

# ECONOMIC FOOTPRINT OF SWEDISH PRIVATE EQUITY

Swedish Private Equity and Venture Capital Association (SVCA)  
November 2020



# Preface

SVCA

In July 2017, the Swedish Private Equity and Venture Capital Association (SVCA) asked Copenhagen Economics to carry out a footprint analysis of the value creation of Swedish Private Equity (PE).

SVCA has in October 2020 asked Copenhagen Economics to update this report with the newest data and present the result in a presentation together with the key messages from the original report.

Thus, the topics addressed are the same as in the original report:

1. How does PE work and create unique value for the individual companies in which they invest?
2. How does PE contribute to overall Swedish national economic growth?
3. How strong is the international competitiveness of the Swedish PE industry?

## Swedish Private Equity: Hard facts

**Investments since 2007 increased Swedish GDP by close to 5%, corresponding to SEK 230 bn**

**180,000 employed in PE owned companies**

**PE ownership increases profitability (EBITDA) of portfolio companies by 53%**

**SEK 240 bn invested into Swedish companies the past ten years**

**SEK 80 bn funds raised every year on average**

**The Swedish PE market is the second largest in the EU, compared to the size of the economy**

## PE provides a significant boost to Swedish GDP

### A unique type of capital

Private equity (PE) funds are unique in the way they operate and create value and productivity compared to other types of investment funds and public equity.

First, PE funds seek out companies with large untapped potential and help them to exploit this over a relatively long investment horizon. This provides PE investments with an inherent high return, but also high risk nature. The companies invested in are often without access to public capital markets. As such, the risk profile, investment horizon and company focus of PE funds are unique.

Second, and even more importantly, PE funds provide so-called competent capital, including special sector knowledge and a clear business plan for how to unlock the full potential of the company. As such, PE is the epitome of active ownership and incentive-based management, which are important factors in increasing productivity in companies.

The need for active ownership in the running of companies is indeed an issue that is attracting increased attention globally and is highlighted as a priority for large publicly owned companies.

### The creation of value in individual companies

There are roughly two types of companies or investment cases for PE funds: *growth PE*, which is typically younger companies in need of capital, direction and professional management, and *buy-outs*, which are more established companies with untapped potential.

After acquisition, active ownership tools are employed to increase productivity, profitability and competitiveness. This is typically driven by strengthen the competences of the board as well as digitalisation and other types of operational improvements. In addition, the acquisition could focus on expanding a successful business model to new markets.

Once the full potential of the companies has been realised, the PE firms sell off the company, providing a financial return for the end investors of the PE fund.

The positive impact of PE ownership is documented by our empirical findings. Concretely, we find that on average productivity gradually increases throughout the period of ownership, eventually reaching an efficiency gain of around 20%. At the same time, an expansion of the business means that PE firms on average increase the total added value of companies by around 60% during the period of ownership. This eventually results in an increase in the profitability of portfolio companies of around 50%.

### Significant gains for the Swedish economy as a whole

Adding up these efficiency gains within individual companies naturally has an overall positive impact on nation-wide economic performance.

In the past 10 years, close to 3,000 Swedish companies have received PE capital, adding up to more than SEK 240 bn. This is comparable to the total IPO capital supplied by Nasdaq Stockholm over

the same period.

In addition to the direct effects, a number of studies show how PE investments in a given sector also have a large indirect effect on the performance of the non-PE-funded companies in that sector. The increase in productivity and competitiveness of PE-backed companies forces other companies to step up. Further, successful companies and ideas often result in spin-offs and new start-ups.

From a societal perspective PE investments are in particular important as the bulk of investments are within digitalisation, tech or life science – investments that are becoming increasingly important for productivity growth globally. Even investment within traditional sectors often have a tech element, e.g. investments in the retail sector is within e-commerce, etc.

When we add up the direct and indirect effects of PE as well as the impact from venture capital (VC), we find that since 2007 the cumulative effect of PE capital investments (including VC) in Swedish firms has raised the GDP level by SEK 230bn, the equivalent of nearly 5% of GDP. In other words, because of PE, every year Swedish GDP is SEK 230bn higher than it would have been without PE investments.

## Stockholm is a major international hub for risk capital

The Swedish PE industry has a strong international focus. Measured as a share of GDP, the amount of PE capital raised in Sweden is the second largest in the EU, surpassed only by Luxembourg. Around one third of this capital goes to companies located in other countries, making Stockholm a PE hub supporting high-potential companies in the entire Nordic region.

On the funding side, around 80% comes from international investors, especially from the US and the other Nordic countries. In Europe, the share of international investors is surpassed only by the UK.

Swedish PE includes some of the largest and most active PE firms in Europe. This is principally due to the long track record of large Swedish PE firms such as EQT, Nordic Capital and Altor, which have created a competence cluster in the PE sector in Stockholm.

PE also creates value as a highly attractive form of asset management for large pension funds and other institutional investors typically managing the pension savings of households. In recent years, PE investments have become more and more popular as a long-term, stable and high-return alternative to public equity investments, especially for pension funds.

In fact, European PE funds have consistently outperformed comparable indices of listed companies; return of European buyout funds has been almost three times the return of the MSCI Europe index.

### **A driver for a large international financial sector in Sweden**

Success in the Swedish PE sector also seems to spill over to other parts of the financial industry. This includes both the “entries markets” in which PE fund advisors find investment opportunities – e.g. venture capital – and the IPO and M&A markets where they typically exit their investments. It also supports a large financial ecosystem of supporting financial service providers such as lawyers and auditors.

### **Green transformation calls for risk capital investments**

The ambitious climate targets of the Nordic governments provide an obvious business opportunity for Swedish PE firms.

Within both main pillars of the green transformation, PE can play a crucial role: 1) electrification of the economy, allowing a switch from fossil-fuel based energy and 2) improving energy efficiency reducing the distance to carbon neutrality.

Especially for companies with required large scale changes to production processes and technologies, PE firms are essential, as the complexity and risk involved with a green turnaround is unsuited for credit finance.

PE funds also have an important role in emerging green technologies, such as power-to-x, smart energy systems and battery technology. These investments often have a long lifespan and an uncertain outcome – but also with an enormous upside if you manage to

become a dominant player within a certain technology. This high-risk/high-gain nature makes them obvious candidates for growth PE funds, impact funds and specialised VC funds.

# Overview of the report



## **PART 1:**

### **Unique value creation of private equity**

- What is private equity?
- How PE firms can affect individual company performance



## **PART 2:**

### **National economic benefits**

- How PE is helping individual companies to generate economic benefits for society as a whole



## **PART 3:**

### **Stockholm: A natural international hub for private equity**

- Swedish PE compared to the rest of Europe
- How can PE contribute to green transition?





1

# UNIQUE VALUE CREATION OF PRIVATE EQUITY

# Private equity: Growth-focused capital for scale-up of high-potential companies

## PE is a unique way of financing and differs from public equity

PE is capital provided to companies not listed on a stock market. Like public equity, it allows investors to buy a share of the business in which they invest. Yet, the two funding sources differ across many dimensions:

Private equity funds typically acquire large shares of the companies in which they invest. Thus, the ownership structure is more concentrated than in publicly listed companies which usually have many minority shareholders.

The concentration of ownership allows PE investors to take on a more active role in the management of the company. Such active ownership is usually not possible in public companies.

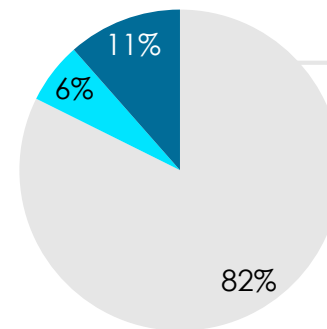
Private equity investments are usually riskier but with a large potential upside: typically smaller companies with a less developed product or older companies with suboptimal business outcomes but with large scale-up/turnaround potential.

A subset of PE is the so-called venture capital (VC) which invests in companies at yet an earlier stage. We have analysed the Swedish VC sector in a [previous report](#). This report will focus on growth PE and buyout PE.

## Share of investments by Swedish PE funds at different investment stages (2009-2019)

% of total

### Based on the number of companies



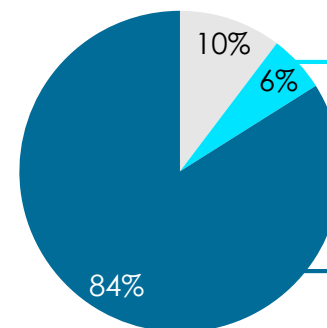
### Venture capital (VC)

Provides seed funding and funding to start-ups. Later-stage VC can also fund scale-ups (linked to growth PE). The ticket size is typically smaller and investments reach a larger number of companies.

### Growth PE

Targets recently established companies with a scalable product already in place and the potential to grow. Growth PE is the smallest asset class, both in terms of investment value and the number of companies.

### Based on the investment value



### Buyout PE

Targets established and larger companies. The focus can either be on scaling up an already proven business model (e.g. to new countries) and/or improve the competitiveness and efficiency of the company. The ticket size is typically large.

Note: Both replacement and rescue/turnaround capital are excluded. The share of these types of investments combined is below 2% of the total.  
Source: Invest Europe, industry statistics.



# Growth PE: Focus on innovative sectors

## Innovative companies with scalable products offer growth opportunities

Growth PE targets businesses with a scalable product and a high (untapped) growth potential.

Growth PE investments are therefore overrepresented in innovative sectors such as ICT, life sciences and financial services.

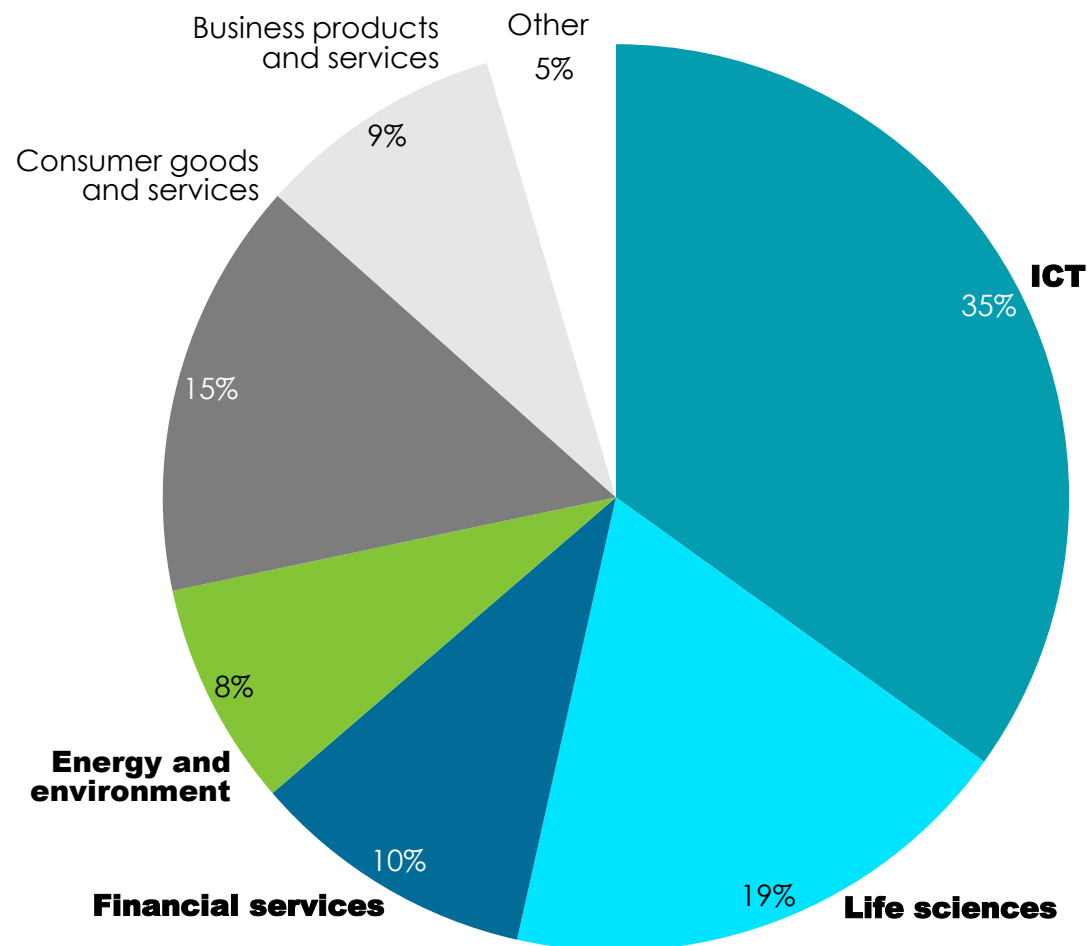
Growth PE provides funds needed for investments to scale up new products and to expand to new markets.

