



HM Treasury

# Financing growth in innovative firms:

consultation

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August 2017





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# Foreword

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Productivity is important. As I set out in my speech at the Mansion House earlier this summer, improvements in productivity ultimately drive higher wages and living standards. This makes it much more than just another metric of economic performance.

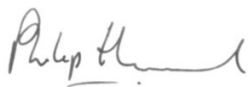
Increasing productivity is a collaborative effort. At Autumn Statement last year, I announced £23 billion of additional public investment in infrastructure and innovation. This will include a substantial increase in government investment in research and development by 2020/21. But increased productivity is ultimately driven by the way that individuals and businesses respond to this new investment.

The evidence presented in this consultation highlights the growing strengths of the UK investment community. But it also shows that one main barrier holding back the continued development of young innovative firms, such as those commercialising research from our universities, continues to be access to long-term investment. This slows these firms' growth, dampens their ambition and means that some firms are sold to trade buyers rather than growing to maturity in the UK. Overall levels of productivity are reduced as a result because some firms do not fulfil their economic potential.

This is why we launched the Patient Capital Review last autumn supported by a panel of industry experts chaired by Sir Damon Buffini. Sir Damon's panel has already made a valuable contribution by helping to shape some of the themes of this consultation. The panel will provide its own response to this consultation, alongside responses from other stakeholders.

Responses to this consultation will help to shape an important part of our economic and Industrial Strategy for the coming years. I hope that, in responding, respondents will also comment on the effectiveness of existing interventions as it is important that they continue to be appropriately targeted. Decisions on the allocation of resources across existing and any new programmes arising from the responses to the consultation will be made at the Autumn Budget.

I would encourage everyone with an interest in supporting growing innovative firms to respond to the consultation.



Philip Hammond  
Chancellor of the Exchequer





# Executive summary

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## Context for the review

Patient capital supports small firms to grow into large, world-leading businesses. These firms increase productivity by introducing new ideas into markets. The UK provides a fertile ground for world-leading innovation, but a lack of effective supply of patient capital continues to hold back some UK firms from commercialising this innovation successfully.

While patient capital is used by firms across different sectors, it is particularly important for younger firms that invest heavily in research and development (R&D). As such, increasing the availability of patient capital will help to maximise the economic impact of the government's new investment in R&D announced at Autumn Statement 2016.<sup>1</sup> For the purposes of this consultation, we define patient capital as "long-term investment in innovative firms led by ambitious entrepreneurs who want to build large-scale businesses".

This review was established to identify and tackle factors affecting the supply of patient capital. It is being supported by a panel of industry experts convened by Sir Damon Buffini. The role of the panel has been to shape the main themes of this consultation and it will provide its formal recommendations in response to this consultation alongside other responses to the consultation. However, the specific contents of the consultation and the policy options contained in it have been formulated by the HM Treasury review team.

## Chapters 2 to 6: diagnosis of the problem and current interventions

Chapters 2 to 4 of the consultation set out evidence for a lack of effective supply of patient capital. They then identify one root cause as the UK's historically thin market for patient investment, stemming from a lack of critical mass in parts of the market. This reduces the efficiency by which capital is allocated to growing firms, meaning that the highest potential firms sometimes struggle to obtain the finance that they need to grow to scale.

Chapter 5 then discusses a number of barriers to investing in patient capital. These reduce the depth of capital available for investment and therefore the efficiency by which capital is allocated to and within the asset class.

Chapter 6 turns to current interventions to support investment in patient capital and entrepreneurship. These include the European Investment Fund (EIF), which is currently a major investor in UK venture capital.

## Chapter 7: potential solutions

Chapter 7 sets out potential measures to respond to these challenges. First, a new national investment fund could channel new investment into patient capital. The most effective way to crowd in new private investment would be to create a public-private partnership. This could provide scale to new private investment; however, private investors may not have the appetite to participate in a new fund without an established track record of successful investment. An alternative approach would be to incubate a fund on the government's balance sheet (as a new subsidiary of the British Business Bank), with the intention of selling part or all of the fund to

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<sup>1</sup> Available at: <https://www.gov.uk/government/topical-events/autumn-statement-2016>

private investors once it has established a suitable track record. The third way would simply be to increase government investment through existing channels, although this may in the longer term reduce vibrancy within the market and not be fiscally sustainable. In each case, government investment would be made through the British Business Bank.

The size and structure of a new fund would depend on whether a domestic replacement to the European Investment Fund (EIF) is required. Even with a continuing relationship with the EIF, there appears to be a good case for a new fund.

The chapter then considers how to support greater retail investment in patient capital. This includes asking about the merits of supporting greater investment in listed vehicles that in turn invest in firms requiring patient capital. One of the levers available to support greater investment is tax and the consultation asks whether specific proposals would be effective.

These measures would help both new and existing investors to increase their investment in patient capital. For example, they could support new University Investment Funds (university-linked or independent funds that specialise in spinout investment) to set up and existing ones to raise new funding, thereby supporting the commercialisation of intellectual property from UK universities.

The chapter turns to consider how to tackle some of the wider influences holding back investment in patient capital, identifying potential measures for both Defined Benefit (DB) and Defined Contribution (DC) pension investors. Finally, it asks about measures to support the build-up of investment expertise within the investment community.

## **Responding to the consultation**

The consultation closes on **22 September 2017**.

When responding to the consultation, respondents should comment on the relative effectiveness of the government's current interventions, including identifying any areas within existing programmes where objectives are not being targeted successfully. Decisions around the allocation of resources across existing and any new programmes will be made by the Chancellor at Autumn Budget 2017, considering potential benefits of options against their costs.

Finally, the consultation contains new evidence and analysis. We would welcome feedback if you believe that we have misinterpreted or overlooked any evidence.

# 1 Introduction

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## Scope

**1.1** The Prime Minister announced in November 2016<sup>1</sup> that HM Treasury (HMT) would lead a review to strengthen the UK further as a place where growing innovative firms can obtain the long-term 'patient' finance that they need to scale up. The terms of reference, reproduced in Annex A, set out that the review will:

- consider the availability of long-term finance for growing innovative firms looking to scale up
- identify the long-term root causes affecting the availability of long-term finance for growing innovative firms, including any barriers that investors may face in providing long-term finance
- review international best practices to inform recommendations for the UK market
- consider the role of market practice and market norms in facilitating investment in long-term finance
- assess what changes in government policy, if any, are needed to support the expansion of long-term capital for growing innovative firms

**1.2** The review's terms of reference were published earlier this year alongside the Industrial Strategy green paper<sup>2</sup> and the review forms part of the Industrial Strategy's focus on supporting businesses to grow. Wider elements of the business 'ecosystem' are considered elsewhere in the Industrial Strategy, for example through the Scale-Up Taskforce and Entrepreneurship Review announced in the Industrial Strategy green paper.

**1.3** Following this consultation, the review will report to the Chancellor ahead of Autumn Budget 2017. Any decisions around the allocation of resources across existing and any new programmes will be made by the Chancellor at Autumn Budget 2017, considering the potential benefits of options against their costs.

**1.4** The review is not attempting to address broader issues relating to how shareholders act in a stewardship capacity in relation to established firms or how company boards make decisions to support the long-term growth of their companies. These broader issues of long-termism are considered elsewhere, with the Industrial Strategy green paper setting out a broader ambition to create the right conditions for companies to invest for the long-term. The review also does not include long-term investment in infrastructure within its scope.

