Private Equity: a significant driver of growth for Canadian SMEs

Final report, December 2020

pwc

PitchBook

Contents

1 Executive summary

This study has established an objective evidence base for the performance of Private Equity backed companies in Canada

Study scope and purpose

The Canadian Venture Capital Association ("CVCA") is an industry organization dedicated to providing support, educational resources, and research on behalf of private capital investment firms ("PE Firms" or "PE Funds") in Canada.

Much of the current public discourse on Private Equity's ("PE's") role in the economy is based on limited information and anecdotal evidence. Furthermore, the discourse tends to blur distinctions between PE and other asset classes such as venture capital. The purpose of this study is to create an objective evidence base on the economic impact of Private Equity investment in Canada. The CVCA commissioned PricewaterhouseCoopers LLP to assess the relative performance of companies in receipt of PE investment ("PE backed companies" or "investee companies") by tracking the performance of a large number of such companies selected at random and comparing them to a range of benchmark companies.

Study approach

Data was collected on a total of 131 PE backed companies operating in four sectors (industrial and manufacturing, information and communications technology, business products and services and cleantech) and compared to benchmarks developed from companies listed on the TSX operating in the same sectors over the same period.

The data on PE backed companies was collated from CVCA members based on a stratified random sampling approach. The stratification was used to sample a geographically representative set of companies across Canada. The random sampling approach was used to avoid "cherry picking" of results so that the survey was not biased towards reporting successful investments only.

The study relied on data on historic performance and in all cases the financial data gathered did not include figures relating to the performance of companies post COVID-19.

This study demonstrates that PE Funds have a significant positive impact on investee companies, particularly through employment growth and capital investment

Key study findings

Revenue growth	Employment growth	Profitability and productivity	Capital Investment
Revenue in PE backed companies maintained double-digit growth post-investment (averaging 10.9% per annum), which is significantly higher than non-PE backed benchmark companies	Employment growth at PE backed companies was three times greater than non-PE backed equivalents. On a cumulative basis, the typical PE backed company added almost one quarter (24%) to its headcount in the three years post investment	Profitability in PE backed companies was higher than equivalent sized companies listed on the TSX. They also experienced over twice the rate of productivity growth in the three years following the initial PE investment	Capital investment, as a share of revenue, rose by 75% in PE backed companies post-deal, significantly faster than non-PE backed benchmarks

In terms of total size, companies backed by the Canadian PE industry are estimated to employ 195,000 people and generate annual revenues of $55 billion within the sectors assessed in this study

2 Introduction and approach

Introduction

The purpose of this study is to create an objective evidence base for the economic impact of Private Equity investment in Canada

This study was commissioned by the Canadian Venture Capital and Private Equity Association (“CVCA”) and seeks to add objective evidence on the performance of companies who are in receipt of Private Equity (“PE”) investment (“PE backed companies” or “investee companies”).

Much of the current public discourse on Private Equity’s role in the economy is based on limited information and anecdotal evidence. This study seeks to redress this by tracking the performance of a large number of PE backed companies selected at random and comparing them to the performance of a range of benchmark companies which are not PE backed. Furthermore, existing analyses and commentary on the role and impact of PE tends to blur distinctions between PE and other asset classes, such as Venture Capital.

PricewaterhouseCoopers LLP (“PwC”) was commissioned by the CVCA to undertake this study. It makes use of a survey of PE Funds to gather data on the performance of investee companies and multiple research databases such as Pitchbook, Capital IQ and Bloomberg to gather additional data on investee companies and benchmarks.

This study does not factor in impacts of COVID-19 as it examines historical financial and operational metrics only. Therefore, the conclusions of this study are in the context of a pre-COVID business landscape.

This study is comprised of three phases focusing on four sectors

The study was completed in three phases

Phase 1: Pilot survey (industrial and manufacturing)

Collected data on Canadian PE backed companies in the industrial and manufacturing sector based on a stratified random sample.

Phase 2: Benchmarking Analysis

Constructed several benchmarks based on public companies listed on the TSX through which to compare the relative performance of PE backed companies.

Phase 3: Survey of Additional sectors

After completing initial analysis on the Industrial and Manufacturing sector, three additional sectors were incorporated in the analysis through a second CVCA member survey. These were: Cleantech, Information and Communications Technology and Business Products and Services.

The study includes results from four sectors

1	Industrial and manufacturing (I&M)
2	Cleantech
3	Information and communications technology (ICT)
4	Business products and services (BP&S)

The results in this report are presented at the aggregate level across the four sectors combined in order to maximise the available data sample and therefore the reliability of the results.

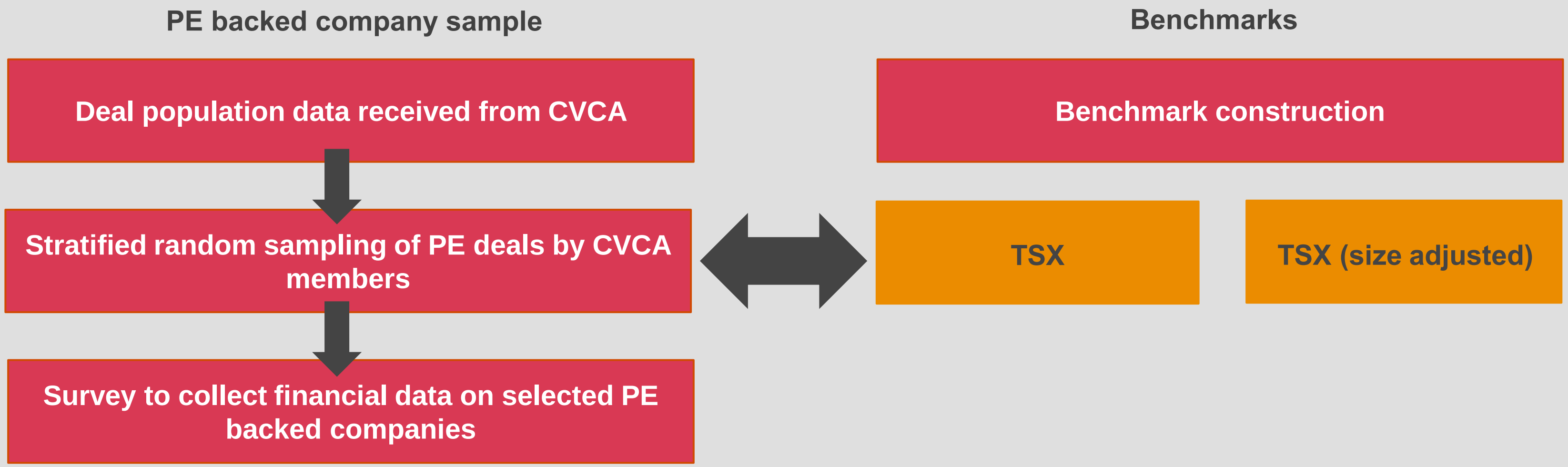
This study has created a database of the performance of 131 PE backed companies