Growth PE funds also provide know-how to make the right strategic decisions and to professionalise the business.

Investments in businesses in the energy and environment sectors have spiked in the past year. The high risk-high reward profile of green technologies makes growth PE an important source of funding for these types of investments.

## Share of growth PE investments in Swedish companies by sector (2009-2019)

% of total investments



Note: Life science companies are defined as companies in the biotech and healthcare sectors.  
Source: Invest Europe, market statistics.

# Buyout PE: A wake-up call for untapped growth potential

## Large and older companies can increase profitability and productivity

Compared to growth PE, buyout PE targets larger, long-established companies which do not harness their full potential:

**Such changes typically require large investments by the PE fund.**

Increasing productivity and profitability, for instance via investments in digitalisation, new technologies and R&D.

Increasing the competitiveness and efficiency of the company.

Replacing the management team of ill-managed companies.

Expansion to other markets to leverage business models proven to be successful domestically.

**Buyout PE investments are also common in innovative sectors (although less so than growth PE). But investments in other sectors still often focuses on tech or digitalisation.**

## Equity values of buyout PE investments in Swedish companies (2009-2019)

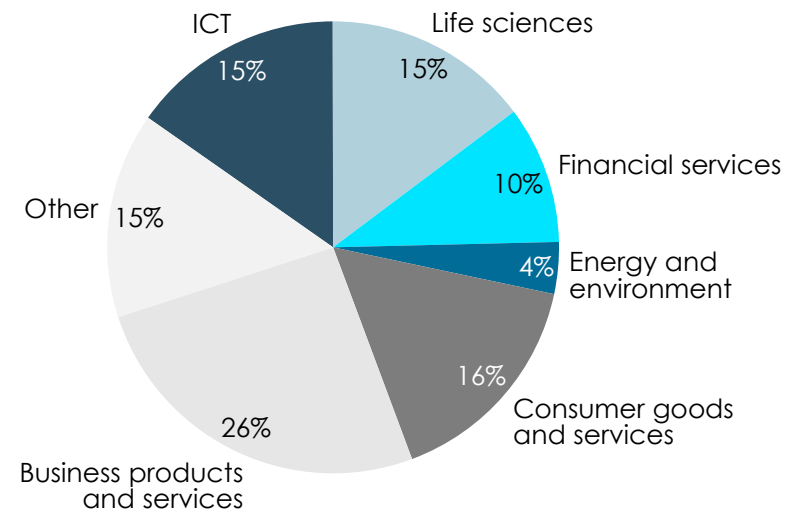
% of total



Source: Invest Europe, market statistics.

## Share of buyout PE investments in Swedish companies by sector (2009-2019)

% of total



Note: Life science companies are defined as companies in the biotech and healthcare sectors.  
Source: Invest Europe, market statistics.

# How PE firms operate

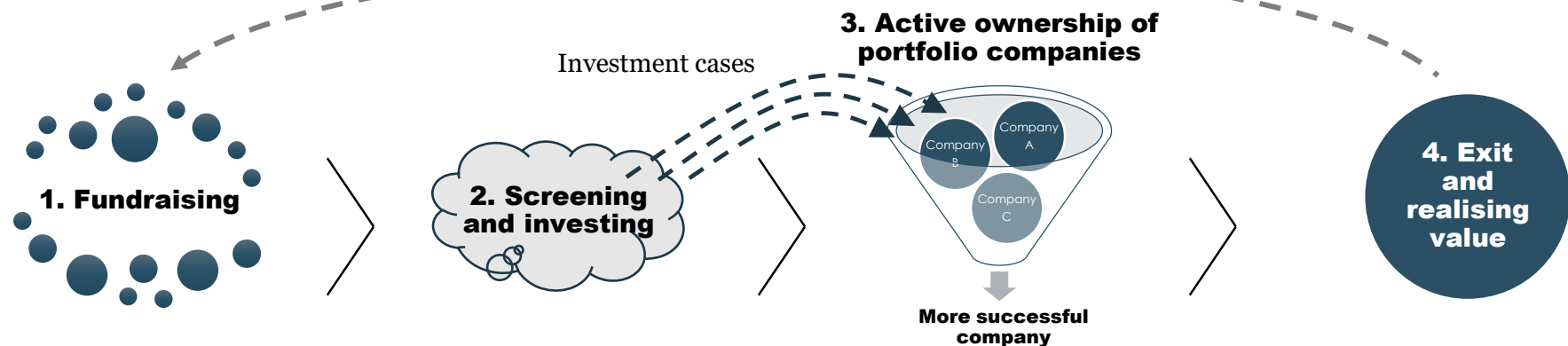
Private equity (PE) firms raise capital from investors and invest it in selected so-called portfolio companies to generate a return for their investors.

PE firms invest the capital through individual funds which typically have a lifespan of 10+ years and a specific investment focus.

The PE funds are managed by so-called general partners (GPs), who represent the interests of investors in the funds, called limited partners (LPs). GPs are remunerated based on the performance of the fund. LPs own a part of the company through their investments. Both parties therefore have a strong incentive to boost the performance of the business.

## The lifespan of PE funds

Successful exits often followed by new investments – success breeds success.



As a first step, a PE fund needs to find investors (LPs). Since equity investments are risky, the reputation and past performance of the fund managers are important. Institutional investors provide most of the capital.

Over the next typically five years, the fund managers screen a large number of companies to identify investment opportunities. The selection of the "right" companies to invest in is a crucial step in the PE lifespan.




PE funds carry out active ownership in the portfolio companies using their experience and specialised knowledge. Often, this results in a change in the business strategy and/or management of the portfolio company.

When the business strategy of the PE fund has been implemented and the company's performance and value have been optimised, the fund managers will look for potential buyers. The exit generates a return for the investors.



# The unique value creation of PE firms: Active ownership

**PE ownership typically involves the PE firm taking an active role in its portfolio company. This means that if a PE firm invests in a company, they do not just own (parts) of the company but also change it to make it more profitable before the PE firm exits the investment. Active ownership is carried out through mainly three channels:**

 <b>Financial optimisation</b>	 <b>Operational management</b>	 <b>Corporate governance</b>
<p>PE firms optimise the financial structures of their portfolio companies and thereby equip them for necessary future investments.</p>	<p>PE firms often implement changes at the management level of their portfolio companies and introduce new incentive structures.</p> <ul style="list-style-type: none"><li>• <b>A new board of directors</b>, if often established, which bundles relevant knowledge to improve the companies' performance. In some cases, PE firms also appoint a new management altogether. Due to their good network, they have access to the right talent for the job.</li><li>• <b>Management incentive plans</b> aim at alleviating principal-agent problems between management and owners.</li></ul>	<ul style="list-style-type: none"><li>• <b>Local sector knowledge:</b> PE firms usually have in-depth knowledge about the sectors and markets of their portfolio companies. This allows them to design appropriate business plans and to optimise the business.</li><li>• <b>Concentrated ownership:</b> PE funds typically acquire larger stakes in the companies. This allows them to implement necessary changes to the business structure and strategy in a timely manner.</li></ul>

” As a rule of thumb, a PE-owned company can execute changes in a quarter that a publicly traded company would do in a year

Jarl Dahlfors, CEO of Anticimex

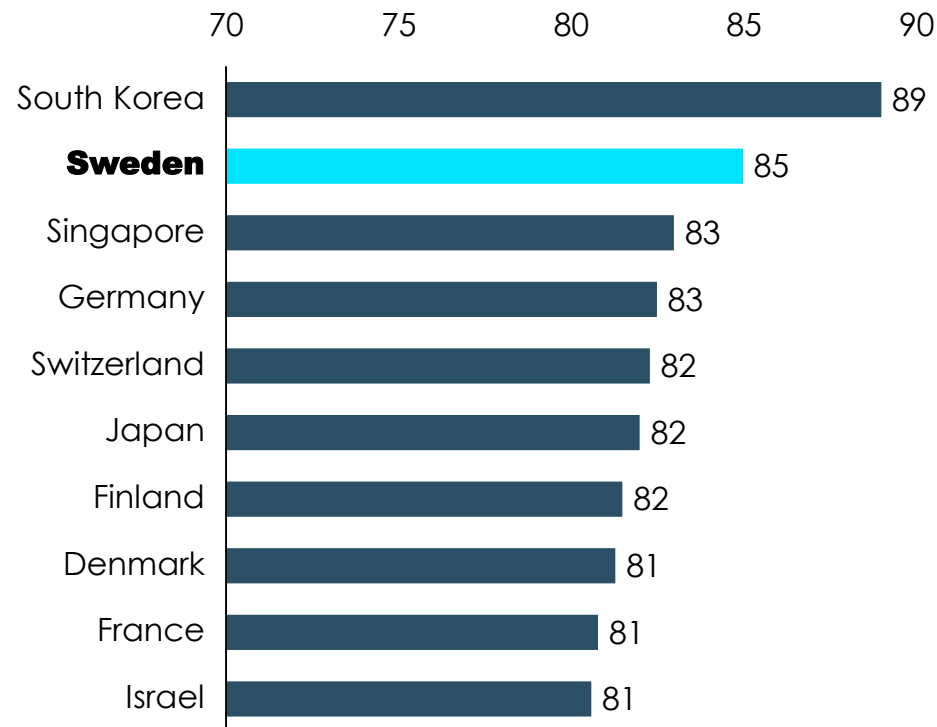
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# The large PE sector is a perfect match for the strong entrepreneurial climate in Sweden