## The role of the panel of industry experts

**1.5** The review is being supported by an industry panel chaired by Sir Damon Buffini. Annex B provides the terms of reference for the industry panel and its membership. While this consultation remains an HMT publication, the industry panel has already met twice and, with the help of its secretariat, has provided valuable insight and analysis which has helped to shape

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<sup>1</sup> CBI annual conference 2016: Prime Minister's speech (available at: <https://www.gov.uk/government/speeches/cbi-annual-conference-2016-prime-ministers-speech>)

<sup>2</sup> Available at: <https://www.gov.uk/government/consultations/building-our-industrial-strategy>

the themes of this consultation document. The panel will provide its recommendations to the Chancellor alongside other responses to the consultation.

## **Devolution**

**1.6** Tax and financial regulation policies are reserved. Access to finance support programmes are a shared and concurrent power under the Devolution Settlements, which means that Scotland, Wales and Northern Ireland have their own policy making capability and run their own programmes. Alongside these, the UK government retains the ability to carry out UK wide access to finance programmes. These programmes are overseen by the British Business Bank, which works closely with the devolved administrations.

## **How to respond**

**1.7** All interested parties are invited to respond to the questions set out in this consultation by **22 September 2017** when this consultation will close. Responses are welcomed by post or by email.

**1.8** Email responses should be sent to: [financing.growth@hmtreasury.gsi.gov.uk](mailto:financing.growth@hmtreasury.gsi.gov.uk)

**1.9** Written responses should be sent to:

Financing Growth in Innovative Firms  
HM Treasury (2 Orange)  
1 Horse Guards Road  
London  
SW1A 2HQ

## 2 The patient capital gap

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### What is patient capital?

**2.1** This consultation focuses on whether a gap in the supply and use of patient capital is holding back more firms from growing to scale in the UK. For the purposes of this consultation, patient capital is defined as long-term investment in innovative firms led by ambitious entrepreneurs who want to build large-scale businesses. Box 2.A considers the definition further.

**2.2** Only some firms need patient capital to grow to scale. External equity finance is used by about 1% of the UK small business population<sup>1</sup> and use by firms that fit into the standard policy definition of 'high-growth' has been estimated to be between 4% and 14%.<sup>2</sup> External equity becomes much more important to firms with ambitious plans for growth and those focusing on the commercialisation of technology, where revenues often lag investment significantly. For example, nearly half of high-growth technology firms use external equity finance<sup>3</sup> and external equity investment becomes essential for firms without existing revenues looking to commercialise R&D. These innovative firms have a disproportionate impact on productivity through the new ideas that they commercialise and bring to market.

**2.3** The industry panel supporting this review has defined four elements needed for these firms to grow to scale: an appropriate level of supply of capital from investors; the effective deployment of that capital to the highest potential firms; appropriate demand for capital; and a wider ecosystem providing the support needed to scale up.

**2.4** This consultation examines the first three of these elements, with wider aspects of the entrepreneurial 'ecosystem' examined through other parts of the Industrial Strategy such as the Scale-Up Taskforce. These elements are illustrated in Figure 2.A, which also includes other influences in the business environment.

### Evidence for the existence of a patient capital gap

**2.5** The UK creates world-leading ideas, for example three of the UK's universities are ranked in the top ten in the world for research.<sup>4</sup> The UK research community is also world-leading: the UK accounts for 15.9% of the world's most highly-cited research articles and is ranked first in the world by field-weighted citation impact (an indicator of research quality).<sup>5</sup> At the same time, the UK is becoming one of the best environments in the world for starting a business. The result is that entrepreneurs across the UK are starting up businesses to commercialise their ideas, from TechCity in Shoreditch to the media cluster in Manchester and the technology cluster by Bristol and Bath. Meanwhile, Edinburgh has been named the UK's entrepreneurial city of the year<sup>6</sup> and London is ranked as the leading European city for start-ups.<sup>7</sup>

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<sup>1</sup> BDRC continental, SME Finance Monitor Q4 2016', March 2017, found that 1% of SMEs had 'applied' for external equity investment in the last 12 months (available at: [http://bdrc-continental.com/BDRCContinental\\_SME\\_Finance\\_Monitor\\_Q4\\_2016\\_Final.pdf](http://bdrc-continental.com/BDRCContinental_SME_Finance_Monitor_Q4_2016_Final.pdf))

<sup>2</sup> 'BERR economics paper No.3: High growth firms in the UK: lessons from an analysis of comparative UK performance', November 2008 (available at: <http://webarchive.nationalarchives.gov.uk/+/http://www.bis.gov.uk/files/file49042.pdf>) | 'Myth-busting and entrepreneurship policy: the case of high growth firms', Ross Brown, Suzanne Mawson & Colin Mason, Entrepreneurship & Regional Development, 2017, Volume 29, Issue 5-6 (available at: <http://www.tandfonline.com/doi/abs/10.1080/08985626.2017.1291762?journalCode=tepn20>)

<sup>3</sup> 46 of the 'Sunday Times Tech Track 100, 2016' draw on external equity (available at: <http://www.fasttrack.co.uk/league-tables/tech-track-100>)

<sup>4</sup> 'Times Higher Education University rankings, 2016-17' (available at: [https://www.timeshighereducation.com/world-university-rankings/2017/world-ranking#!/page/0/length/25/sort\\_by/scores\\_research/sort\\_order/asc/cols/scores](https://www.timeshighereducation.com/world-university-rankings/2017/world-ranking#!/page/0/length/25/sort_by/scores_research/sort_order/asc/cols/scores))

<sup>5</sup> 'International Comparative Performance of the UK Research Base', Elsevier / BIS, 2013 (available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/263729/bis-13-1297-international-comparative-performance-of-the-UK-research-base-2013.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263729/bis-13-1297-international-comparative-performance-of-the-UK-research-base-2013.pdf))

<sup>6</sup> 'Great British Entrepreneur Awards', 2016 (available at: <https://www.greatbritishentrepreneurawards.com/2016-winners>)

<sup>7</sup> 'The Global Start-Up Ecosystem Ranking', 2015 (available at: <https://startupgenome.com/the-2015-global-startup-ecosystem-ranking-is-live>)

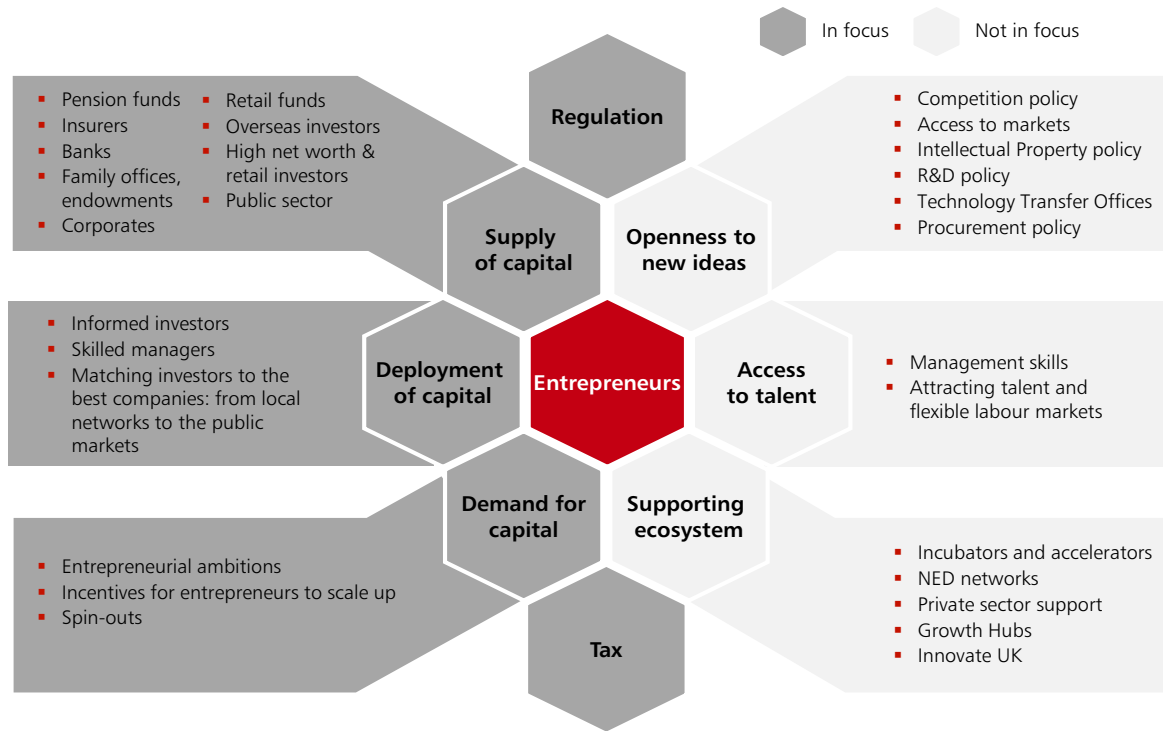
### Box 2.A: Definition of patient capital