The approach to this study involved two key activities:

1. The collection of financial data on PE backed companies through a survey of CVCA members across the four selected sectors.
2. The assembly of benchmark performance indicators for non-PE backed companies in these sectors to provide comparators. These benchmarks were assembled using data from a range of sources including Pitchbook, S&P Capital IQ and Bloomberg.

These steps are summarised in the diagram below. A key element of the approach to highlight was the use of a stratified random sampling approach to select the data on PE backed companies. For the results of this study to be robust it was critical that the sample of PE backed companies analyzed was representative, and there was no “picking of winners”. To do this, PwC selected a random sample of the total population of deals to include in the study, rather than allow CVCA members to choose which data to share. Further detail on the approach is available in **Appendix 2.**

Data collection and analysis



Two performance benchmarks were developed to compare PE backed company performance to non-PE backed companies

Benchmark indices

The two benchmarks developed to compare the relative performance of the PE backed companies against are described in more detail below.

Benchmark index		Description
1	**TSX benchmark**	The median performance of all Canadian domiciled companies listed on the TSX in the four sectors assessed.
2	**TSX (smaller enterprises) benchmark**	The average revenue of companies in the TSX is materially higher than those of the PE backed companies in our sample. As large and small companies can have differing characteristics, a measure was created by selecting smaller companies on the TSX such that the average revenue of these selected TSX companies was equal to that of the sample of PE backed companies collected.

Note: TSX benchmarks were all constructed using firm level data rather than using pre-existing sector indices to prevent changes to company composition in the TSX over time from impacting results.

The survey collected data on 131 PE backed companies across the four sectors assessed in this study

131

Number of PE backed companies in sample

The survey collected detailed financial data on 51 companies in the I&M sector, 42 companies in the BP&S sector, 31 companies in the ICT sector, and 7 companies in the Cleantech sector.*

$72m

Average PE backed company revenue

The PE backed companies sampled had average annual revenue of around $70 million, putting them in the small to midsize company range.

5+

Years of data

Most companies provided 5+ years of data, which includes data before and after the year of PE investment. This allowed the analysis to take a longitudinal view of company performance over time and compare trends before and after the PE investment in some cases.

* The population of cleantech deals available to be sampled was relatively small which drove the low number of responses.

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Background

The focus of the study is Private Equity investments, which typically are made in relatively mature companies with mid-level capital needs

Stylised representation of selected equity capital raising options in Canada

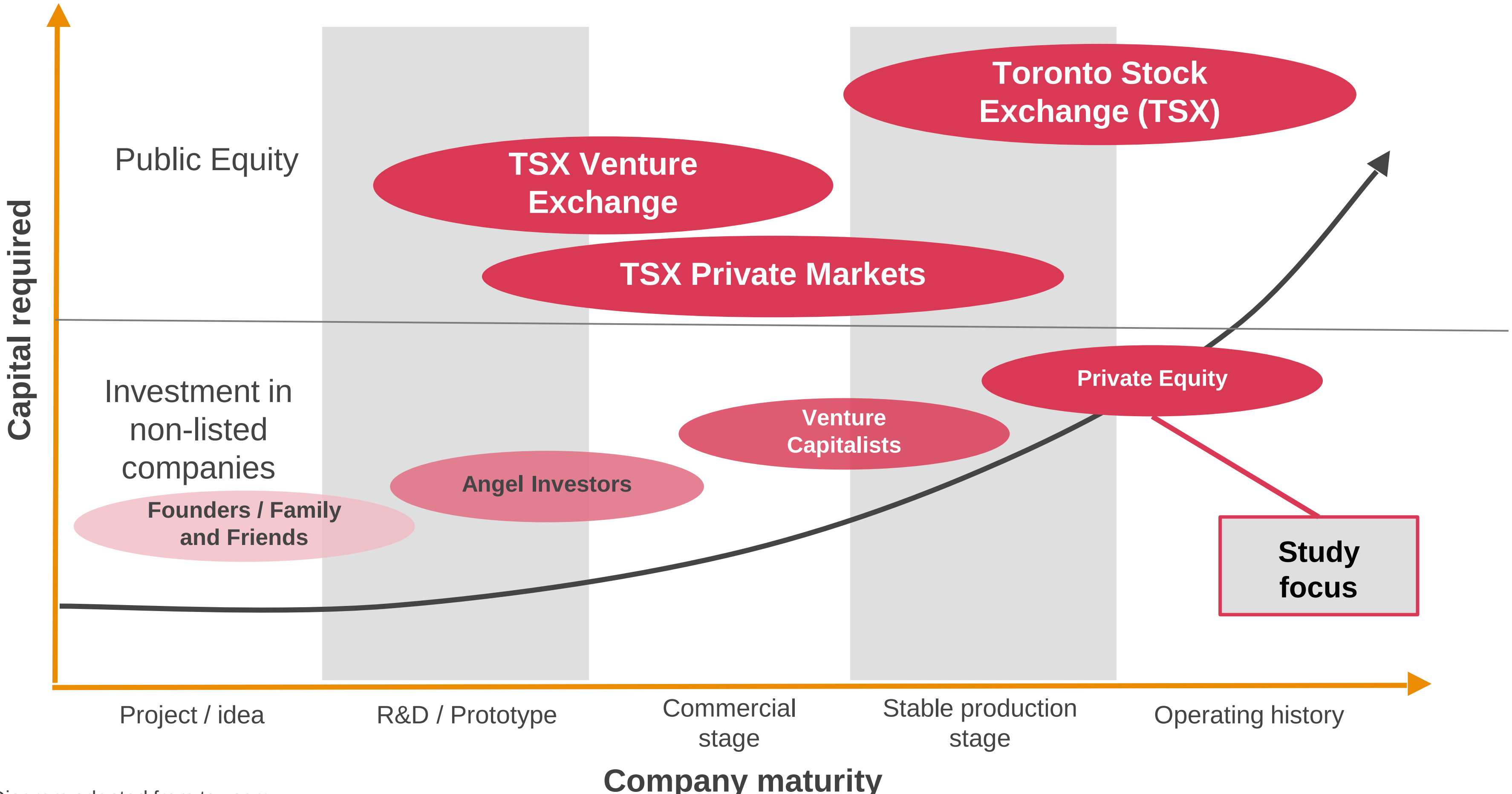
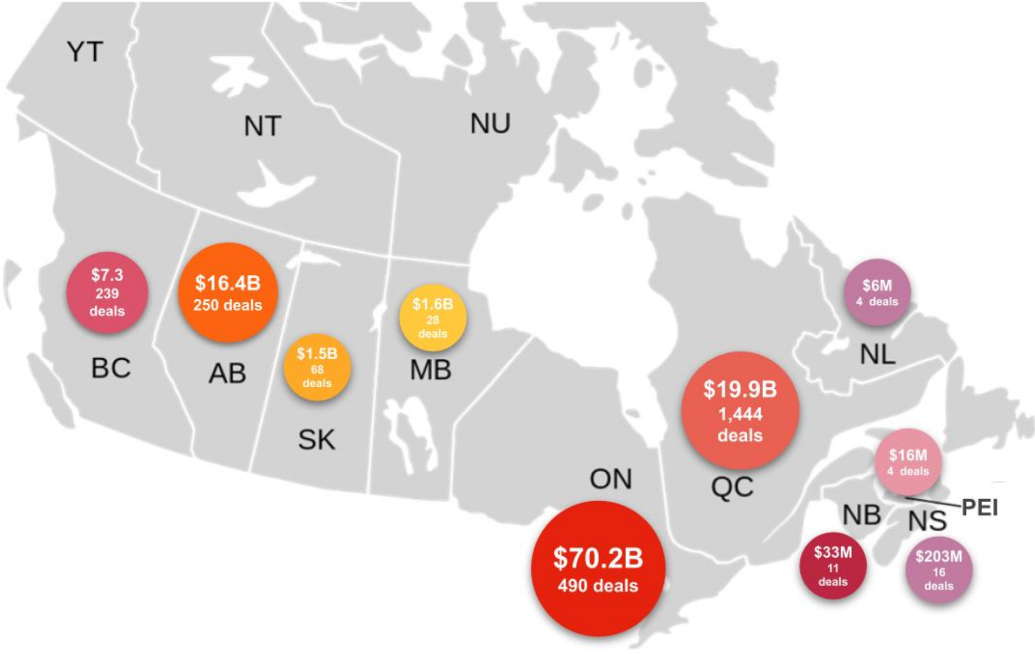