**The Swedish economy is one of the most innovative in the world ...**

## **Top 10 most innovative countries in the world (Bloomberg ranking)**

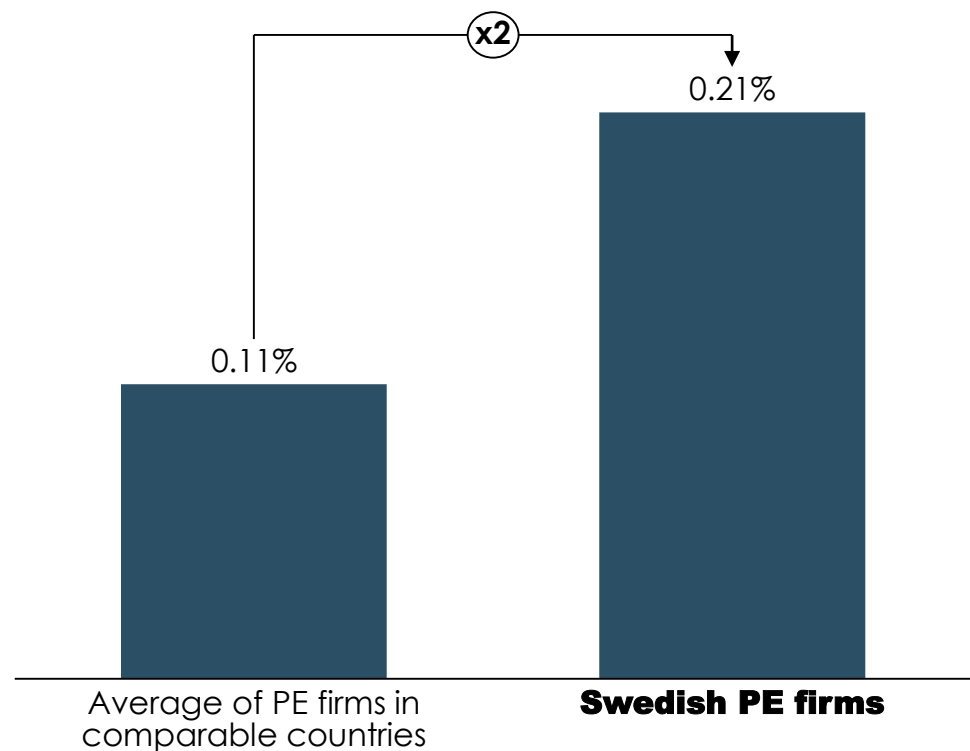
Index, 0-100



**... and Swedish PE funds complement this innovative environment with substantially higher investments in SMEs compared to PE firms in other comparable countries.**

## **Buyout PE investments in SMEs, 2009-2019**

% of respective country GDP



Note: The values are based on buyout PE investments up to and including core mid-market investments (investments up to EUR 100m). The average of other selected countries is calculated as a simple average of the investment shares for Denmark, Finland, Germany, the Netherlands and Norway.

Source: Invest Europe, industry statistics and Bloomberg

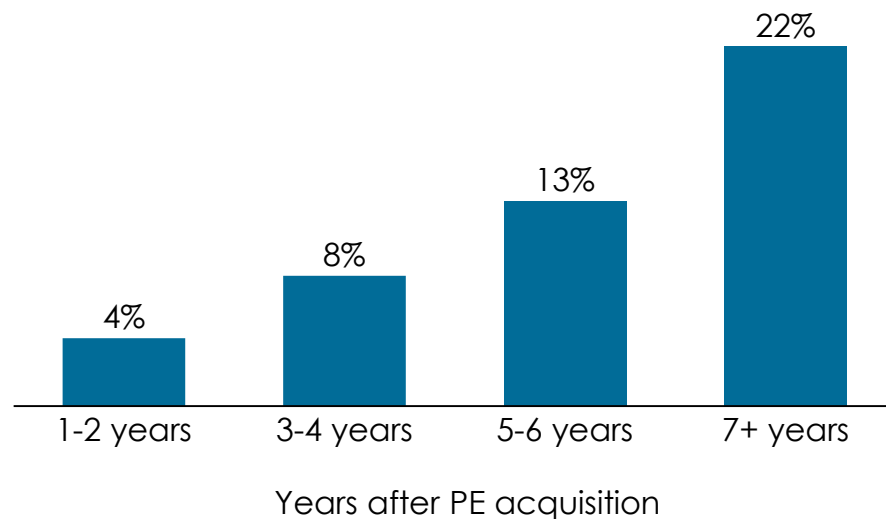


# The positive impact of active ownership is confirmed by empirical findings: Productivity on average up 22% after PE ownership

**We find that portfolio companies on average gradually increase productivity throughout the period of ownership – eventually providing a boost of some 22%. The estimate is based on microdata for all Swedish companies since 2007.**

## Effect of PE ownership on productivity

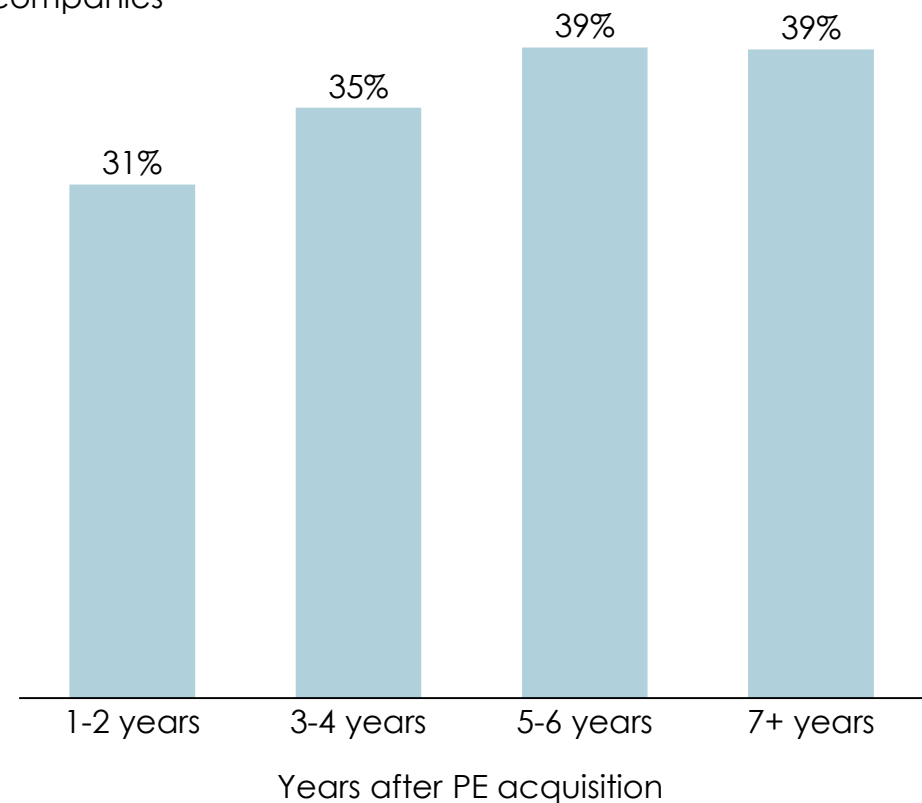
Difference in added value per employee relative to other companies



**We also find a large immediate positive impact on employment, partly due to mergers. After the initial phase, employment grows modestly; some companies scale up further, while others focus on efficiency gains.<sup>1</sup>**

## Effect of PE ownership on the number of employees

Difference in number of employees relative to other companies



Note: The results are based on fixed effects regressions using accounting information on all Swedish companies from 2007-2019. For productivity, the first two estimates (1-2 years, 3-4 years) were not significant at the 5% level. See appendix for methodology. 1) [Invest Europe finds similar impact on job creation for the European PE industry](#). Source: SVCA deal data and Retriever company accounting data.

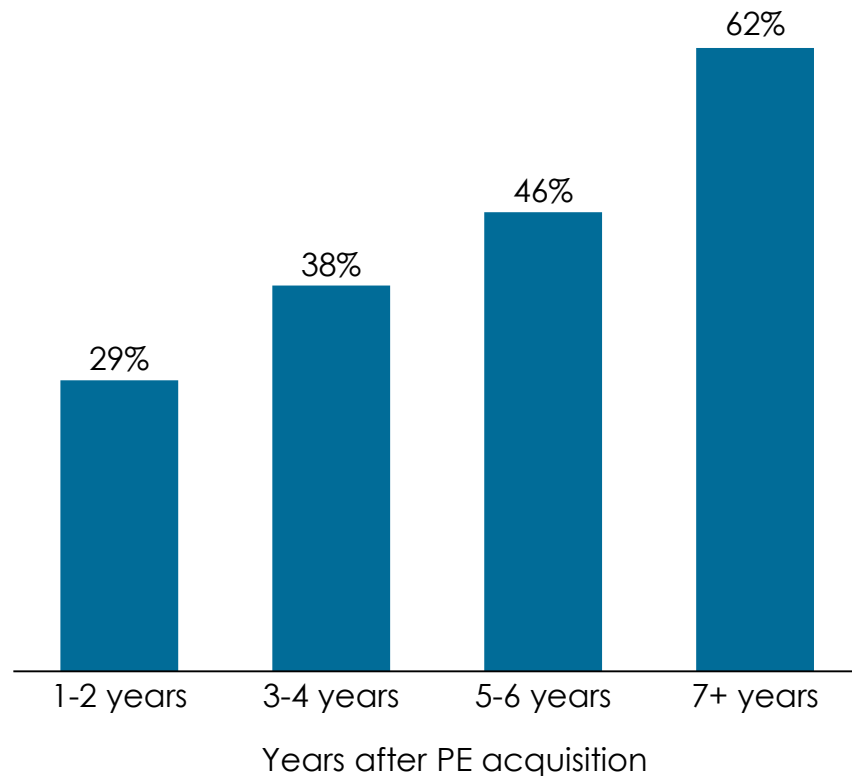
# Scale-up of business and efficiency gains increase the profitability of portfolio companies

**The higher productivity and employment in portfolio companies are reflected in an average 62% increase in added value after exit.**

**The higher added value in portfolio companies provides an average increase in operating profit (EBITDA) of 53% after exit. Per employee profit increases by some 11%.**

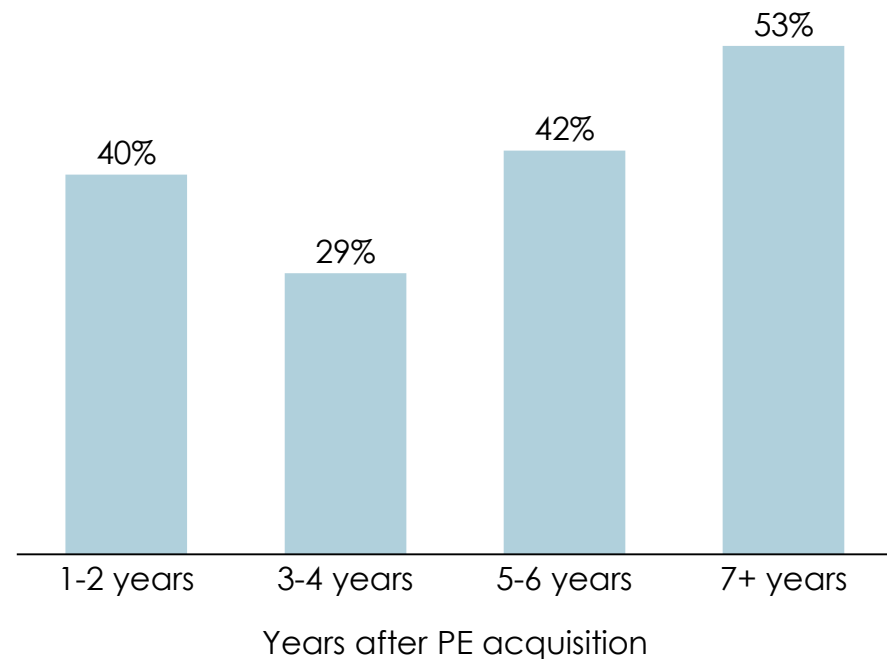
## Effect of PE ownership on added value

Difference in added value relative to other companies (%)



## Effect of PE ownership on profitability

Difference in EBITDA relative to other companies (%)



Note: The results are based on fixed effects regressions using accounting information on all Swedish companies from 2007-2019. For productivity, the first two estimates (1-2 years, 3-4 years) were not significant at the 5% level. See appendix for methodology.