Patient capital is:

- **long-term investment:** patient capital supports entrepreneurs and investors to make a return from the substantial growth of a business rather than through short-term profits from low risk projects. Finance is typically provided through an entrepreneur’s own long-term commitment to their business and / or equity investment from external investors, e.g. business angels, venture capital funds or the public markets. In addition, some forms of debt instruments (e.g. venture debt) may meet this definition, while some forms of equity investment may not (e.g. some approaches to leveraged investment). The investment time horizon varies by sector, from 3 to 5 years in some sectors to as long as 10 to 15 years in others.
- **in innovative firms:** patient capital supports entrepreneurs to bring disruptive innovation in products, processes and business models to market, where returns tend to be made over the longer term. In contrast, investments in ‘new to firm’ rather than ‘new to market’ innovation tend to make returns over the shorter term.
- **led by ambitious entrepreneurs who want to build large-scale businesses.**

As such, patient capital becomes crucial in sectors that require substantial investment by new firms before a financial return is made. These include knowledge-intensive sectors such as life sciences, digital and other technology development. But, as illustrated in Box 2.B, innovative firms in many other sectors also need patient capital to support their development.

Figure 2.A: The UK scale-up ecosystem



**2.6** The UK also has a higher proportion of firms exhibiting individual periods of high-growth than all but one country in Europe<sup>8</sup> and a slightly higher rate than that in the US.<sup>9</sup> It also performs strongly within Europe in terms of high potential firms, for example 24% of the Financial Times' recent analysis of Europe's top 1000 fastest growing companies are British, compared with 24% from Germany, 19% from Italy and 14% from France.<sup>10</sup>

**2.7** However, evidence increasingly suggests that the UK is lagging behind its potential in the longer term process of scaling up successful start-ups. This type of growth makes a particularly important contribution to productivity by supporting the creation of globally competitive 'frontier' firms<sup>11</sup> and spreading new technological innovation. By not realising the economic benefits derived from its strengths in creating start-ups with world-leading ideas, the UK therefore appears to be failing to maximise its potential productivity gains. Consequently, the number of UK firms at the global frontier of productivity is reduced.

**2.8** Evidence for the lower number of young, large-scale companies in the UK comes from a number of different sources. First, there are proportionately fewer young large listed companies in the UK than the US, reflecting lower rates of scale-up. Specifically, 10 of the UK's largest 100 listed firms were created after 1975 compared to 19 in the US, but only 2 in Europe (ex-UK).<sup>12</sup> This reflects wider evidence that the UK and other European economies show a significantly higher share of static firms that do not shrink or grow compared to the US.<sup>13</sup> This is also supported by recent industry analysis<sup>14</sup> that concludes that the UK lags behind the US and other leading economies in the relative proportion of scale-up companies.

**2.9** Second, a significantly lower proportion of R&D in the UK is performed by younger companies than in the US. For example, 45% of R&D investment by US firms is by younger firms (i.e. firms born after 1975), versus 15% by younger UK firms and 6% in the rest of the EU.<sup>15</sup> The UK also has lower overall levels of business R&D than the US and many of its European counterparts,<sup>16</sup> suggesting it is falling further behind in the amount of research commercialised in young innovative companies. One recent study highlights the impact of this difference more broadly, suggesting that differences between R&D investment in Europe (including the UK) and the US may be "almost entirely" accounted for by fewer young R&D intensive firms in Europe.<sup>17</sup> Given the strength of the UK's research community and its top global universities, the UK appears to be under-performing relative to its potential. Chart 2.A illustrates this further.

**2.10** Third, the UK underperforms in the creation of 'unicorn' firms, i.e. start-ups that reach a \$1 billion valuation. While these firms' short-term valuations do not always reflect their long-term prospects, they can act as a proxy for the amount of underlying investment within individual countries. And, while the UK has more unicorns than other European countries, there

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<sup>8</sup> 'High-growth enterprise shares in EU Member States', Eurostat business demography statistics, 2014 (available at: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Business\\_demography\\_statistics#High\\_growth\\_enterprises](http://ec.europa.eu/eurostat/statistics-explained/index.php/Business_demography_statistics#High_growth_enterprises))

<sup>9</sup> 'The Scale-Up Report on UK Economic Growth', Sherry Coutu CBE, November 2014 (available at: <http://www.scaleupreport.org>)

<sup>10</sup> 'Europe's fastest growing companies', FT1000, April 2017 (available at: <https://ig.ft.com/ft-1000>)

<sup>11</sup> 'Productivity puzzles', Speech given by Andrew G Haldane, March 2017 (available at: <http://www.bankofengland.co.uk/publications/Documents/speeches/2017/speech968.pdf>)

<sup>12</sup> The largest 100 companies in the US, the UK and Europe (ex-UK) were identified using the S&P Capital IQ database (<http://marketintelligence.spglobal.com>). Companies created before 1975 were filtered out using a two-stage process: Capital IQ was used to filter out some companies created before 1975; for the remaining firms, the date of was then confirmed from companies' own websites. Where firms have been taken over, the creation date of the oldest firm was used. Data for Europe is for the Eurozone countries as listed on Capital IQ. Previously nationalized firms were also excluded.

<sup>13</sup> 'Firm Growth Dynamics across countries, NESTA working paper no.16/03', Albert Bravo-Biosca, Nesta, December 2016 (available at: [https://www.nesta.org.uk/sites/default/files/wp16-03\\_firm\\_growth\\_dynamics-17.pdf](https://www.nesta.org.uk/sites/default/files/wp16-03_firm_growth_dynamics-17.pdf))