Diagram adapted from tsx.com

Private Equity Funds in Canada have invested over $115bn since 2015

Private Equity is an investment class which funds companies that are not listed on a public exchange. Private Equity is typically directly invested into private companies, buying out or partnering with existing owners and / or management. Often institutional investors provide the capital for Private Equity, which can be used for a variety of purposes including investment in new technology, making acquisitions, expanding working capital, and strengthening the subject company's balance sheet.

Since 2015, over $115 billion has been invested by Private Equity Funds in Canada. The greatest cumulative dollar value of PE investment since 2015 was seen in Ontario, whereas the greatest volume of deals was experienced in Quebec. The diagram below shows a breakdown of cumulative PE investment in Canadian companies by province between 2015 and 2019. Over two-thirds of Canadian PE deals are less than $25m, suggesting that most PE backed companies are small- and medium-sized businesses.



Source: CVCA and Pitchbook, all monetary values in this report are expressed in nominal Canadian dollars unless otherwise stated.

Other studies have assessed the impact of Private Equity and found positive effects on the macroeconomy and company performance

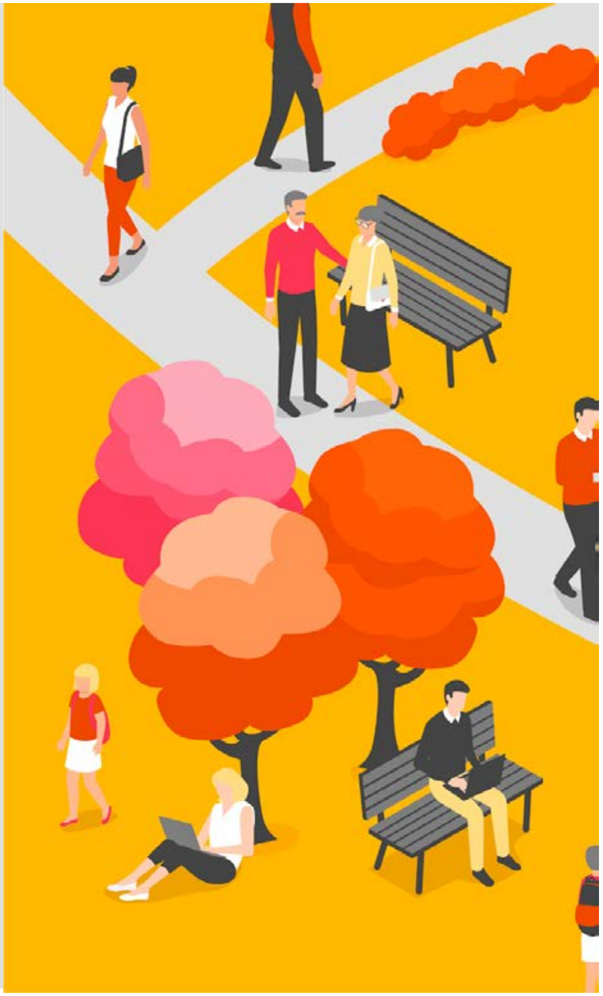
We are not aware of any previous study which assessed the relative performance of PE backed companies in Canada, however this issue has been explored in other jurisdictions.

For example, in 2017 Harvard Business School published a working paper on Private Equity and financial fragility during the 2008 financial crisis. Their study sought to examine whether PE backed companies outperformed or underperformed their peers following the crisis, as a result of differences in capital structures.