Source: SVCA deal data and Retriever company accounting data.





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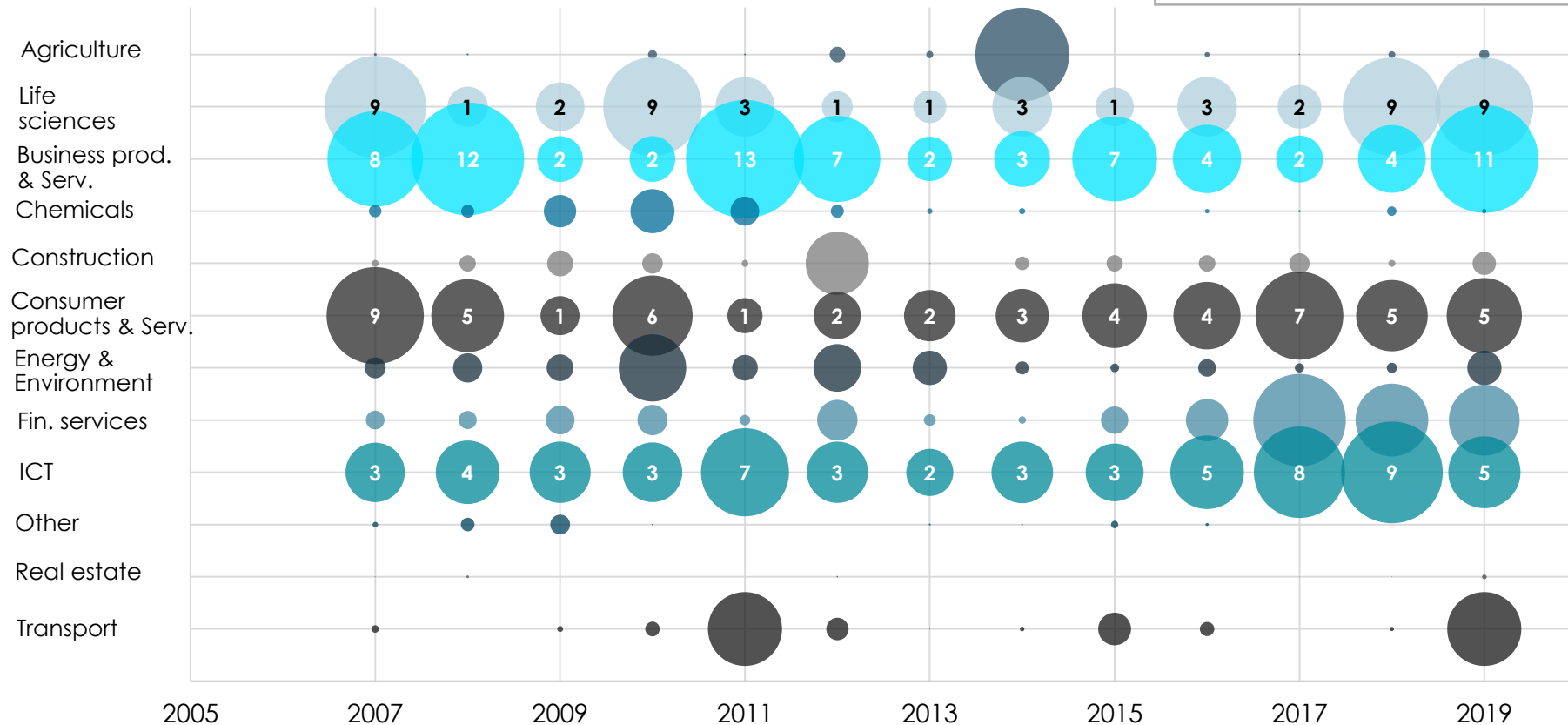
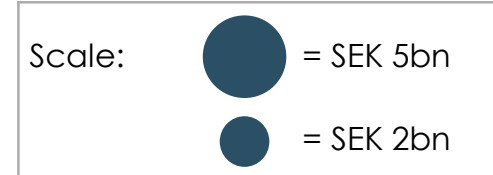
## NATIONAL ECONOMIC BENEFITS



# PE investments are spread across many different sectors but are largest in life sciences and ICT

## Private equity investments in Swedish companies (2007-2019)

Equity values, SEK bn



Note: The figure shows the equity values of the investments as opposed to the so-called transaction value which includes external leverage. It is therefore indicative of the money invested by the PE firms and does not show the total size of the deal (which includes external leverage).

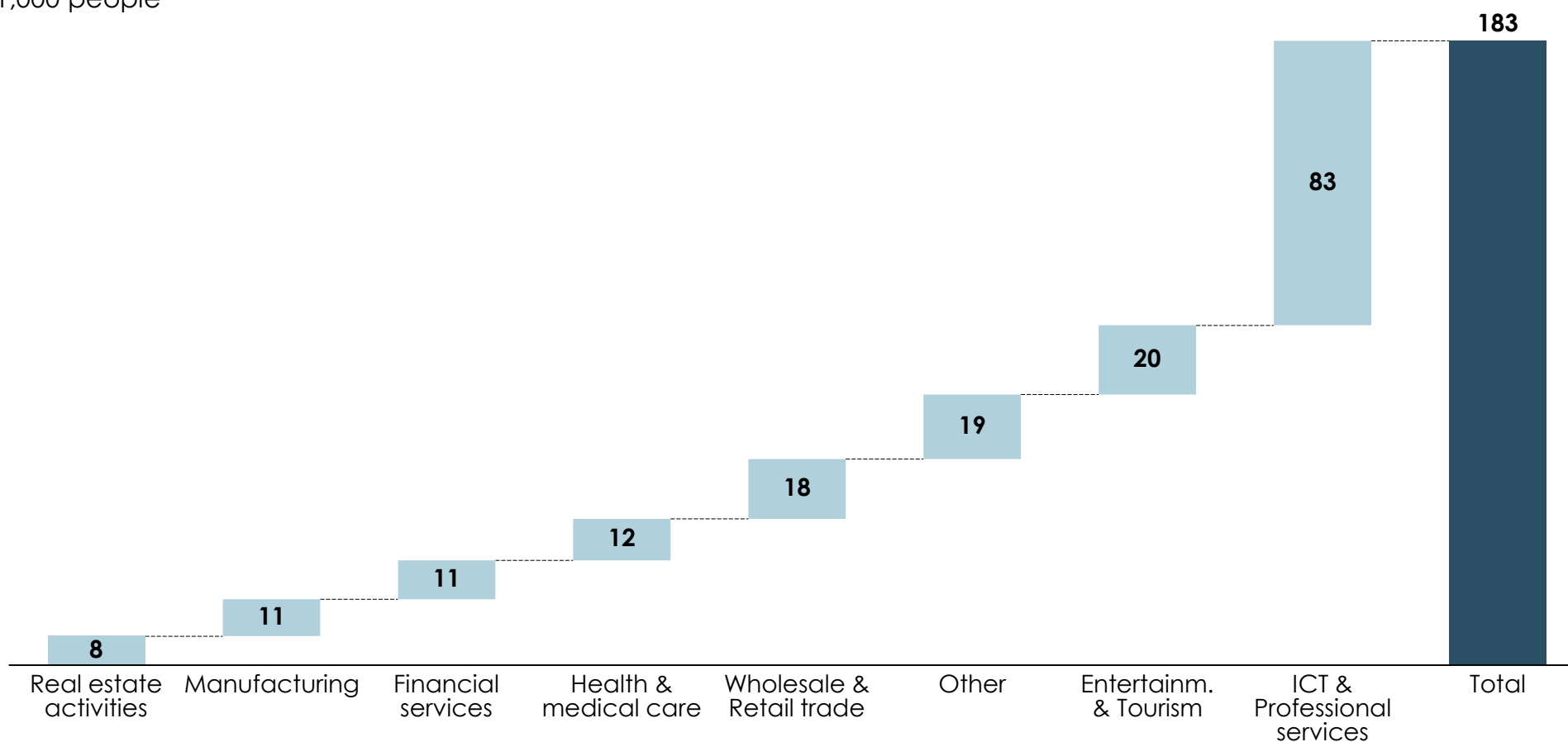
Source: SVCA.