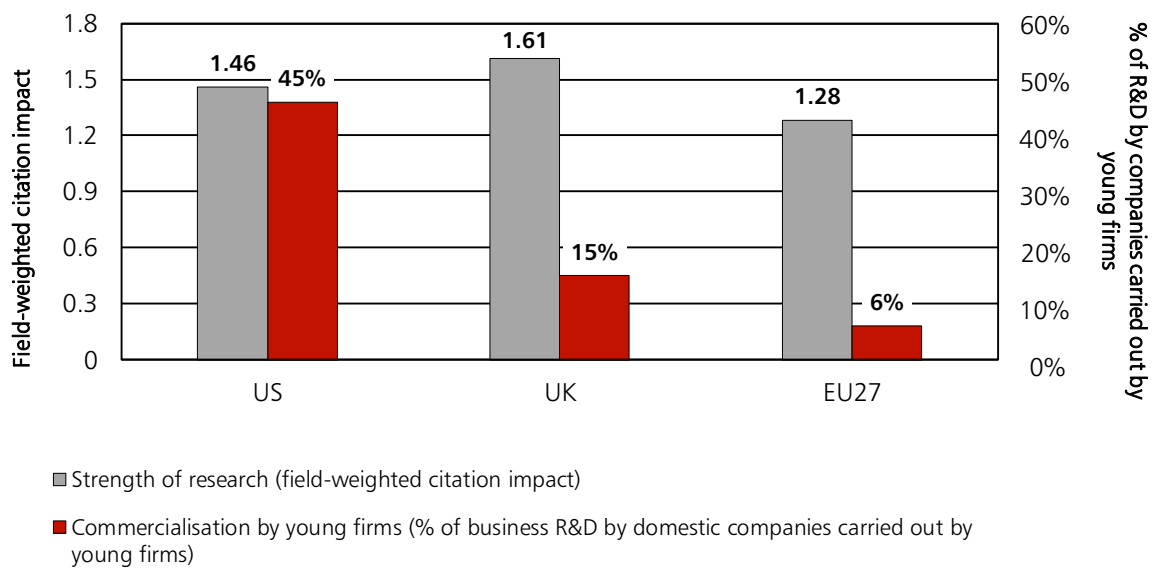
<sup>14</sup> For example, 'The Scale-Up Report on UK Economic Growth', Sherry Coutu CBE, November 2014 (available at: <http://www.scaleupreport.org>)

<sup>15</sup> The European Commission, Joint Research Centre's 'EU Industrial R&D Investment Scoreboard' (available at: <http://iri.jrc.ec.europa.eu/scoreboard.html>), was used to identify firms within the US, UK and Europe (ex-UK) investing over €35 million per year on research and development. The same methodology as described in footnote 12 was then used to determine the foundation dates of these firms.

<sup>16</sup> 'OECD Research and Development Statistics' (available at: <http://www.oecd.org/innovation/inno/researchanddevelopmentstatisticsrds.htm>)

<sup>17</sup> 'Young leading innovators and the EU's R&D intensity gap', Michele Cincera, Reinilde Veugelers, Economics of Innovation and New Technology 22(2), 2013 (available at: <http://www.tandfonline.com/doi/full/10.1080/10438599.2012.731166>)

**Chart 2.A: A comparison of research quality and commercialisation performance by young innovative firms in the UK, US and EU27**



Source: 'International Comparative Performance of the UK Research Base', prepared by Elsevier for the Department of Business, Innovation and Skills, 2013 (available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/263729/bis-13-1297-international-comparative-performance-of-the-uk-research-base-2013.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263729/bis-13-1297-international-comparative-performance-of-the-uk-research-base-2013.pdf)) | HM Treasury (HMT) analysis of 'EU industrial R&D investment scorecard' (see paragraph 2.9)

are significantly fewer UK unicorns than for the global leaders: 54% are US-based; 23% China-based, 4% in India, 4% in the UK, 2% in Germany and 2% in South Korea (May 2017).<sup>18</sup>

**2.11** Fourth, research by the Enterprise Research Centre (ERC) shows that only a small number of firms in absolute terms grow to scale. As such, even a small increase in the number of firms scaling up would have a large impact proportionately. In particular, the ERC looked at the growth of a cohort of firms born in 1998 to see how many survived after 15 years. Through this unique longitudinal approach, they identified less than 0.05% of this cohort grew from small to large over the 15-year study period (where, for these purposes, 'large' is defined as a firm with over 250 employees that has remained independent). Within the firms that did scale up successfully, further analysis shows that many of these firms brought new technologies and business models to market, driving innovation more broadly in the economy. These findings are summarised in Box 2.B.

**2.12** Finally, UK investors appear sometimes to exit their investments at a relatively early stage, further reducing firms' ability to scale up. For example, Chart 2.B shows that UK firms receive fewer rounds of private investment before an Initial Public Offering (IPO) or sale to a trade buyer than their equivalents in the US. In other words, UK firms are on average less developed and have scaled up less on average when they come to major decision points about their ownership structure to support their future plans for growth. This in turn may reduce these firms' ability to grow to their full potential by limiting their options on future ownership structures.

<sup>18</sup> 'The Global Unicorn Club', CB Insights, 26 May 2017 (available at: <https://www.cbinsights.com/blog/unicorn-startup-market-map>)



### Box 2.B: The number of firms that successfully scale up in the UK

The Enterprise Research Centre found that of the 239,649 firms started up in 1998<sup>19</sup>:

- 11% of firms survived 15 years
- 0.5% of the original cohort (1,248 firms) accounted for 40% of job creation over 15 years within this cohort
- the top 0.05% of the original cohort (between 100 and 200 firms) accounted for an average of around 120 jobs created per firm, suggesting the number of firms in this cohort that had grown from small to large (where a large firm employs typically greater than 250 employees and has remained independent) is less than 100

To understand what sort of firms are within this top 0.05%, HMT used a Bureau van Dijk database to identify individual firms incorporated in 1998 which had grown from small to large. This cohort included firms that are:<sup>20</sup>

- applying digital technology to their sector (a mix of 'product' and 'process' innovation), including Asos.com (online retail), Double Negative (film visual effects) Financial Express (Investment Data) and YouGov (market research and polling)
- introducing new products to their sector through technology, including Abcam (life sciences) and Esterform (packaging)
- introducing other forms of new products, including Big Yellow Storage (home storage) and EcoTricity (energy)
- expanding in existing consumer markets (a mix of product and marketing innovation), including Jack Wills and Sweaty Betty (high street retail)
- expanding in sectors of lower productivity, typically through managerial and / or marketing innovation, including catering (McDonalds franchises), a supplier of temporary workers to the food production sector and firms providing home care

Some of these firms remain private firms and appear not to have received investment from external investors. Others have however brought in external investors, including business angels and through the public markets.

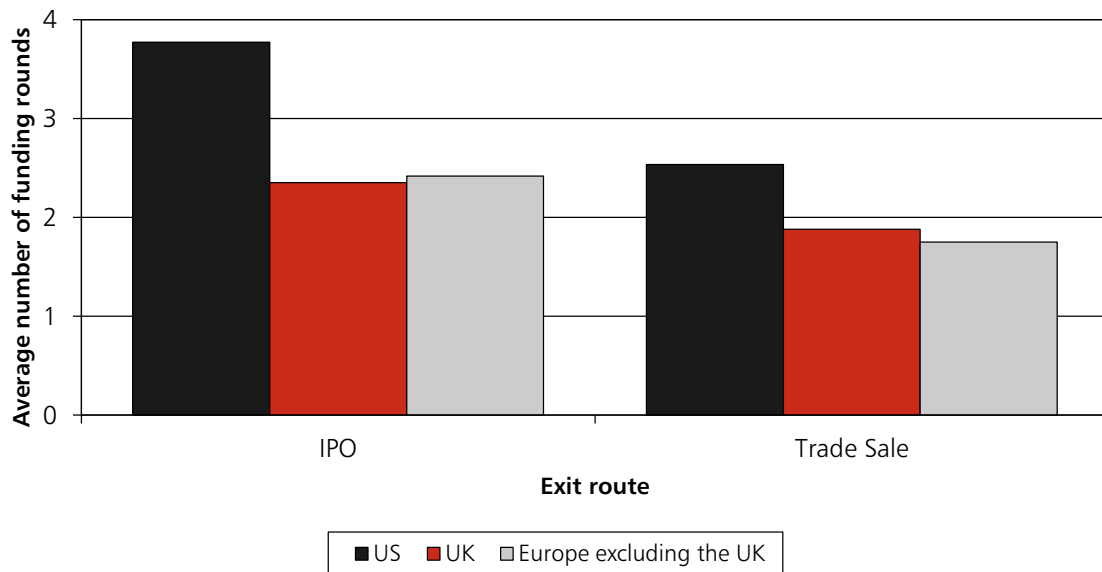
## Sizing the patient capital gap

**2.13** Within the wider patient capital framework, a lack of supply of appropriate capital appears to be one important factor that contributes to fewer firms scaling up. As discussed later in Chapter 4, the UK's historically thin market for patient capital has created a negative feedback loop that holds back further investment. This has created a gap between optimum levels of investment in a fully functioning market and those today. In particular, it appears that slightly fewer firms in the UK receive some form of initial investment than the global leaders. More importantly, those that do receive significantly less investment on average as they scale up.