The study found that **PE backed companies invested more than non-PE backed peers during the crisis,** which was attributed to their easier access to financial resources.

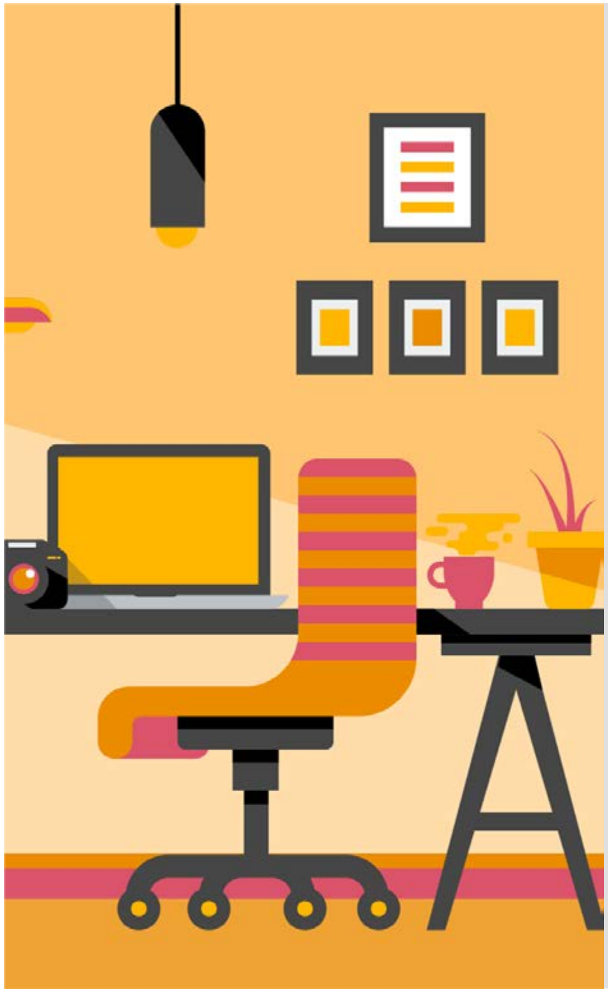
PE backed companies also **experienced a greater growth in their stock of assets in the years following the crisis and increased their market share** during the study period.

In terms of the broader issue of how a thriving PE sector impacts the macroeconomy, a recent paper by the C.D. Howe Institute concluded that an **increase in the stock of Private Equity capital causes a positive response in GDP via increased business investment, exports and productivity**.



Sources: Bernstein, S., Lerner, J., & Mezzanotti, F. (2017). Private Equity and Financial Fragility during the Crisis
C.D. Howe Institute (2019). Growth Surge: How Private Equity Can Scale Up Firms and the Economy.

Studies have also shown a positive impact of PE on employment and revenue growth



Recent research on the European market estimated that **10.5 million people were employed at 22,659 Private Equity backed businesses** in Europe at the end of 2018. This research estimated that these businesses added 173,124 net jobs in 2018, a 5.5% increase, which is **four times the growth rate seen in the economy as a whole**.

A UK study, with a similar scope to our study, found that PE backed companies create jobs at a considerably faster rate than other private sector companies. Over a five year window it showed that the number of people employed worldwide by **UK PE backed companies increased by an average of 8% per annum as compared to FTSE 100 and FTSE Mid-250 companies, at 0.4% per annum and 3% per annum respectively**.

This study also found that PE backed companies help boost the UK economy. Over the five years to 2006/7, average Private Equity-backed companies' sales rose by 8% per annum, compared with FTSE-100 companies (6% per annum) and FTSE-250 companies (5% per annum).

In a survey of PE backed businesses conducted as part of that study, **91% of responding companies said that Private Equity investment had enhanced their revenue growth**.

Sources: Invest Europe: "Private Equity at Work" (2019)
The British Private Equity and Venture Capital Association (2007), The Economic Impact of Private Equity in the UK

4 Key findings

PE backed companies delivered double digit revenue growth and strong employment growth while also investing capital post-deal

PE backed companies grew revenue and employment more quickly than peers

The opening part of this section summarises the post-deal performance of PE backed companies and the equivalent figures for benchmarks. The table below shows the median performance of PE backed companies against benchmarks of companies operating in the same sectors.

PE backed companies experienced significantly higher revenue, employment and productivity growth than any of the benchmarks assessed. Specifically, revenue growth for PE backed companies exceeded both benchmarks, estimated productivity growth was over twice that of benchmarks and employment growth over three times the level of benchmarks. The EBITDA margin and capital investment statistics exceeded that of the TSX (smaller companies) measure which incorporated listed companies in the same sectors and of the same size, but were below the levels seen in the TSX benchmark. Considering that over two-thirds of Canadian PE deals are less than $25 million and into Canadian SMEs, TSX (smaller companies) is the closest benchmark in performance terms.

Performance of PE backed companies post-deal compared to benchmarks

Performance measure	Private equity average*	TSX (smaller companies)	TSX
Median revenue growth (YoY %)	10.9%	9.6%	6.9%
Median employment growth (YoY %)	7.3%	1.7%	2.1%
Median EBITDA margin (% of revenue)	7.9%	7.4%	11.0%
Median capital investment (% of revenue)	3.5%	3.3%	4.1%
Median productivity growth (YoY %)	3.5%	1.4%	1.5%

Source: PwC survey of CVCA members, analysis of data from Capital IQ, Bloomberg and Pitchbook.
Note: the data above shows only post-deal performance, not pre-deal performance which is included in subsequent sections.
PE backed company sample (n) was 78 for revenue growth, 29 for employment, 81 for EBITDA. 71 for Capex, 17 for productivity.
*averages are given over four year period for PE backed revenue, EBITDA, productivity and capital investment, and three year period for other metrics.

Trends before and after PE Fund investment show a sharp increase in capital spending, stable EBITDA margins and strong, but slightly reduced, revenue growth

PE investment had a positive impact on capital expenditures while maintaining profitability

The survey also enables an analysis of the performance of PE backed companies before and after the investment by a PE Fund, as summarised in the table below. The survey data suggests that following the initial investment, PE backed companies significantly increased capital spending, maintained a similar EBITDA margin and strong, albeit slightly reduced, revenue growth. These trends are explored in more detail on the following pages (pp 20-24), although one important caveat to highlight is that the comparison of pre- and post-deal performance does not control for the broader macroeconomic context.