# 180,000 employed in PE owned companies

**Around 180,000 people are employed in companies that are – or recently have been – owned by a PE or VC fund.**

## Employed in PE owned companies (including VC), 2018

1,000 people

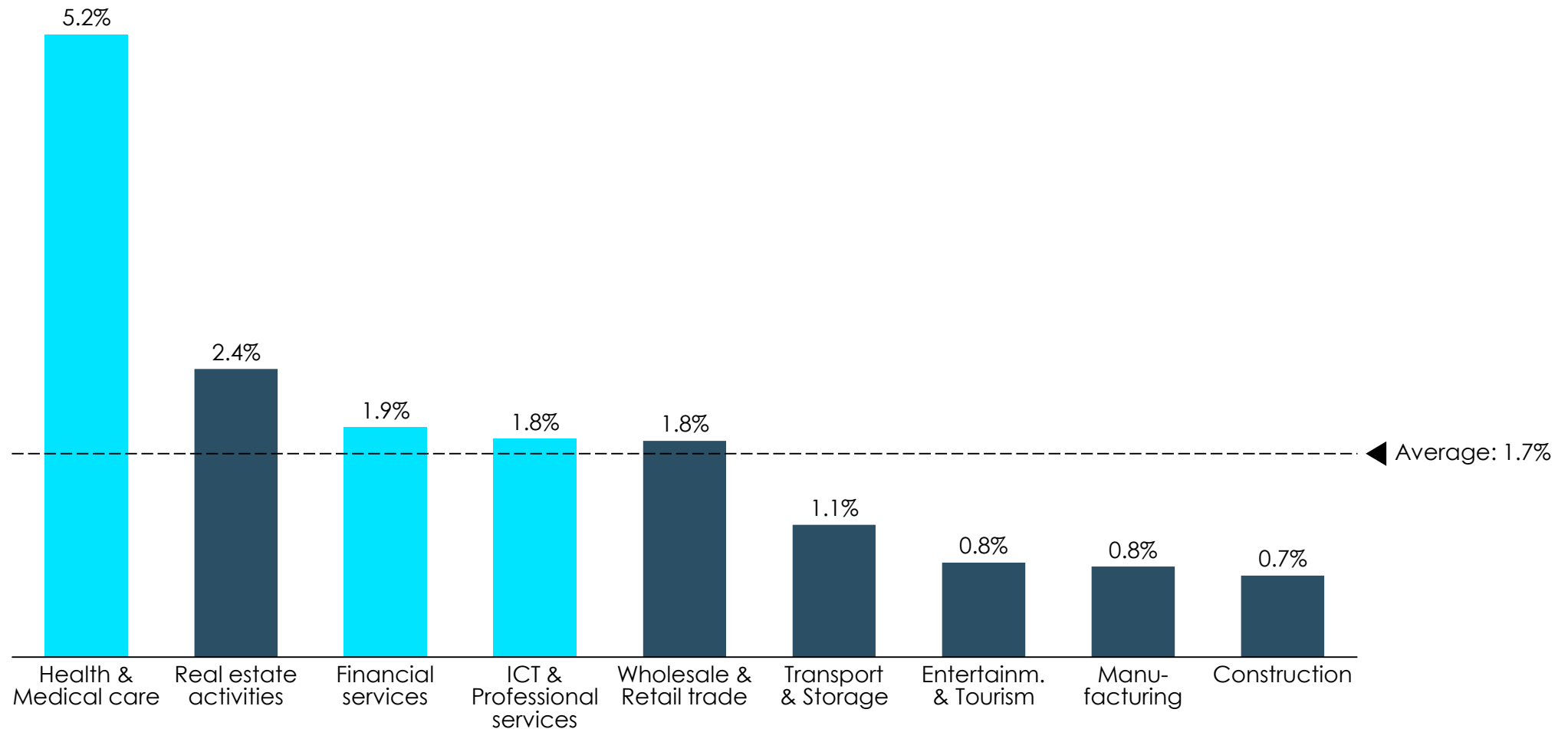


Note: The figure shows employment in 2018 in companies in which Swedish PE and VC firms have invested. The sector classification in the Retriever database is different from the classification on the previous slide and we combined related sectors in the sector groups depicted above (see appendix for an overview of the different sector groups). Sectors without PE ownership are not shown.  
Source: Retriever database, SVCA.

# Innovative sectors with large scale-up potential have the largest share of PE ownership

## Private equity ownership in Swedish companies (average 2007-2019)

% of total employment



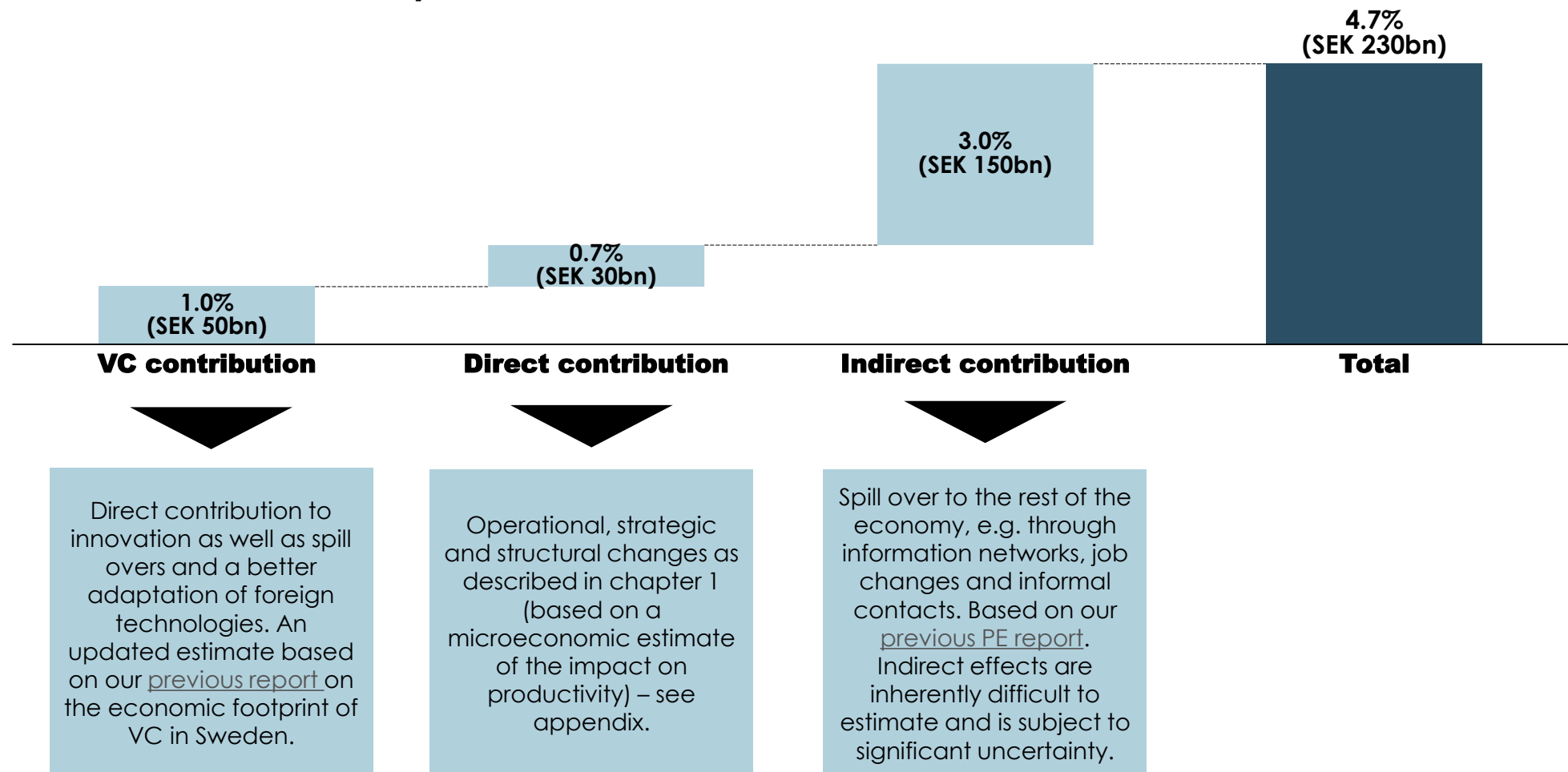
Note: The sector classification in the Retriever database is different from the classification on the previous slide and we combined related sectors in the sector groups depicted above (see appendix for an overview of the different sector groups). In calculating the ownership shares above, we have assumed an average holding period of six years as in Copenhagen Economics (2017). Sectors without PE ownership are not shown. Source: Retriever database, SVCA.



# Swedish PE has boosted Swedish GDP by 4.7%

We find that since 2007, private equity investments have increased Swedish GDP by 4.7%, corresponding to some SEK 230bn. In other words, because of PE, every year Swedish GDP is SEK 230bn higher than it would have been without PE investments.

## PE investments' estimated impact on Swedish GDP since 2007

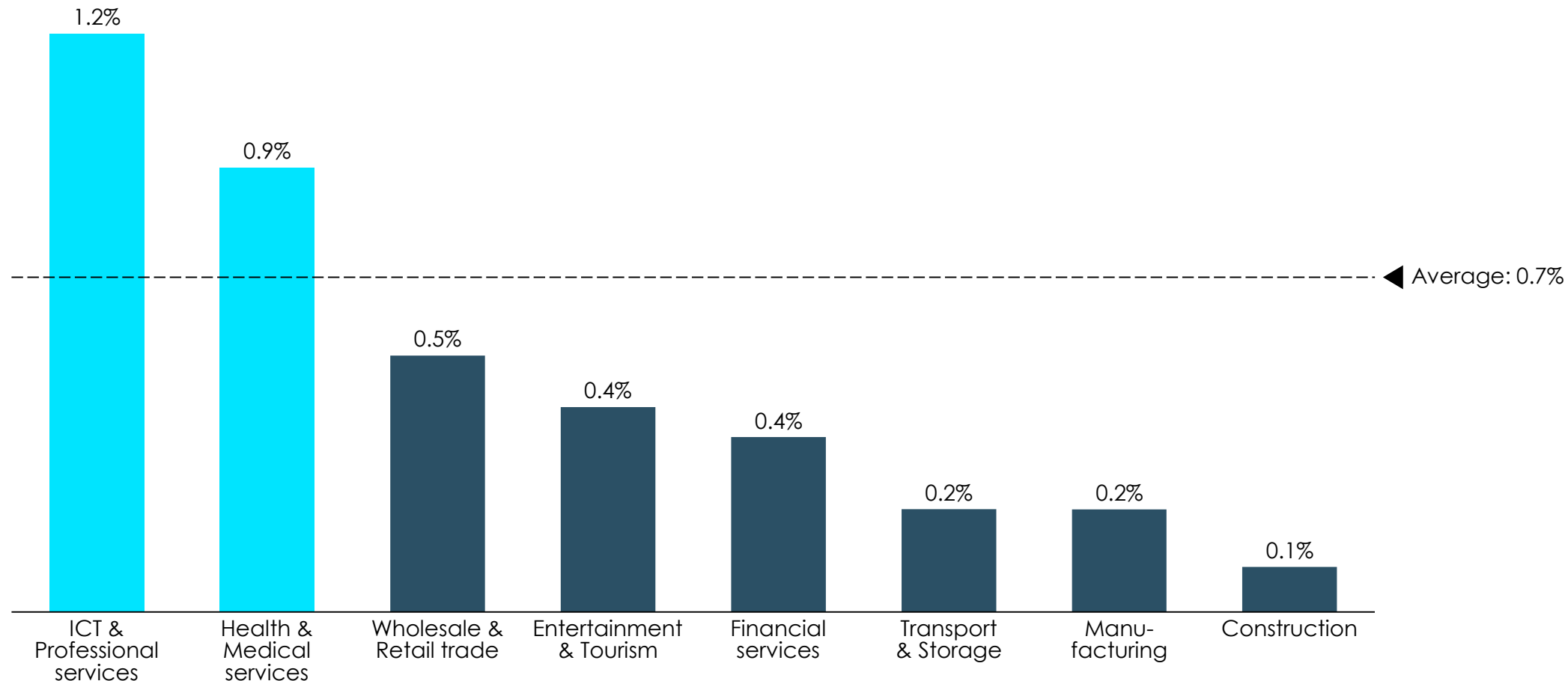


Note: The direct contribution uses our microeconomic estimates of the permanent impact of PE ownership on added value as well as the overall PE ownership share across all sectors. The indirect contribution is based on Bernstein et al. (2014) and Copenhagen Economics (2017).  
Source: Retriever, SVCA.

# The impact on productivity is diverse across sectors, with the highest impact on innovative sectors with growth potential

## Estimated average impact on productivity in different sectors (2018)

Increase in productivity



Note: These estimates are based on our microeconomic estimates of the permanent effect of PE ownership on added value and productivity and use the PE ownership share in each sector in 2018 to estimate sector-wide effects. The estimates for the Transport & Storage sector were not significant at a 5% level.  
Source: Retriever, SVCA.

A nighttime photograph of the Stockholm skyline, Sweden, featuring the illuminated city buildings and the spire of the Stockholm Cathedral. The city lights are reflected in the water in the foreground. The sky is dark with a faint green aurora borealis visible. A semi-transparent white box is overlaid on the image, containing the text.