<sup>19</sup> 'The UK's Hidden Growth Champions', ERC Insights, June 2014 (available at: <https://www.enterpriseresearch.ac.uk/wp-content/uploads/2014/06/ERC-Insight-Conf-2014-Demography.pdf>)

<sup>20</sup> Specifically, we used firms' incorporation dates as listed on the Bureau van Dijk database (available at: <https://www.bvdinfo.com/en-gb/home>)

**Chart 2.B: Average number of funding rounds to exit in the UK vs Europe and the US**



Source: British Business Bank analysis of Preqin data, 2006 – March 2017 (<https://www.preqin.com>)

**2.14** It is difficult to measure the size of the gap between the market today and a market where this feedback loop is not operating to dampen investment. As a means of illustration, venture capital investment in private firms is currently around £4 billion per year. Comparing this to other countries, if the UK had the same level of investment as the US, total venture capital investment in UK firms would be around £4 billion per year greater.<sup>21</sup> The secretariat of the industry panel supporting this review has separately modelled an overall range of between £3 billion and £6 billion per year<sup>22</sup> between the current annual supply of capital and that in a fully functioning UK system.

**2.15** Box 2.C provides further analysis to benchmark the UK's use of venture capital specifically, but this gap is not limited to venture capital. For example, the recent discussion paper by the Financial Conduct Authority (FCA) identifies concerns about the public market environment in supporting firms commercialising technology through their scale-up phase.<sup>23</sup> The FCA discussion paper specifically asks to what extent the difficulties experienced by such scale-up companies are due to a lack of public market investors willing to provide capital to businesses at this stage of their lifecycle. Public market trends are also discussed further in this consultation.

### Consultation questions

- 1 Do a material number of firms in the UK lack the long-term finance that they need to scale up successfully?
- 2 Where is the gap most acute by type of firm, stage of firm development and amount invested?

<sup>21</sup> British Business Bank analysis of Pitchbook (<https://pitchbook.com>) and World Bank data (<http://data.worldbank.org>)

<sup>22</sup> This is a provisional estimate and the industry panel will provide further details in its response to the consultation

<sup>23</sup> 'Discussion paper 17/2, Review of the Effectiveness of Primary Markets: The UK Primary Markets Landscape', Financial Conduct Authority, February 2017 (available at: <https://www.fca.org.uk/publication/discussion/dp17-02.pdf>)

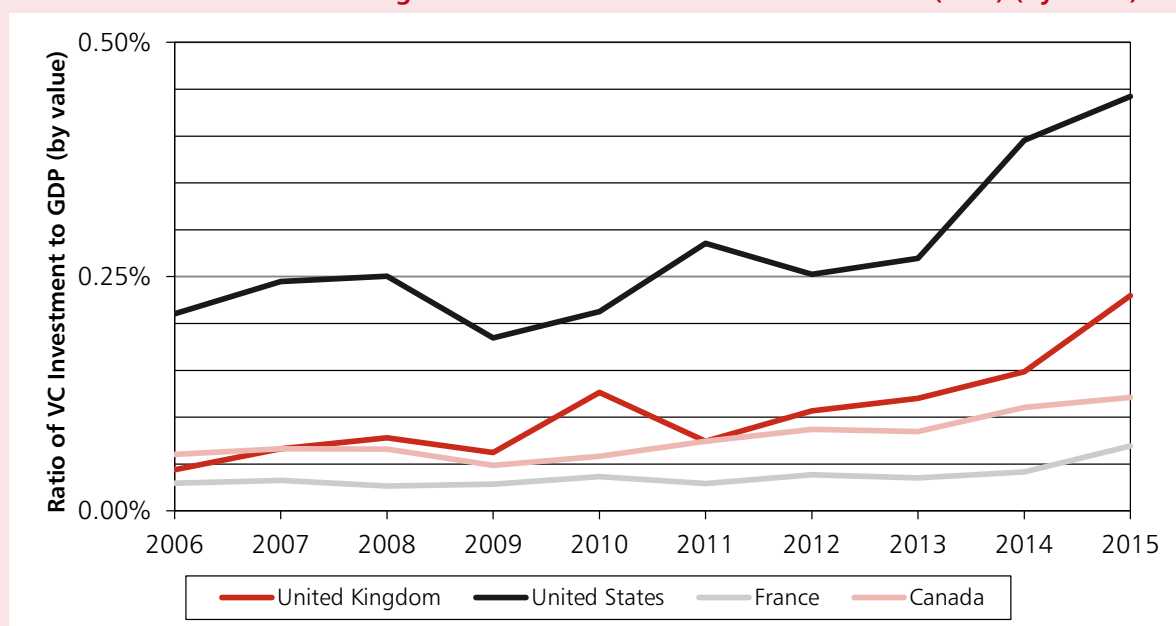
### Box 2.C: International comparisons of the size of the UK venture capital market

A comparison of venture capital investment in different countries shows that the main difference between the UK and the global leader (the US) is the quantum of capital invested per firm rather than the total number of firms that receive investment.

Some existing international comparisons use different datasets to compare countries' venture capital ecosystems or focus only on activity by funds rather than all investors. As such, investment activity in the UK is sometimes significantly under-estimated. HMT and the British Business Bank have therefore prepared new international comparisons of investment activity from a single data source (an industry database called 'Pitchbook').

This comparison shows that proportionate levels of UK investment have increased recently and are ahead of both Canada and France. But there remains a significant opportunity for the UK to increase its level of investment further:

**Chart 2.C: Ratio of venture stage investment to Gross Domestic Product (GDP) (by value)**



Source: PitchBook (<http://pitchbook.com>) and World Bank GDP data (<http://data.worldbank.org>)

In contrast, scaling the number of deals recorded in this database against GDP reveals a much lower disparity between different countries. For example, the ratio of number of deals to GDP in the UK vs the US has risen from 0.45 to 0.92 from 2006 to 2015. The corresponding ratio in 2015 for Canada to US deals is 0.89 and, for France, 0.37. As such, the main difference between the UK and the US is in the amount of investment per firm rather than the number of firms that receive investment.

This comparison will be incomplete, not least because it does not include investment through the public markets, but it starts to provide a reasonably robust cross-country comparison.