As shown on the previous page, post-investment profitability and capital expenditures were significantly higher than that of non-PE backed companies shown in the benchmarks, suggesting that PE investment has positive impact on capital expenditures and profitability, while creating strong employment growth. The data also enables the total scale of PE backed companies in Canada to be estimated across the four sectors surveyed. We estimate that companies backed by Canadian PE Firms have total annual revenues of $55 billion and employ 195,000 people.

Performance of PE backed companies pre-deal and post-deal

Performance measure	Private equity average* pre-investment	Private equity average post-investment
Median revenue growth (YoY %)	**12.6%**	**10.9%**
Median EBITDA margin (% of revenue)	**8.2%**	**7.9%**
Median capital investment (% of revenue)	**2.0%**	**3.5%**
Total impact of PE backed companies in sectors included in study	**Revenue $55 billion and employment of 195,000**	

Source: PwC survey of CVCA members; n =87 for revenue growth, 98 for EBITDA. 81 for Capex. Employment and productivity not included due to insufficient pre-deal sample.
* Numbers represent the average of median scores over 3/4 years.
See Appendix 2 for detail of total revenue and employment calculation. Clean tech companies were excluded from this estimate due to low sample size.

Revenue growth in PE backed companies exceeds benchmarks in both the pre and post-deal periods

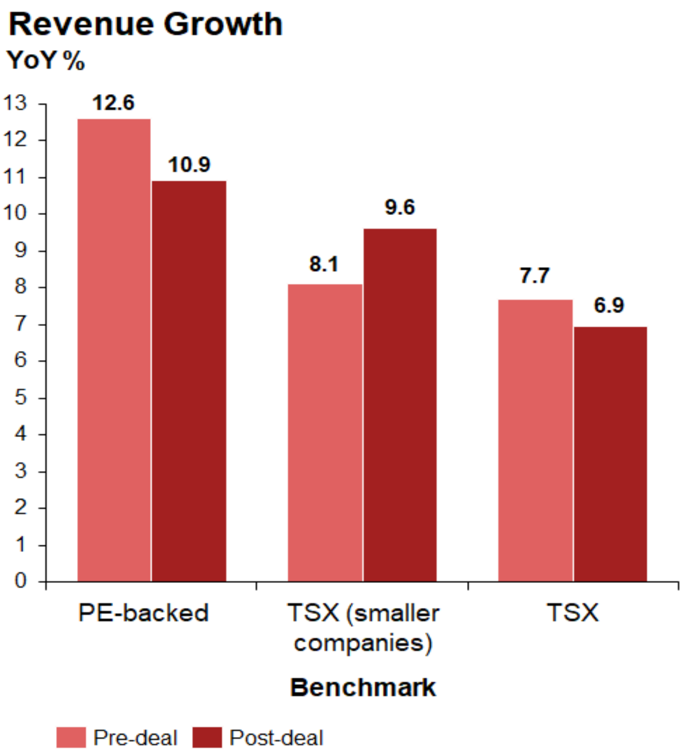
Revenue growth: double digit growth seen in PE backed companies

The comparison of pre- and post-deal performance of PE backed companies against benchmarks is shown opposite for revenue growth.

PE backed companies' growth rates remained higher than the benchmarks in both periods, despite a slowdown post-deal relative to pre-deal. There may be several reasons for this trend. For example, growth rates tend to slow in percentage terms as companies get larger and naturally progress through the business lifecycle. This could also be influenced by the timing of the investments.

As noted in Appendix 2, the benchmark data was reweighted by year so that it matched the period covered in our sample of PE backed company data to control for any differences as a result of the economic cycle.

Performance metrics of PE backed companies, pre- and post-investment, three year average growth rates*



Source: PwC survey of CVCA members, analysis of data from Capital IQ, Bloomberg, Pitchbook
* Four years of data shown for PE backed deals

PE backed companies showed substantially stronger employment growth post-deal than seen in benchmarks, while concurrently improving productivity

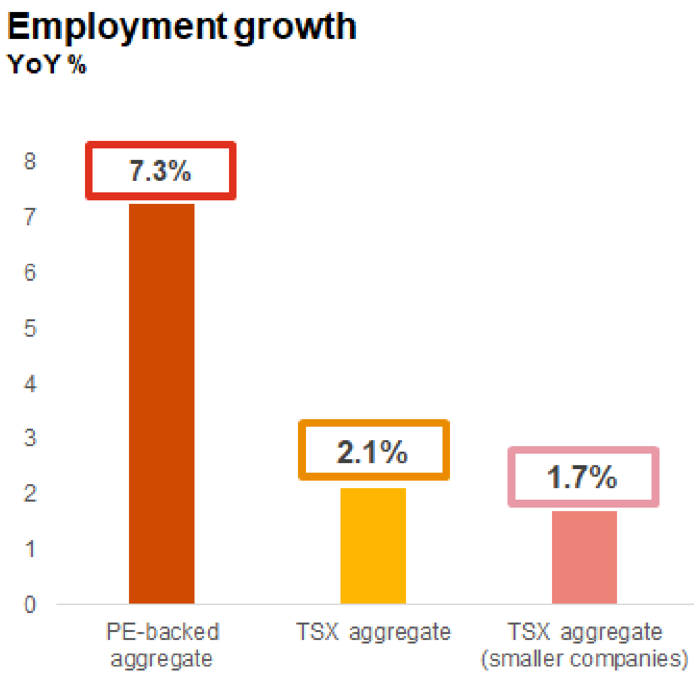
Employment growth: almost three times higher than benchmarks

Employment growth in post-deal years was significantly higher than in benchmarks, at an average of 7.3% compared to the closest benchmark, the TSX, which averaged 2.1%.

Even in comparing employment growth to the TSX (smaller companies) benchmark, which might be assumed to grow at a faster rate than other mature benchmarks, the PE backed companies remain significantly higher.

This is a significant finding given that a common misconception about PE deals is that they achieve cost-reduction through cuts in employment. This study shows that the opposite is the case for Canadian PE backed companies who showed a clear focus on post-deal employment growth.

Performance metrics of PE backed companies, post-investment, three year average growth rates*



Source: PwC survey of CVCA members, analysis of data from Capital IQ, Bloomberg and Pitchbook.
*This result is only presented post-deal due to insufficient sample size of pre-deal data.