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## STOCKHOLM: AN INTERNATIONAL HUB FOR PRIVATE EQUITY

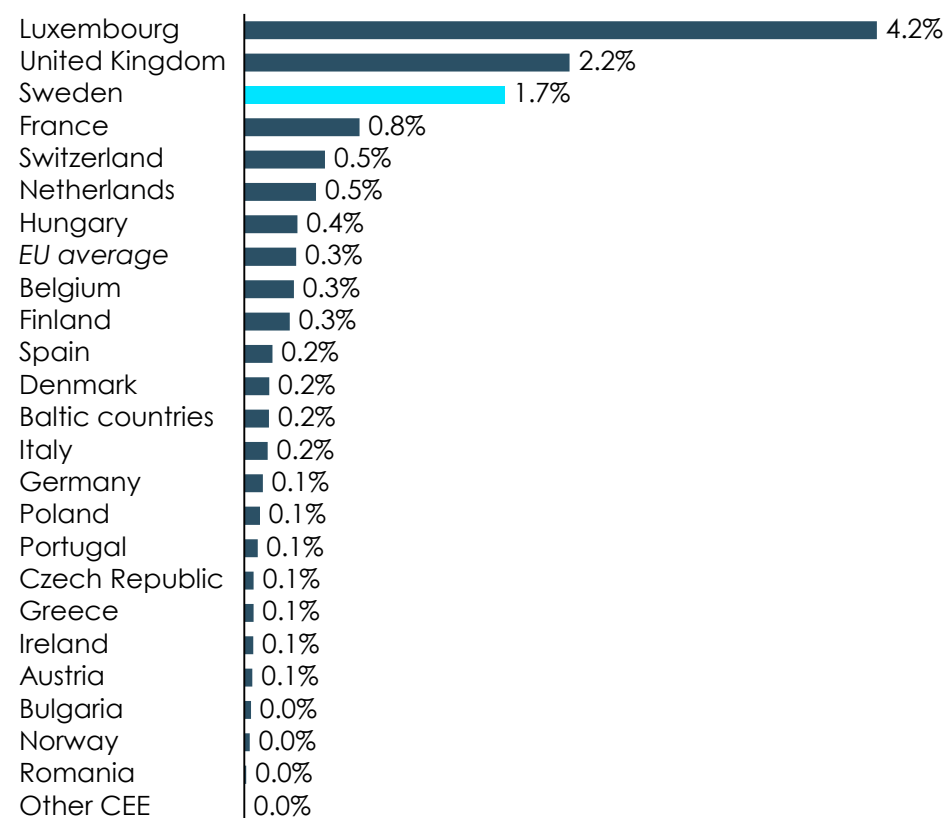
# Stockholm is a European hub for risk capital

**The Swedish PE market is among the largest in the EU (adjusted for GDP).**

**A large share of the capital raised is being invested outside Sweden – e.g. in Denmark and Norway – making Stockholm a regional hub for risk capital.**

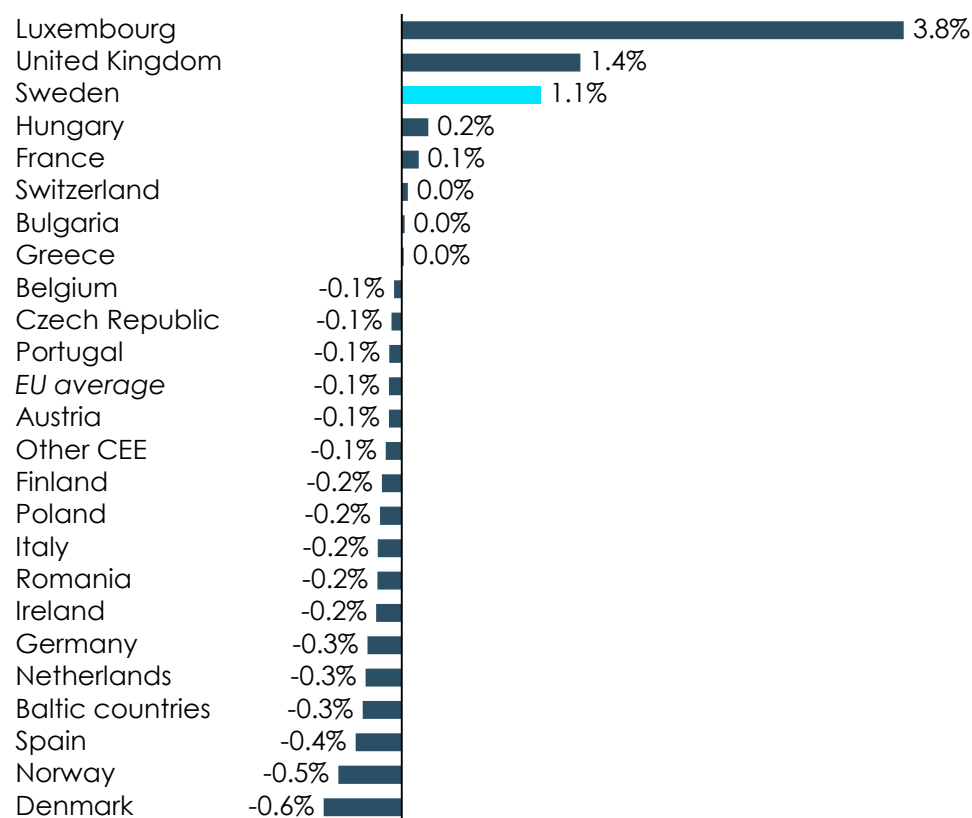
## Funds raised by European PE firms

Share of GDP, average of 2017-2019



## Net exports of European PE firms

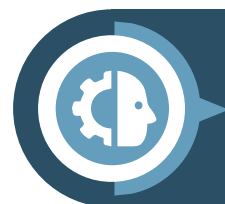
Share of GDP, average of 2017-2019



Note: The figures are funds raised in terms of incremental amounts raised during the year; Other CEE covers Croatia, Slovakia and Slovenia; data on fundraising activity is missing for Cyprus and Malta and is thus not reflected in the EU average. Net exports are calculated as the fundraising activity (incremental amounts raised during the year) minus investment activity (by the country of the portfolio company, market statistics). Source: Invest Europe; Eurostat.



# Sweden's largest PE firms are internationally competitive



Swedish PE firms are at the forefront of the European PE market and their large size creates scalability and allows them to extend funding even when ticket sizes are large.

## Size of the PE market in Sweden

Global and European ranking (by size) of Swedish PE firms, 2020



## Sweden is home to some of the largest PE firms in Europe.

For instance, EQT is currently ranked as the second largest PE firm in Europe and the 8th largest globally.

This is also reflected in the average amount of capital of around EUR 730m (2019) under management by Swedish PE firms – above most European peers, including Germany, the Netherlands and even the UK.

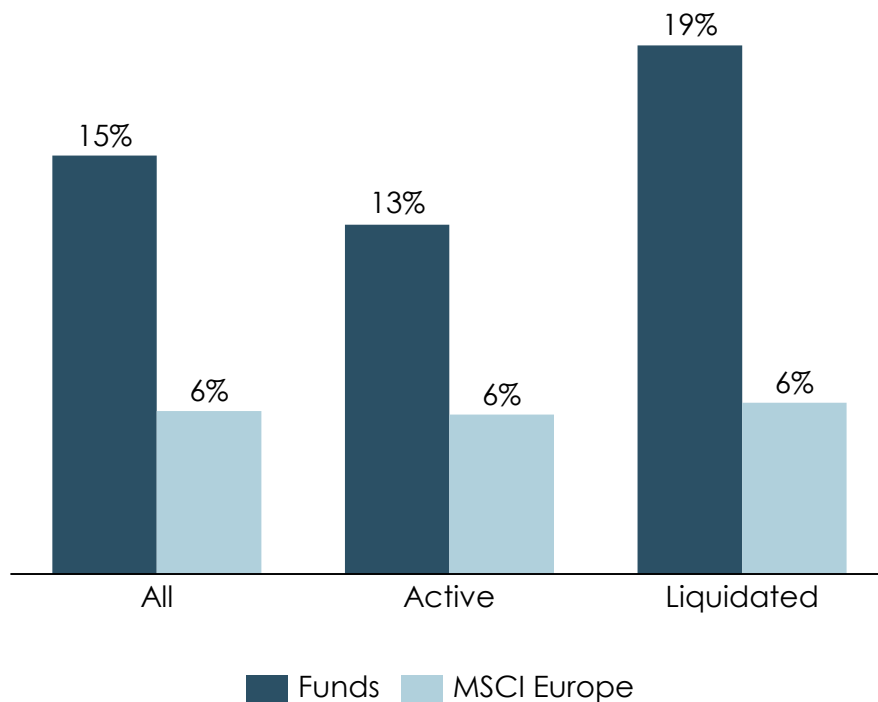
This large average size of PE firms allows them to invest in larger companies or high-growth companies in a pre-IPO phase, which typically requires large amounts of funding.

Note: Ranking based on how much capital the PE firm has raised over the past five years.  
Source: Private Equity International, PEI300.

# Private equity investments have consistently outperformed comparable investments in public equity

The return of European buyout funds has been almost three times the return of the MSCI Europe index.

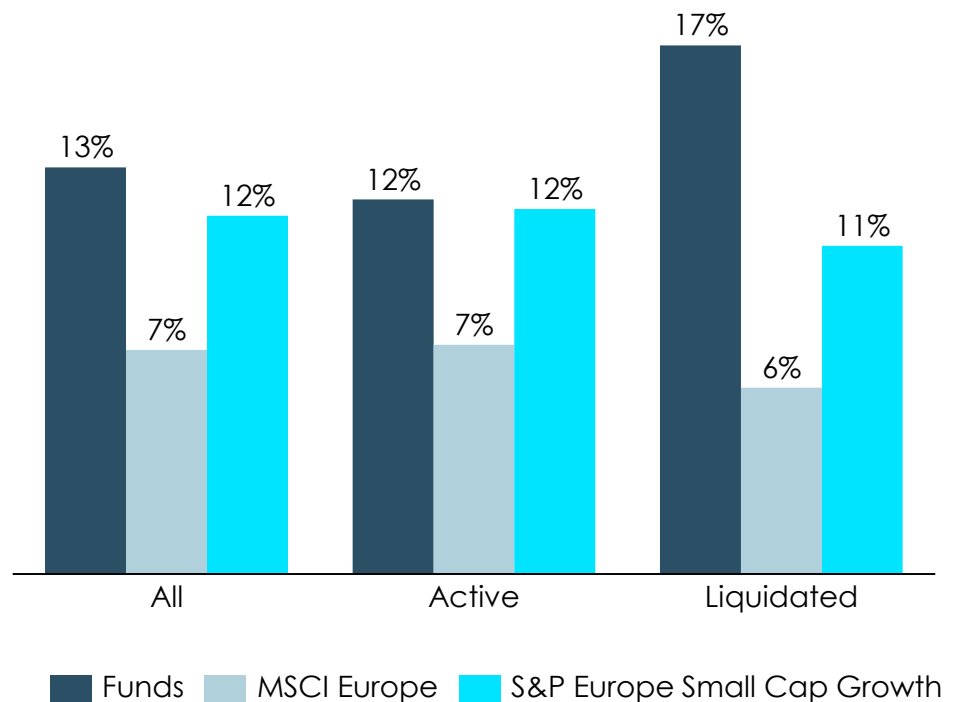
**Internal rate of return, European buyout funds**  
Vintage years captured 1987-2019



Source: Invest Europe (2020b) - The Performance of European Private Equity.