# Strengths and weaknesses 3 in patient capital

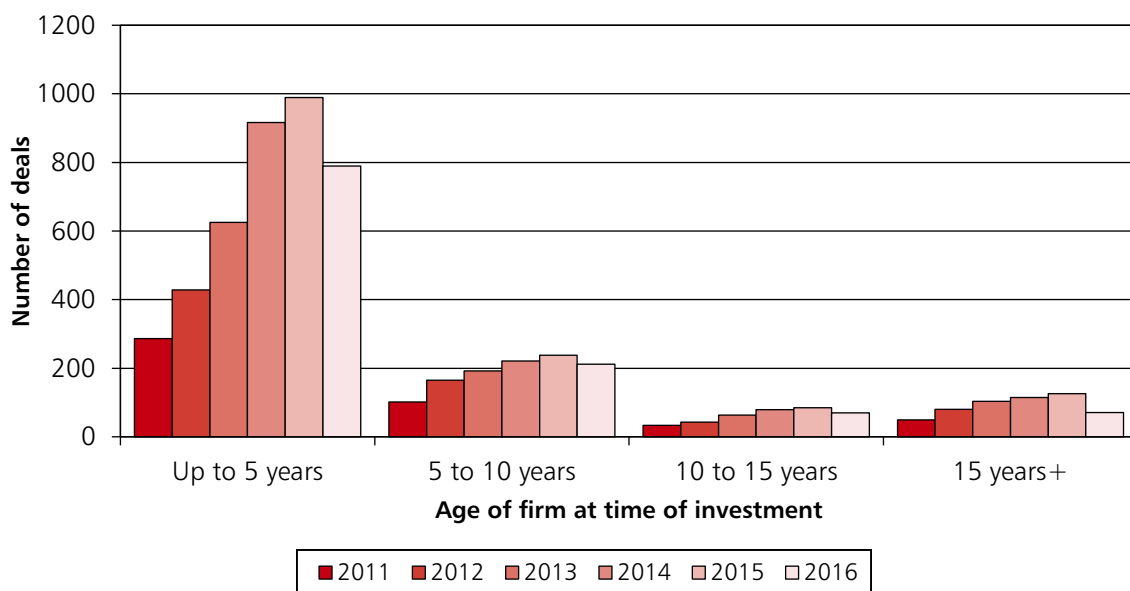
## Strengths

**3.1** Chapter 2 (Box 2.C) shows how the provision of private capital to growing firms has increased strongly since 2011. This has been underpinned by three transformational changes in the UK: significant increases in the supply of early stage capital, a rapidly expanding digital sector attracting new investment and the emergence of a number of substantial investors investing in patient capital.

**3.2** First, there have been significant increases in the supply of capital to young, earlier stage businesses. Chart 3.A for example shows that the most significant expansion in the number of investments has been for firms up to 5 years of age, with more modest increases in investment for older firms. While 2016 saw a slight decrease in investment activity from 2015, the longer term trend is clear.

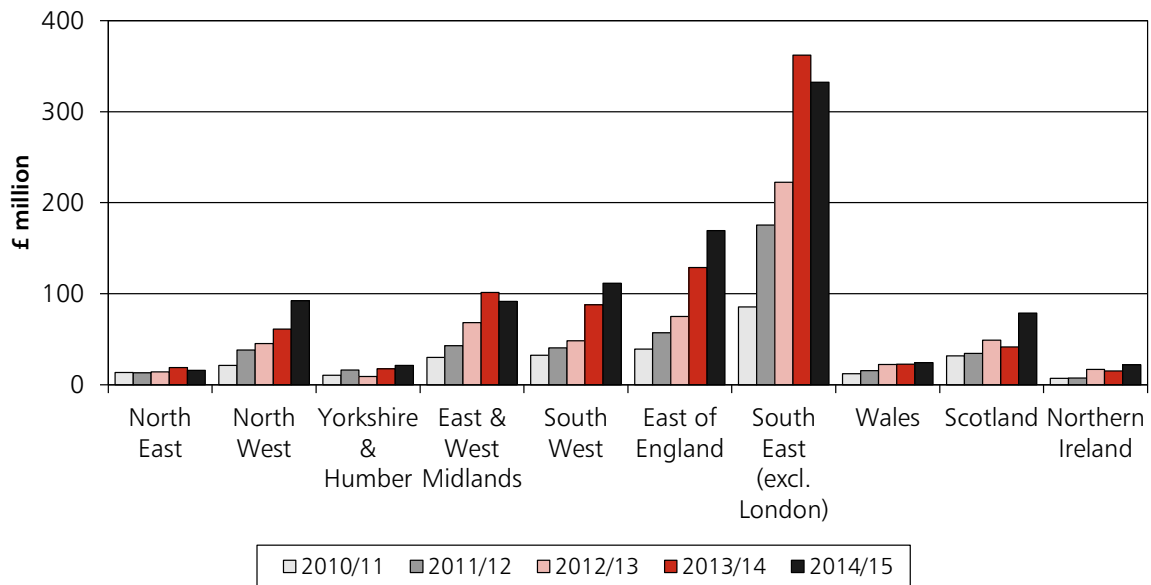
**3.3** This increase in investment in younger, earlier stage businesses has been spurred in part by increased investment from business angels, supported by the Enterprise Investment Scheme (EIS) and the introduction of the new Seed Enterprise Investment Scheme (SEIS). Chart 3.B in particular shows increases in investment supported through the EIS tax relief in areas across the country. (This illustration should be treated as indicative as firm location recorded under EIS is a firm's registered office rather than its main area of business.)

**Chart 3.A: Investment in private firms split by year and age band of the firm at the time of investment**



Source: HM Treasury (HMT) analysis of Beauhurst data (<http://about.beauhurst.com>)

**Chart 3.B: Amount of investment supported outside of London through the EIS tax relief by year and region<sup>a</sup>**



Source: HMT analysis of published EIS investment statistics (available at: <https://www.gov.uk/government/collections/enterprise-investment-scheme-and-seed-enterprise-investment-scheme-statistics>)

<sup>a</sup> The corresponding investment figures for London in tax year 2014 to 2015 were £854 million (i.e. nearly 50% of total investment supported), up from £266 million in year 2010 to 2011. These have not been included in Chart 3.B in order to show trends outside of London more clearly.

**3.4** This increase in earlier stage investment has also been supported by crowdfunding. Crowdfunding platforms are currently involved in deals valued at around £100 million per year, up from £17 million per year in 2011.<sup>1</sup> Some types of crowdfunding also appear to have helped to increase the depth of investment in particular sectors, for example with 34% of investment through one platform invested in life science companies.<sup>2</sup>

**3.5** Second, the UK digital technology sector has expanded rapidly, supported by rapid increases in new investment into the sector. Chart 3.C illustrates this trend. While London dominates investment in software-related businesses, there has also been a rapid expansion of investment outside London. This reflects growing investment strength in the UK in everything from artificial intelligence to financial technology.