Comparing pre and post-deal figures shows that profitability for non PE backed companies fared worse than for PE backed companies

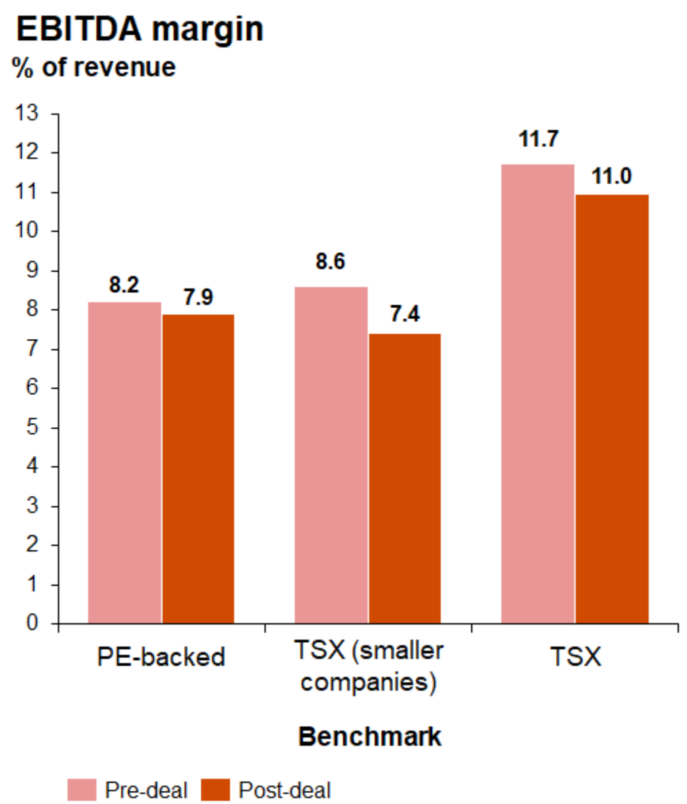
Profitability: PE backed companies held steady, compared to dips in TSX benchmarks over the same period

The key findings from these results are that EBITDA margins at PE backed companies edged down slightly when comparing pre- and post-deal periods, but the TSX benchmarks saw a greater decline.

As noted in Appendix 2, the figures were reweighted by year so the timing of the benchmark data matched the PE sample to control for the any differences caused by the economic cycle.

As it was not possible to do this within category (i.e. when comparing pre and post-deal performance), the findings over time for the PE backed companies and the benchmarks may have been influenced by cyclical factors.

Performance metrics of PE backed companies, pre- and post-investment, three year average growth rates*



Source: PwC survey of CVCA members, analysis of data from Capital IQ, Bloomberg, Pitchbook
* Four years of data shown for PE backed deals

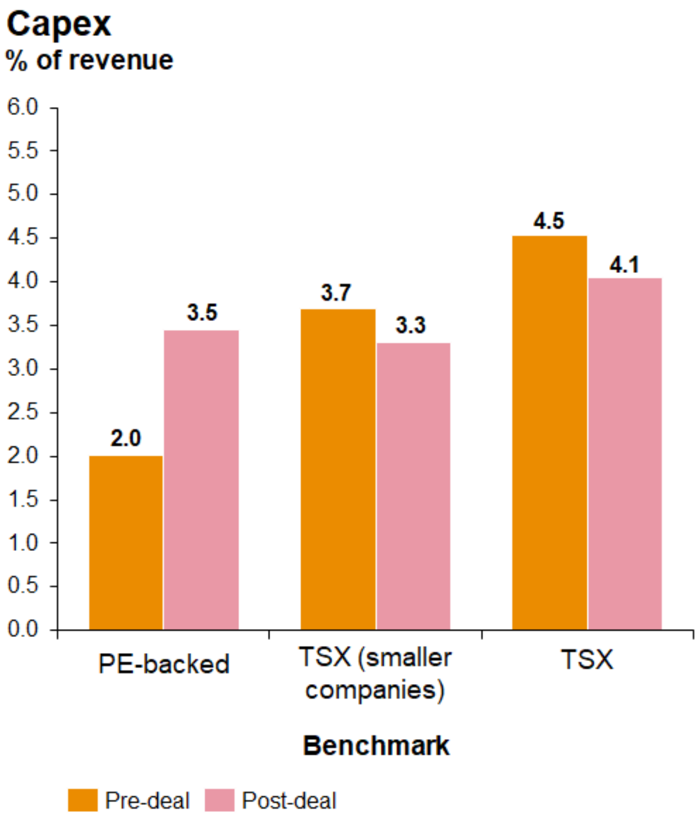
Capital spending rose materially post-deal in PE backed companies

Capital spending: rose by 75% post-deal in PE backed companies

Capital spending for companies pre- and post-deal shows marked differences across the categories. Specifically, capital spend rose substantially after the deal at PE backed companies, closing the gap with the benchmarks, although the value remained lower than the TSX benchmark. This implies that PE funds drive up capital spend immediately post-deal with the goal to significantly grow the investee company.

As discussed in the previous section on revenue growth (page 20), this trend could be driven by a number of different factors that the data does not allow to be disentangled. First, this could be a selection effect whereby PE Firms' targeting approach tends to focus on investing in companies with low capital expenditure. Second, this could be linked to company size given PE backed companies are much smaller than those in the TSX benchmark.

Performance metrics of PE backed companies, pre- and post-investment, three year average growth rates*



Source: PwC survey of CVCA members, analysis of data from Capital IQ, Bloomberg, Pitchbook
* Four years of data shown for PE backed deals

Productivity growth post-investment appears to be stronger in PE backed companies than benchmarks

Revenue per employee: grew more that twice as quickly at PE backed companies than benchmarks