Growth PE funds also outperform both the MSCI Europe and the more comparable Small Cap Growth index.

**Internal rate of return, European growth PE funds**  
Vintage years captured 1994-2019

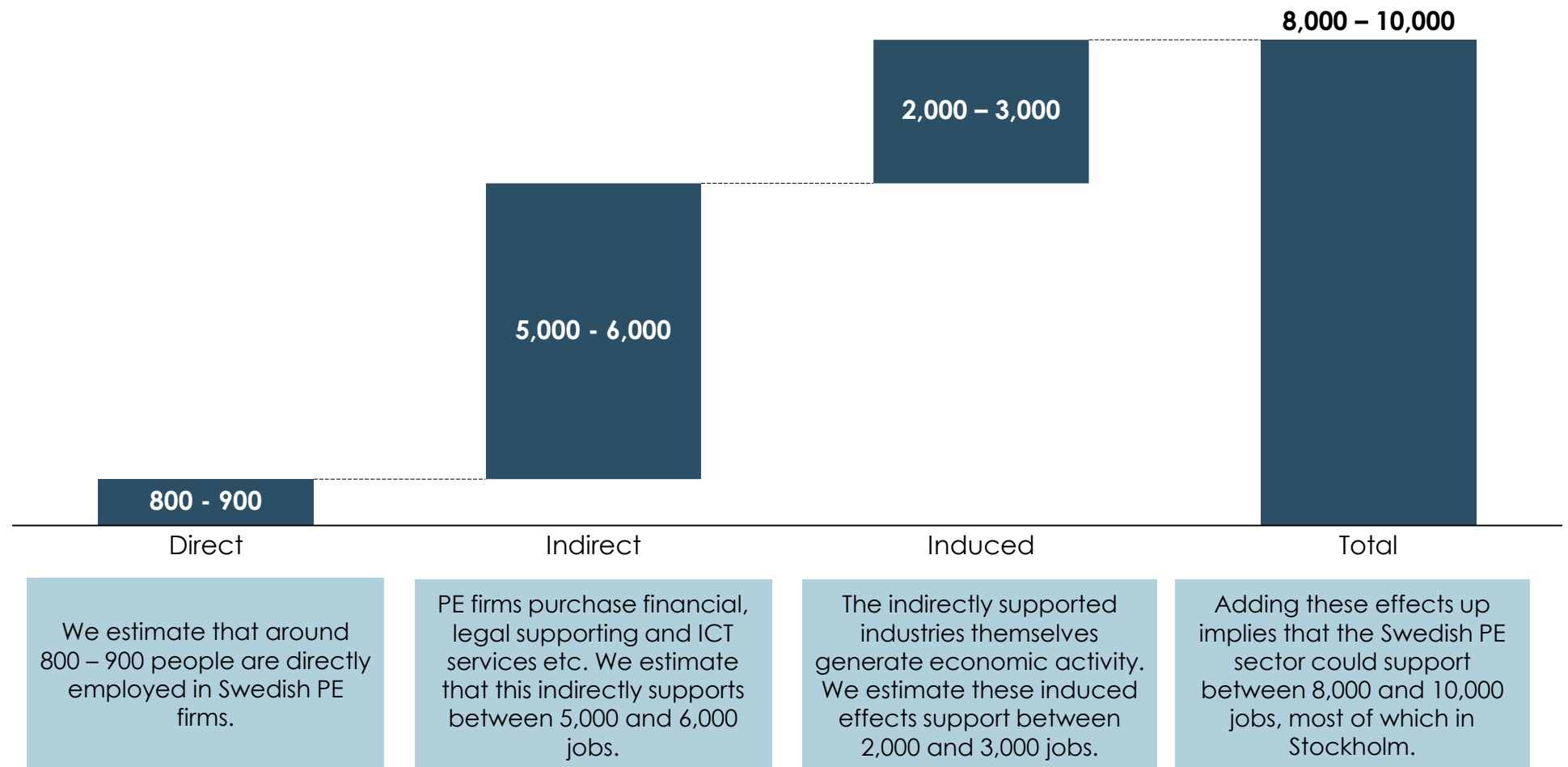


Source: Invest Europe (2020b) - The Performance of European Private Equity.

Note: The public market equivalent analysis allows to compare investments in PE funds and investments in indices of listed companies (public equity). For information on the methodology of the benchmarking exercise, see Invest Europe (2020c). The MSCI Europe is an index that tracks the performance of large and mid-cap companies across 15 European countries, with companies covering around 85% of the total market capitalisation of these countries. The S&P Europe Small Cap Growth represents small-cap companies in Europe.

# The PE sector supports highly specialised jobs in Stockholm

**We estimate that the activity of the Swedish PE sector could support between 8,000 and 10,000 jobs, both directly and indirectly.**



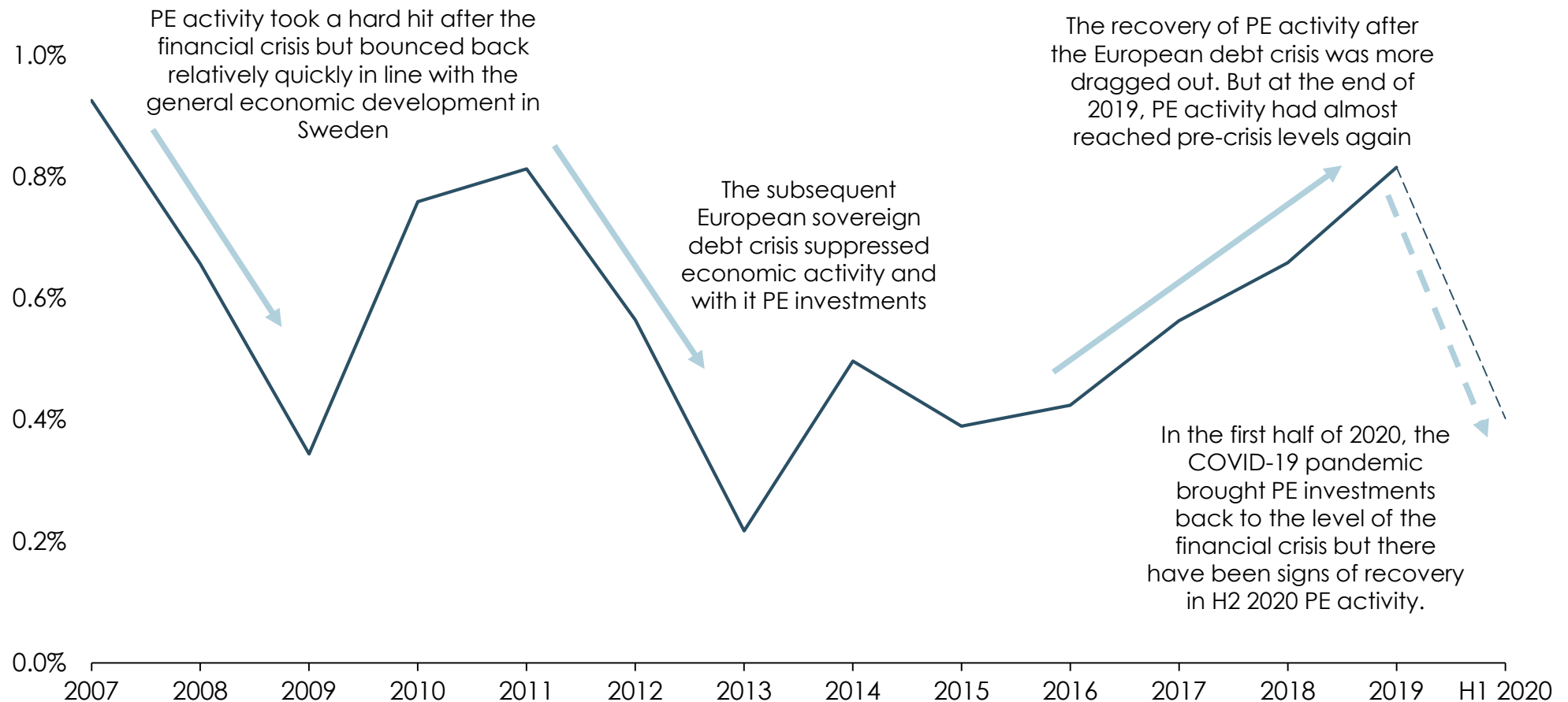
Note: These are rough estimates based on the [previous report](#) on the impact of PE on the Swedish economy as well as employment numbers of EQT, the largest Swedish PE fund.

# The COVID-19 pandemic has halted growth in PE investments in Sweden

**PE investments in Sweden have halted in the current COVID-19 pandemic in line with the rest of the European economy. However, the industry reports that this is primarily out of precaution and in a base scenario with a gradual easing of restrictions, we expect to see a quicker recovery compared to for example the debt crisis.**

## Private equity investments in Sweden

% of GDP



Note: The value for 2020 is an estimate based on preliminary PE investment data from SVCA for the first half of 2020 and an estimate of the impact on GDP in 2020 based on the so-called GDP indicator from SCB. This indicator suggests a contraction of (seasonally adjusted real) GDP in the first half year of close to 9% in Sweden compared to GDP in the second half year of 2019.  
Source: Invest Europe (market statistics), SCB and SVCA. 1). See, for instance, Lehmann (2020) "Private equity and Europe's re-capitalisation challenge", *Bruegel Blog*, 17 September.

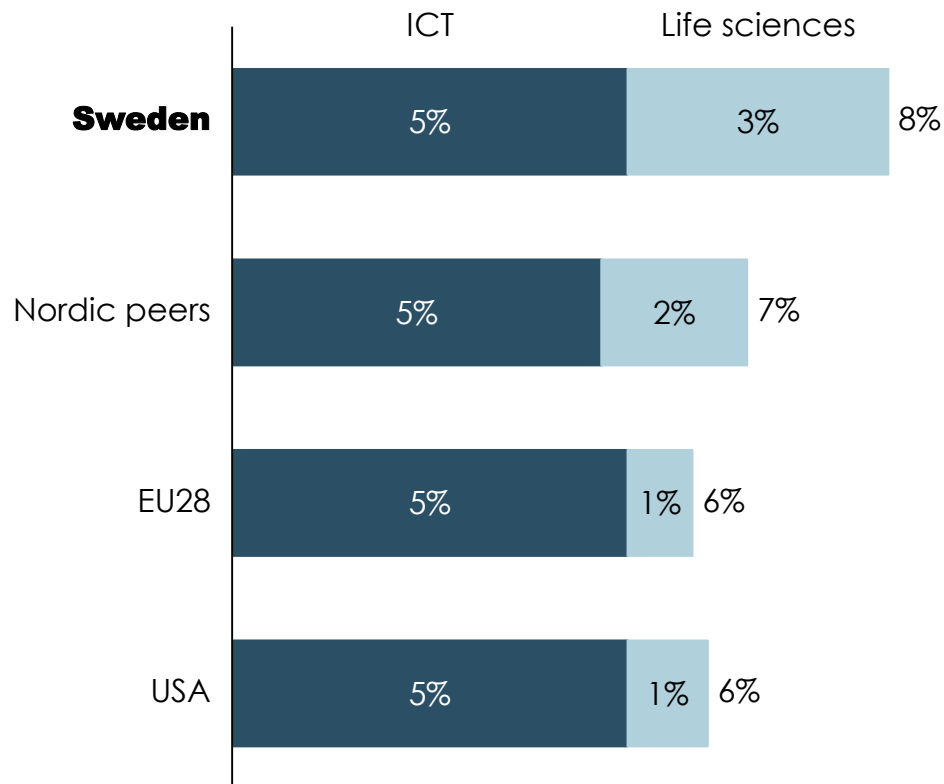


# Strong ICT and life science sectors make Sweden a natural PE hub

Large typical PE sectors such as life sciences and ICT...