**3.6** Third, a number of new substantial investors have emerged in different parts of the market:

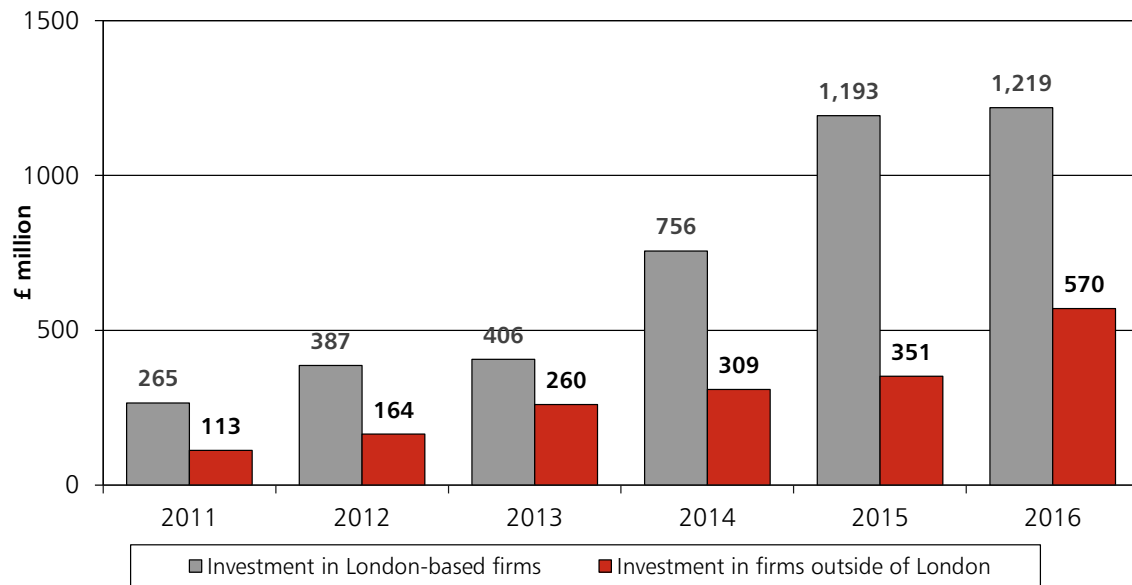
- the Business Growth Fund (BGF) is a £2.5 billion fund founded in 2011 by five of the UK's largest banks. The BGF has now invested over £1 billion of its capital and has established its most significant market presence outside London.<sup>3</sup> This includes setting up offices around the country, giving it a presence close to the businesses that it invests in. Chart 3.D illustrates how it has participated in the expansion of the supply of capital for profitable firms looking for investment of £2 million to £10 million and now accounts for typically over a third of investments in this bracket of investment outside of London. The BGF has also started to invest in venture capital and in firms quoted on the Alternative Investment Market (AIM).

<sup>1</sup> HMT analysis of Beauhurst data (<http://about.beauhurst.com>)

<sup>2</sup> 34% of investment through Syndicate Room has been in the life sciences, as of September 2016 (available at: <https://www.syndicatoroom.com>)

<sup>3</sup> The Business Growth Fund (<http://newsandinsights.businessgrowthfund.co.uk/bgf-reaches-1-billion-invested>)

**Chart 3.C: Investment in private software-related firms by year, inside and outside of London<sup>a</sup>**



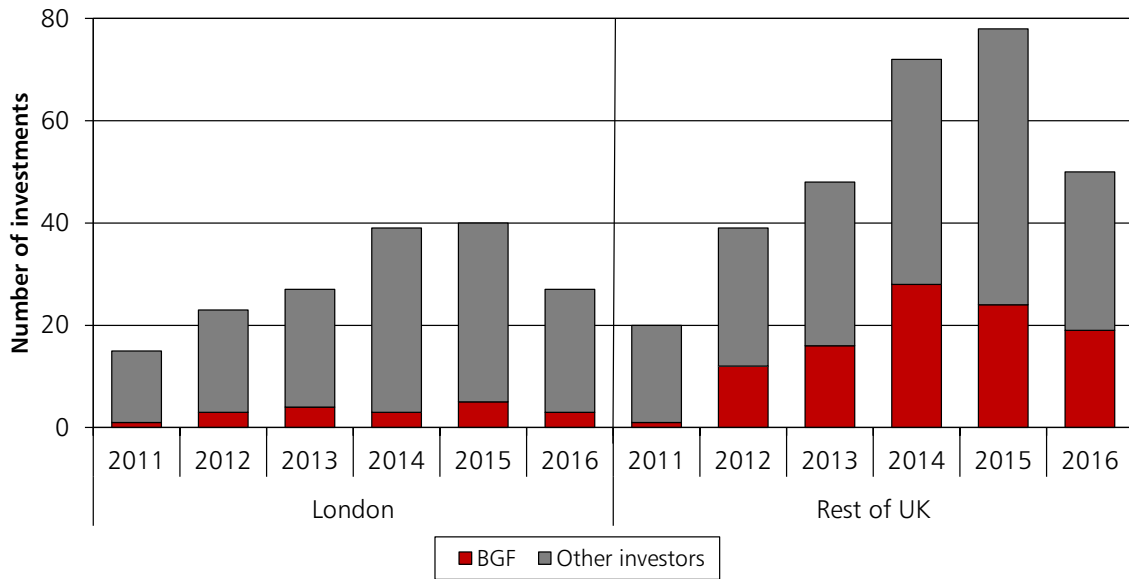
Source: HMT analysis of Beauhurst data (<http://about.beauhurst.com>)

<sup>a</sup> This includes firms both focusing purely on software and software-related firms in other sectors

- there are a growing number of retail investors investing in vehicles listed on stock exchanges specialising in patient capital. These listed vehicles tend either to adopt a corporate structure (for example some funds specialising in technology transfer) or as investment trusts. The advantage of listed status is that it can provide clearer benchmarks of fund performance, supporting more informed capital allocation between funds without individual investors requiring in-depth industry knowledge about the underlying investments concerned. It also provides a liquid investment traded on a secondary market that can be sold by individual retail investors without the underlying investments being affected.
- as discussed later in Chapter 5, active levels of corporate investment and continued high levels of overseas investment into UK firms have supported some substantial investments in firms looking to scale up through the commercialisation of technology. For example, Japan's SoftBank invested in UK start-up Improbable in May 2017 and acquired ARM Holdings in 2016.
- the British Business Bank (BBB) has expanded its investment in venture capital and the European Investment Fund (EIF) has also expanded its investment activity in the UK. Chapter 6 discusses these investors in greater detail.

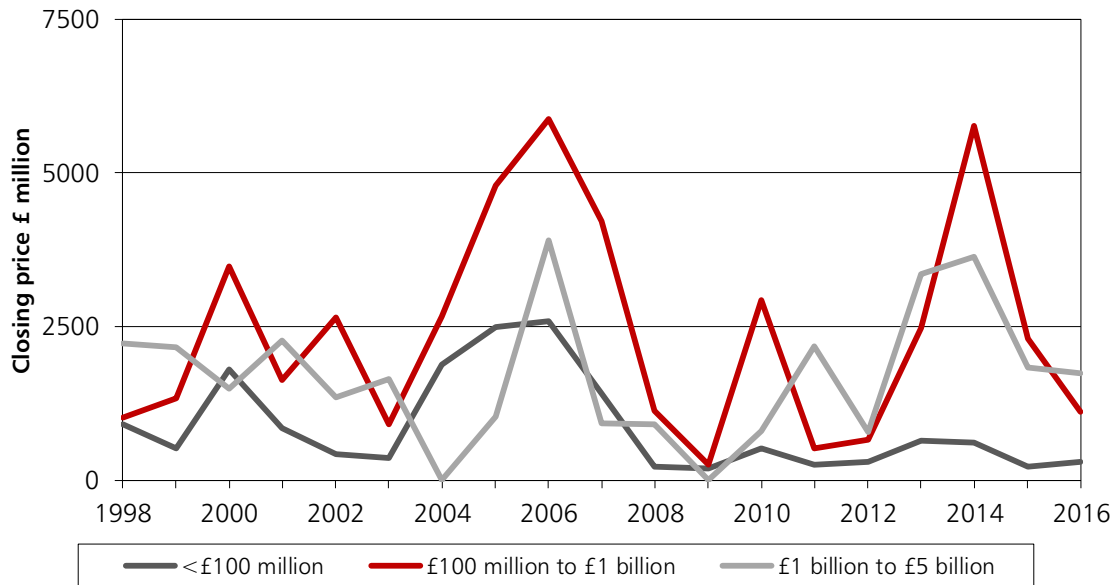
**3.7** Alongside this, investment in the public markets has increased again in recent years after the financial crisis for firms with a market capitalisation of greater than £100 million. This is shown by Chart 3.E, which shows the value of new capital raised to UK incorporated companies coming for the first time to the London Stock Exchange.