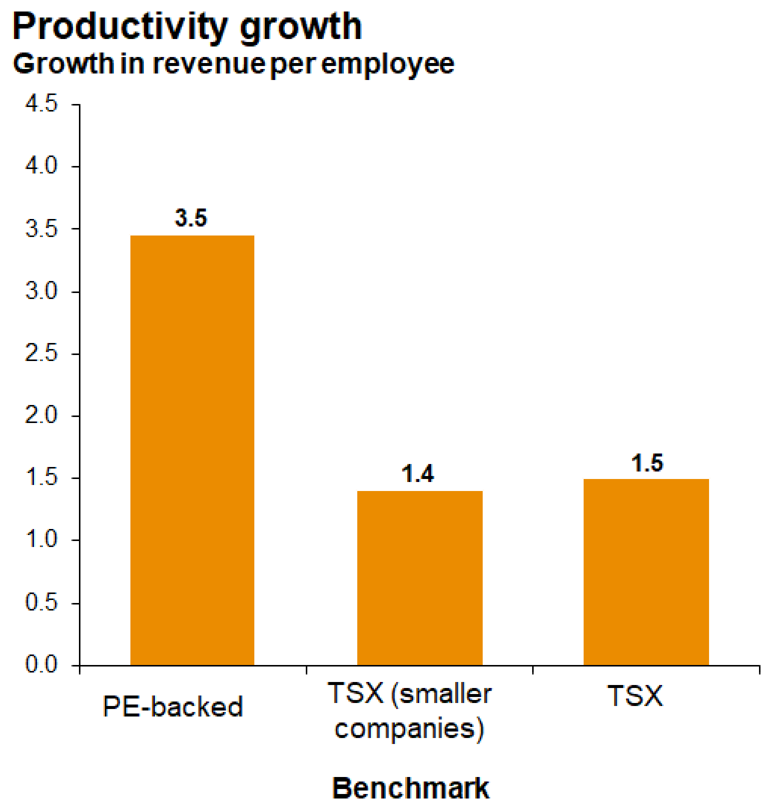
The final metric presented is for growth in median revenue per employee which is a measure of productivity.

The data suggest that post-investment, PE backed companies show far stronger productivity growth at over twice that of the benchmarks.

It is important to highlight that this measure has a lower sample size than others presented and therefore carries greater uncertainty. This analysis could only be performed for companies reporting both revenue and employment data with no gaps between years to allow a complete longitudinal series, therefore the number of data points meeting these criteria were significantly lower than for the other metrics assessed in our study. This resulted in a substantially smaller sample size for the PE backed companies and also for the TSX SME benchmark.

Furthermore, these data limitations mean that this analysis includes a substantially different set of companies than the analysis of employment and revenue growth in isolation shown previously and the results between those metrics are not comparable. We therefore consider this analysis to provide a directional indication that should be further explored in the future.

Performance metrics of PE backed companies, post-investment, four year CAGR



Source: PwC survey of CVCA members, analysis of data from Capital IQ, Bloomberg, Pitchbook

PE in action: Transforming the business model to create a world leading business

Firm: Birch Hill Equity Partners
Investee Company: Carmanah Design & Manufacturing Inc.
Industry: Industrials & Manufacturing
Location: Surrey, B.C
Investment Period: 2003 to 2013

Carmanah is a global leader in the design and manufacture of stranders and related equipment used in the production of oriented strand board (OSB), an engineered wood panel product primarily used in home construction. Carmanah also supplies debarking and wood chipping equipment used in both the forest products and the pulp and paper industries.

When Birch Hill Equity Partners first invested in Carmanah in 2003, its core business was manufacturing and selling a variety of capital equipment for use in wood product manufacturing and serving as a pulp equipment repair job shop. Birch Hill was attracted by the strong leader at the business whom they felt could scale with the company. Their interest was also stoked by the potential for OSB, where Carmanah was a strong player but at the time only in the sale of capital goods required to manufacture OSB.

Having recognised this potential, Birch Hill worked with Carmanah following the investment to significantly refocus their strategy:

- The business was moved to a new facility supported by a $5 million capital investment, which allowed Carmanah to reconfigure its manufacturing set-up, setting it up to exit from the pulp repair business and refocus on reusable parts for the OSB business.
- The OSB business model was refined to include a recurring revenue parts model, where users of the OSB equipment also paid Carmanah to provide new components over time.
- All capital spend and R&D was focused on the OSB market and overall spending on research was significantly increased.
- Given the growing popularity of OSB in Europe, Carmanah began to market and export OSB machines at scale. Having had minimal European exports prior to Birch Hills investment, the company had won major contracts in the UK and Scandinavia and became a key competitor to the existing German incumbent firm. Sales to the US were also increased and exports rose from around 50% of revenue in 2003 to around 80% in 2013.

Upon exiting the business in 2013, Birch Hill had realized their goals for Carmanah. The business had been transformed from a capital goods company into a recurring revenue parts business and became a major global player in the OSB market, and the management team was strong with clear succession planning in place. Today the business continues to thrive, having been sold to Massachusetts-based manufacturing company Kadant.

PE in action: Turning a struggling family business into an international player

PE Firm: MB Capital, Novacap, Desjardins Capital & Fonds de solidarité FTQ
Investee Company: Bestar Inc
Location: Lac-Mégantic, Quebec
Industry: Retail
Investment Period: 2014-onwards

It was nearly two years after selling his door manufacturing business to Masonite International Corp. that entrepreneur Mario Aubé was approached to run a different kind of building products company – furniture maker Bestar Inc.

Lac-Mégantic, Quebec-based Bestar, which designs and makes ready-to-assemble (RTA) home and office furniture, was looking for a new leader to help revitalize the company. The family business, founded in 1948 and taken public in 1986, was struggling due to intensifying competition from large-scale furniture makers across North America and the growing imports from China, and investors were losing patience.

Instead of simply running the company, Aubé and a handful of Private Equity firms, including MB Capital, decided to take Bestar private in late 2014 in a deal valued at $2.7 million. Their plan was to restructure the company, including making improvements to its operations and customer service to better compete with industry rivals. “I’m an operator. That’s what I do,” Aubé says.

Aubé and his team revamped Bestar’s inventory and manufacturing systems in a way that enabled it to deliver its growing list of products – such as desks, tables and its highly popular murphy beds — more quickly to consumers. “It was through a number of little steps …. that we were able to put the focus back on doing everything we can to service the customer,” Aubé says.

Three years after taking the company private and tripling its sales, Bestar attracted Novacap, one of Canada’s most established private-equity firms, to help fund its next stage of growth. “We knew there were huge opportunities to grow the business,” Aubé says of the decision to bring in more Private Equity backers.

Bestar used the additional Private Equity funding to realign its strategy, including a focus on the growing online segment of the RTA furniture market. The company invested in new manufacturing equipment to accelerate automation, product design and innovation, as well as making improvements to its production capabilities, logistics and distribution channels. As a result of these changes, and the shift to mostly online sales, Bestar not only saw higher revenues but expanded its gross margin that has helped it to significantly improve its bottom line.