...make Sweden a natural hub for Swedish PE

## Added value as a share of total GVA



1

The ICT and life science sectors are among the main recipients of PE funds in Sweden and Europe as a whole due to the scalability of their products and the associated large growth potential.

2

The ICT and life science sectors are larger in Sweden than in comparable countries and the EU. This has provided Swedish PE funds with an opportunity to build a business network and sector knowledge in these industries in their home market to meet the stronger demand for private equity in these sectors.

3

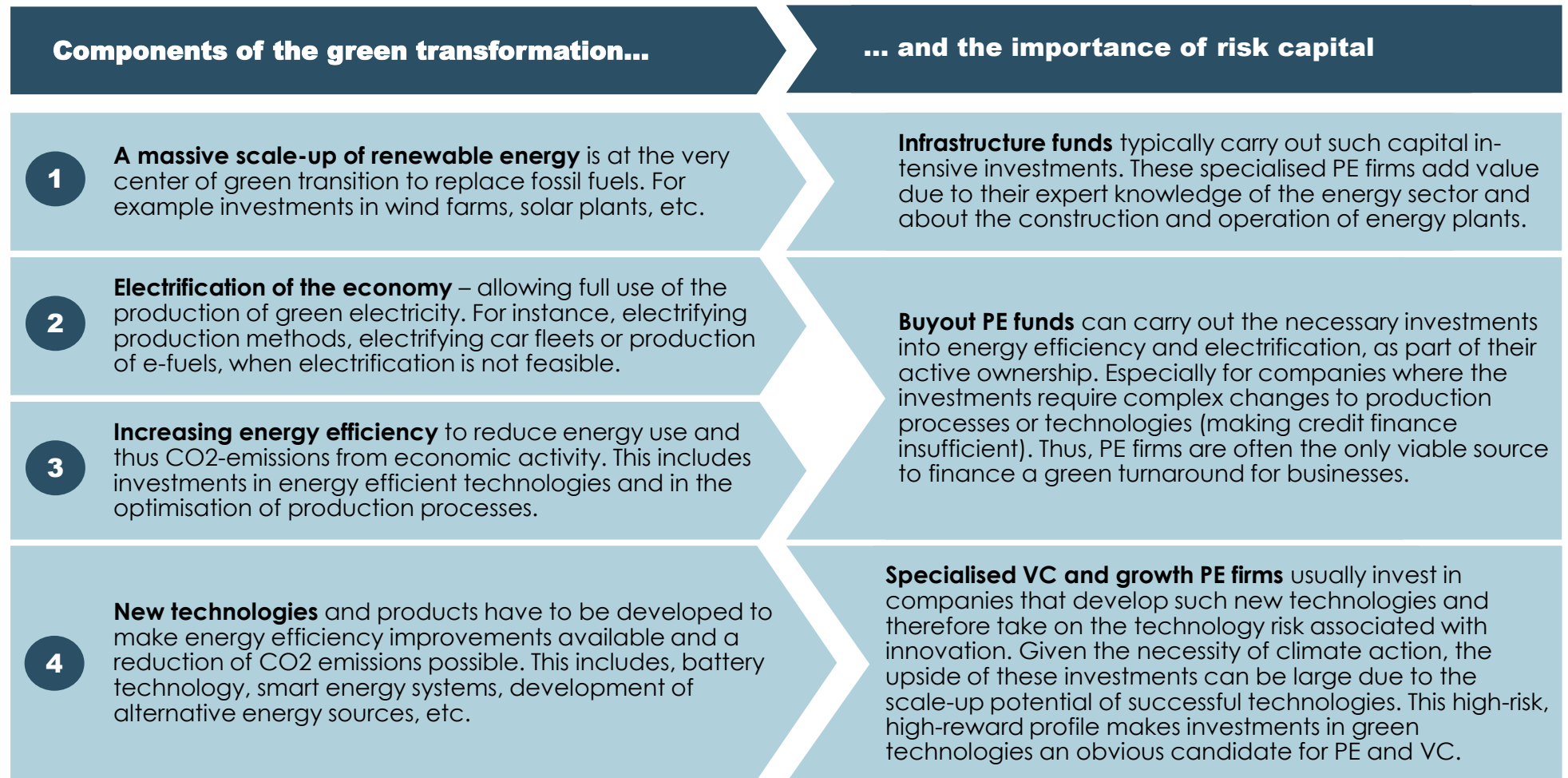
The combination of a well-functioning PE sector and large PE-intensive sectors in Sweden puts Swedish PE firms in an excellent position to expand their activities to similar companies on other markets.

Source: OECD, Statistics Sweden and Statistics Norway.

Note: Life sciences are proxied by the manufacture of basic pharmaceutical products and preparations. Sweden and Norway do not report life sciences separately, and for Sweden they are estimated at the same share as in Denmark of the total added value from the manufacture of pharmaceuticals and chemical products. For Norway they are calculated as the total sum of oil refining, manufacture of chemical products and pharmaceutical products due to a lack of data.

# Risk capital is important for a successful green transformation

Within the four main components of green transformation, risk capital plays a crucial role



# Institutional investors increasingly demand green assets



The **demand for green assets** is increasing and many institutional investors have introduced **sustainability targets** in their business strategy. Investors in this way reduce their exposure to climate risks while showcasing their contribution to a successful green transformation.

The Swedish state pension funds AP1 and AP7, for instance, have decided to stop investing in fossil fuels and to sell off assets in fossil fuel industries in 2020. Alecta, another large Swedish pension fund, aims at decreasing the carbon footprint of its equity portfolio and has joined the UN's net-zero asset owner initiative. And Danish pension funds have pledged to channel more than 10 percent of Denmark's total pension capital into green projects until 2030.

## Documentation of investment in green assets

The EU Taxonomy for sustainable activities will define which investments can be considered as green and will make it possible for investors to document their commitment to the green transformation.

Taxonomy eligible green PE funds will – in addition to the pure financial return – contribute to institutional investors sustainability targets.

In addition, green PE funds can be included 1-to-1 in green savings products, which an increasing number of institutional investors are providing due to popular demand by consumers.

## PE firms have started to support green investments

As a response to the increasing demand, Swedish PE firms have started to include sustainability and climate considerations in their ownership policy and are monitoring climate impacts of their portfolio companies.

For example, EQT and Nordic Capital monitor the sustainability of their portfolio companies throughout the entire investment period. And Altor has established minimum ESG requirements for their portfolio companies. All three PE firms are signatories of the Principles for Responsible Investment Initiative.

Some PE firms have also set up so-called impact funds with investments focussed to improve one or several of the sustainability development goals. Several Swedish PE firms are thus spearheading the development towards sustainable investing in Europe.

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# APPENDIX

# Methodology for estimating the company effects of PE ownership



The econometric estimates of the effects of PE ownership on profitability, productivity, VA and employment growth were based on two sources:

The Retriever database, which consists of financial accounting data for all Swedish private and public limited companies between the years 2007-2019.

A list of PE deals provided by the SVCA.



We have focused our analysis on buyouts as these were the only deals included in our data. In addition, we were only interested in the deals that identified the first time a PE firm entered, and as such only the first observation per company was included from the SVCA data.

All companies with the word “holding” were removed from the Retriever database in order to avoid matching with a holding company (in many instances the unique company ID number in the SVCA data matched a holding company).



Financial accounting data for each PE-owned firm was identified in the Retriever database. The data sources were matched at two levels: first by the unique company ID, and second by company names. Due to the different spelling of company names, a method known as “fuzzy matching” was used to find the best non-exact match.



In order to analyse how the performance of Swedish companies is affected by PE ownership, we applied a microeconomic approach using the matched accounting data on Swedish companies from 2007 to 2019. We set up a firm and time fixed effects modelling framework using dummy variables to identify the timing of PE ownership as well as a range of other company information to isolate the effects of PE ownership on company performance. We also included year dummies to correct for trend effects (e.g. the impact of the financial crisis).

# Methodology for estimating the GDP impact of PE activity



We base our estimates of the GDP contribution of PE ownership of Swedish companies on two inputs:

The sectoral and overall microeconomic estimates of the effect of PE ownership on company added value (see previous slide).

The PE ownership share of Swedish companies (based on employment) by sector and for the economy as a whole in 2018.



**The direct contribution to GDP:** More than 160,000 jobs have been through a PE ownership (buyout and growth PE). This corresponds to some 3% of total employment in Sweden.<sup>1</sup> As documented, the PE acquisition of a company increases productivity by 22%. This means that, because of PE, 3% of the workforce has increased productivity by 22%. This corresponds to a direct impact of PE of  $3\% \times 22\% = 0.7\%$ .

Data input is from the Retriever database combined with data on PE deals and total employment from SVCA (see previous page).



**The indirect GDP impact:** Is based on estimates from a [previous PE report](#) which suggest indirect GDP effects of PE ownership of around 3%.

The total effect is the sum of the direct and indirect effects on GDP.



To present the estimates, we have grouped together similar sectors as classified in the Retriever database. An overview of the different sector groups and their composition is shown on the next slide.

1) Note that the ownership shares depicted on slide 18 are different from these ownership shares as they show the average ownership share between 2007 and 2018 and assume a holding period of six years.

# Sectoral aggregation

<b>Agriculture &amp; Utilities</b>	Sewage, waste, electricity and water	<b>Entertainment &amp; Accommodation</b>	Hotel and restaurant
	Agriculture, forestry, hunting & fishing		Culture, entertainment and leisure
<b>Financial services</b>	Banking, finance and insurance		Travel agency and tourism
<b>ICT &amp; Professional services</b>	Data, IT and telecommunications	<b>Health &amp; Medical care</b>	Health and medical care
	Business services	<b>Consumer services</b>	Hair and beauty care
	Law, finance and consulting services		Other consumer services
	Technical consulting	<b>Transport &amp; Storage</b>	Transport and storage
	Advertising, PR and market research	<b>Manufacturing</b>	Manufacturing and industry
<b>Real estate activities</b>	Real estate activities		Food production
	Rental and leasing	<b>R&amp;D</b>	Education, research & development
<b>Employment services</b>	Staffing and employment services		Public administration
	Industry, employer and occupational associations	<b>Other</b>	Media
<b>Construction</b>	Construction and design business		Sectors not classified in the database
	Repair and installation		
<b>Wholesale &amp; Retail trade</b>	Wholesale trade		
	Retail trade		
	Motor vehicle trade		



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