was an exact match and at least one other was a probable match. Using this approach, Statistics Canada was able to identify 45,152 firms in the Business Register that had received either BDC financing or advisory services between 2008 to 2015. The linkage rate between the two files is similar, with 88.56% records matched from the advisory services list and 90.53% records matched from the financing list. Statistics Canada linked these data to the National Accounts Longitudinal Microdata File (NALMF). The NALMF contains data from corporate income tax returns (T2), and employment and payroll information (T4, PD7 and the Survey of Employment, Payrolls and Hours).

2. **Statistics Canada compared the performance of BDC clients with firms that were not BDC clients.**

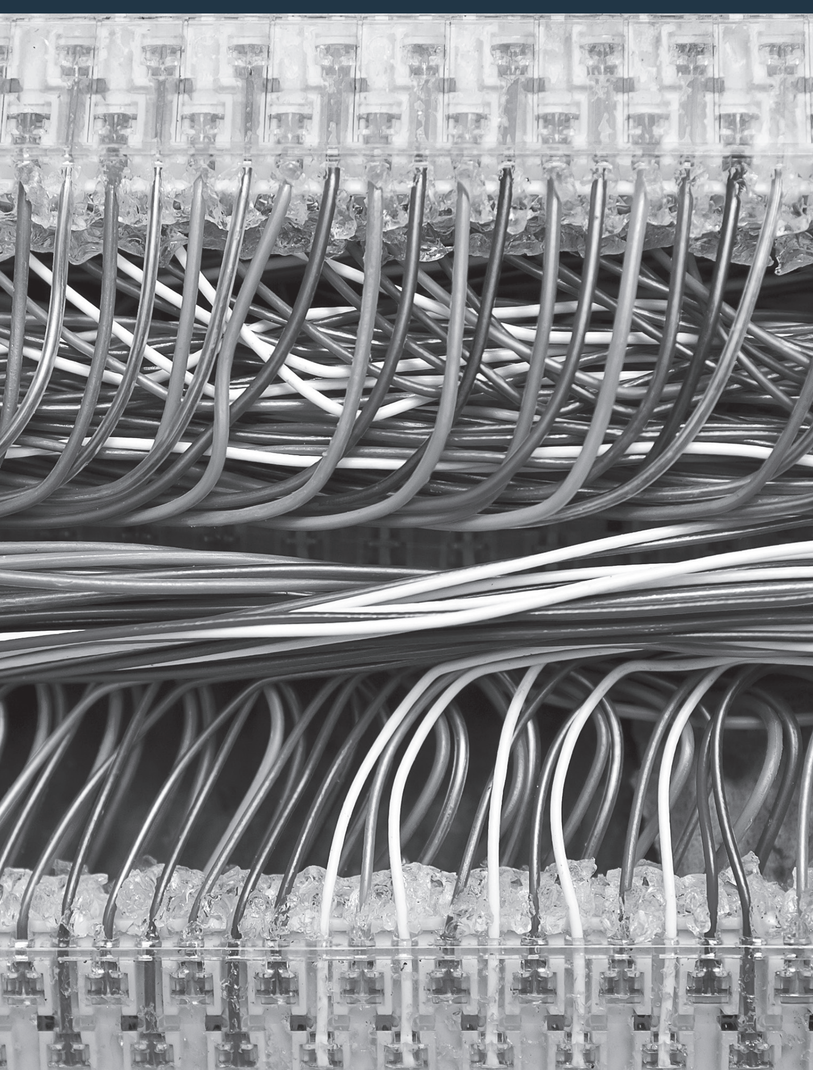
   For each BDC client, Statistics Canada identified five non-client companies that had similar characteristics to the client in the three years before the client received BDC services. The following characteristics were used to identify similar companies: age, revenues, assets, liabilities, number of employees, industry and region. Statistics Canada used a statistical technique known as propensity score matching to pair BDC clients with the most comparable non-client firms.

   To more accurately assess the impact of specific BDC services, Statistics Canada divided the clients into three subgroups: clients that received financing only; those that received advisory services only; and those that received both financing and advisory services.

3. **Statistics Canada assessed the impact of BDC on its clients using a series of financial variables and firm survival rates.**

   Statistics Canada carried out regression analyses to determine whether the financial performance of BDC clients differed from that of non-clients and to measure the size of this difference (if any existed). The financial variables it used to assess a business's financial performance included growth in sales, revenue, employment, productivity and profitability.

   The main results of Statistics Canada's analysis are presented in in this report. All results are expressed in percentage points and represent the average difference in growth rates between BDC clients and those of non-clients.



financing.
advising.
smarts.

For more information,
visit **bdc.ca**

Contact us
T 1-888-463-6232
E info@bdc.ca