Earlier this year, Bestar also made its first-ever acquisition, buying Jamestown, N.Y.-based Bush Industries Inc., an American manufacturer of case goods and RTA office and home furniture. The combined company has about 640 employees (up from 158 in 2017) and is expected to generate a combined CAD $300M in sales in fiscal 2020. The acquisition was financed by Novacap, along with fellow Quebec investors Desjardins Capital and the Fonds de solidarité FTQ.

Conclusions

This study demonstrates PE funds are long-term investors seeking out companies with a strong track record of revenue growth, but lower profitability and capital spend levels that provide headroom to increase. Following the investment, PE Funds tend to increase capital spending and maintain strong levels of growth in revenue and employment that significantly exceed those seen in benchmarks. Productivity growth also appears to be very strong in PE backed companies post-investment.

The case studies provide further illustration of how this is achieved, typically the PE Fund will invest in a company with a clear thesis on how the business model of that company can be changed and will then go about actioning the thesis with company management and, in many cases, providing further new capital to underpin this transformation.

It is important to highlight that the results fundamentally disagree with the characterisation sometimes levelled at Private Equity Funds: as organizations that look to purchase companies, strip out costs and jobs and then resell them once profitability has risen.

This study is, to our knowledge, the first of its kind in Canada. It has taken a systematic approach to collect and analyze data from a random sample of companies that have received PE investment, and compared those to several performance benchmarks.

As has been stated several times already, this study was founded on a random sampling approach designed to avoid “cherry picking” success stories. This was designed to ensure the results provide an unbiased picture.

That “cherry picking” has been avoided is indicated by the fact that not all of the results provide a consistently positive picture of the industry, and in some cases the companies in the assembled benchmarks outperform the PE backed companies.

It is always important to highlight the limitations of studies of this type. Principally, these results rely on survey-based evidence, and whilst every effort has been made to ensure a large sample, there is an inherent margin of error to the findings. It should be also recognised that the benchmarks are imperfect. As private companies are not required to publish accounts in Canada, the TSX based benchmarks relied on public companies, which may differ in nature to PE backed private companies.

There are several ways in which this study could be developed further in the future, notably by assessing a wider range of sectors, and by considering performance based on non-market indicators, such as environmental impact, social value or governance.

5

Appendix

Appendix 1: Detail of four stages of the study

This report contains the final results of the study covering the **Industrial and Manufacturing (I&M), Information and Communications Technology (ICT)**, **Business Products and Services (BP&S)** and **Cleantech** sectors.

This study was completed in four stages as set out in the diagram below. Stage 1 of the study was conducted in April 2020 and gathered data on the performance of PE backed companies in the I&M sector through a survey of CVCA members. Stage 2 built on this by constructing performance benchmarks based on data from a range of company databases including Capital IQ, Bloomberg and Pitchbook.

In June 2020, the study was expanded to gather data on three additional sectors:

1. Information and Communications Technology,
2. Business Products and Services, and
3. Cleantech

April 2020

1. CVCA member survey

We collected data on a large sample of Canadian PE deals provided by the CVCA and selected a stratified random sample representative of the geographical mix. The survey was launched to gather data from PE Funds on investment performance.

May 2020

2. Benchmarking analysis

For the **I&M** sector we constructed several benchmarks based on public companies through which to compare the relative performance of PE backed companies.

June 2020

3. Survey of additional sectors

A second survey was conducted in June and July including the remaining three sectors: Information and Communications Technology, Cleantech, and Business Products and Services.

December 2020

4. Case studies and final report

This final report was completed in December 2020.

Appendix 2: Detailed approach

Description of detailed approach

Step 1: PE deal identification

The CVCA provided a list of over 3,200 Canadian PE deals which had occurred between 2013 to 2019. The initial list contained numerous sectors including I&M, ICT, and BP&S along with additional sectors such as eCommerce and Electronics. For the purposes of this study, we narrowed the scope to focus only on I&M, ICT, BP&S and Cleantech.

We selected only those deals in these sectors to pursue for the survey. We also eliminated deals occurring in 2019, as there would be limited post-deal data for the analysis. We identified the deals involving CVCA members in order to facilitate data collection. Once the shortlist of PE Firms and deals was compiled it was stratified into segments based on the geographical location of the investee company. Each segment was then randomly sampled to select around 300 companies which were geographically representative.

Step 2: PE firm survey

A data template was created for PE Funds to complete for each selected investment. As investments were randomly selected, performance of subject companies did not influence their inclusion in the survey. The data template that was created included various financial statement items over multiple years, including, but not limited to:

- Revenue;
- Depreciation & amortization;
- Operating income;
- Net income; and
- Capital expenditures

In addition to basic financial metrics, data points such as number of employees and the high-level strategic approach for the investment were requested.

Step 3: Secondary data collection

In order to analyze PE backed company data, it was determined that it was appropriate to compare these metrics to those of publicly traded companies. Given that the subject PE investee companies are Canadian, the benchmark data was Canadian as well in order to reflect similar economic and market trends, and therefore data was collected for TSX listed companies within the key sectors of the analysis.

Other data sources such as Pitchbook were used to establish an understanding of the PE landscape in Canada and cross check the survey data, which helped to inform the overall approach to the study.

Step 4: Data analysis

After collecting data from PE Firms and public benchmarks, the data was compiled by sector into databases. Within each database relevant longitudinal metrics such as revenue growth, EBITDA margin and growth in capital expenditures as a percentage of revenue were collated. As each deal was transacted at a different time, a rebalancing exercise was performed on our TSX benchmark data in order to be more appropriately weighted to the average deal year for that sector. This enabled us to more effectively compare survey data to the benchmarks by controlling for the economic cycle.

The estimates of total PE backed company revenue and employment in Canada were developed as follows. Average revenue and employment per PE backed company were estimated using the sample of data collected from CVCA members. These results were inferred across the remaining population of companies in the sectors included in this study. The estimate of the total population was based on a database of all PE deals since 2013 provided by CVCA with exits filtered out (i.e. where the PE Fund no longer holds an interest in the company) and duplicates removed (e.g. to exclude instances where multiple investments had been made in the same company). Cleantech was not included in this estimate due to insufficient sample size.

Thank you

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