**Chart 3.D: Number of investments in profitable businesses looking to expand ('growth' stage) in the £2 million to £10 million bracket, split by year and inside and outside London**



Source: HMT analysis of Beauhurst data (<http://about.beauhurst.com>)

**Chart 3.E: Amount raised through new issues of UK incorporated firms on the London Stock Exchange split by market capitalisation<sup>a</sup>**

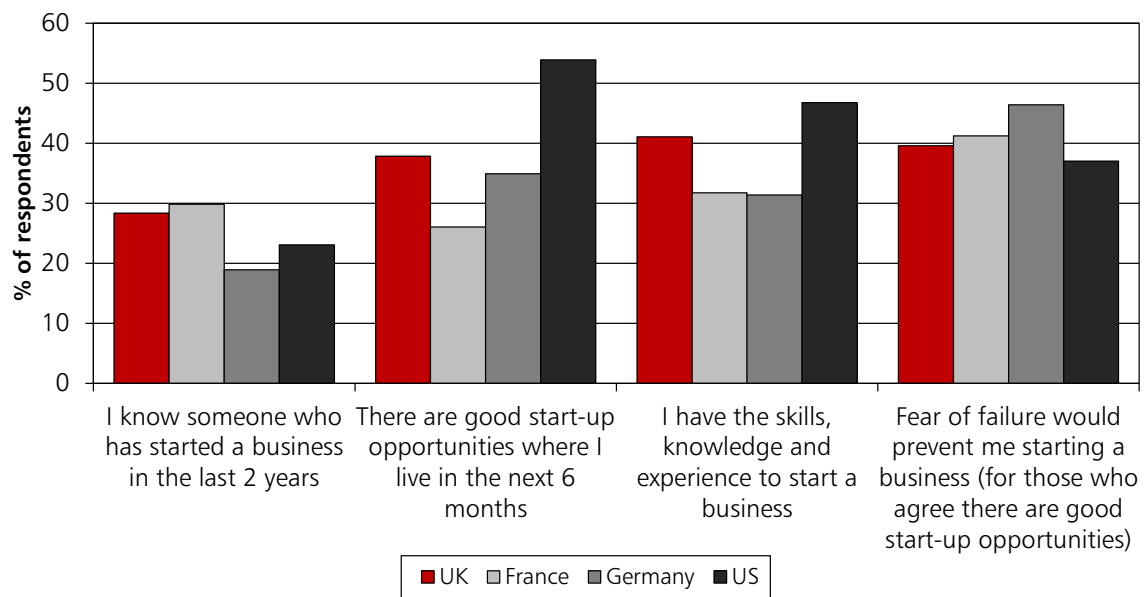


Source: HMT analysis of London Stock Exchange (LSE) published statistics on new issues (available at: <http://www.londonstockexchange.com/statistics/home/statistics.htm>).

<sup>a</sup> Investment companies and entities have been removed manually from the published London Stock Exchange statistics. This does not include money raised by further issues of companies already quoted on LSE exchanges as the relevant dataset is limited to new issues only.



**Chart 3.F: Attitudes to entrepreneurialism in the UK, France, Germany and the US**



Source: *Global Entrepreneurship Monitor, 2016* (available at: <http://www.gemconsortium.org>)

**3.8** These trends have been supported by growing levels of entrepreneurship within the UK economy over the past 15 years,<sup>4</sup> reflected by current positive attitudes to entrepreneurialism (Chart 3.F). At the same time, the UK is the leading major European economy in the proportion of firms exhibiting individual periods of high-growth.<sup>5</sup> And, while only 1% of UK Small and Medium Enterprises (SMEs) draw on external equity finance, this appears to be comparable with levels in other countries. For example, about 1% of US small firms draw on equity finance.<sup>6</sup> Combined, these indicate a reasonable absolute level of demand for patient capital in the UK.

**3.9** In addition, while it is sometimes said that UK entrepreneurs are on average less ambitious than entrepreneurs in other countries, the differentiating factor between the US and the UK appears to be lower levels of ambition among the self-employed with no employees. In contrast, business owners in the UK who employ people are on average just as likely to be ambitious as their counterparts in the US.<sup>7</sup>

## UK weaknesses in patient capital

**3.10** However, Chapter 2 also shows that levels of investment in the UK are below their potential. Five specific areas of weakness illustrate these differences.

**3.11** First, fewer UK firms receive follow-on investment compared to the US, and those that do receive less, reducing UK firms' long-term growth potential. In particular, Chart 3.G shows how UK firms receive about the same levels of funding at their early stages of development compared to the US and the rest of Europe, but less investment than the US at later stages. Chart 3.H then shows that, of those firms in the UK that received their first funding rounds in 2008 to 2010, fewer received later stage funding compared to the US. From international comparisons (Box 2.C), this is the main area where the UK lags behind its potential.

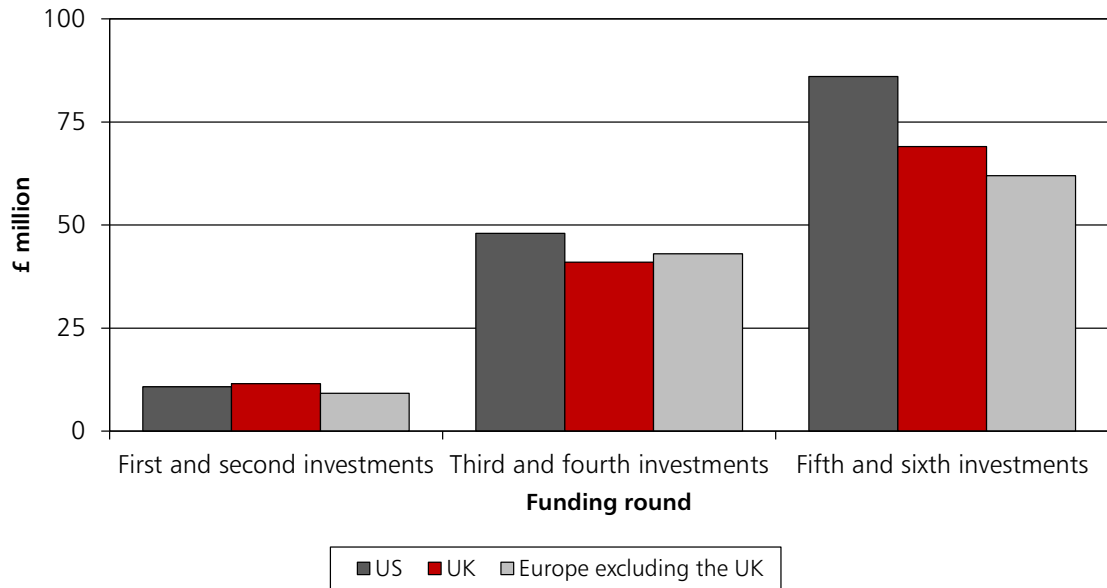
<sup>4</sup> 'GEM United Kingdom 2015 report', Global Entrepreneurship Monitor (available at: <http://www.gemconsortium.org/report/49536>)

<sup>5</sup> 'High-growth enterprise shares in EU Member States', Eurostat business demography statistics, 2014

<sup>6</sup> 'Myth-busting and entrepreneurship policy: the case of high growth firms', Brown, Mawson & Mason, Entrepreneurship & Regional Development, 2017, Volume 29, Issue 5-6 (available at: <http://www.tandfonline.com/doi/abs/10.1080/08985626.2017.1291762?journalCode=tepn20>)

<sup>7</sup> 'Explaining the US-UK Ambition Gap', ERC Insights, Enterprise Research Centre, June 2014 (available at: <https://www.enterpriseresearch.ac.uk/wp-content/uploads/2014/06/ERC-Insight-Explaining-the-US-UK-Ambition-Gap-final-v2.pdf>)

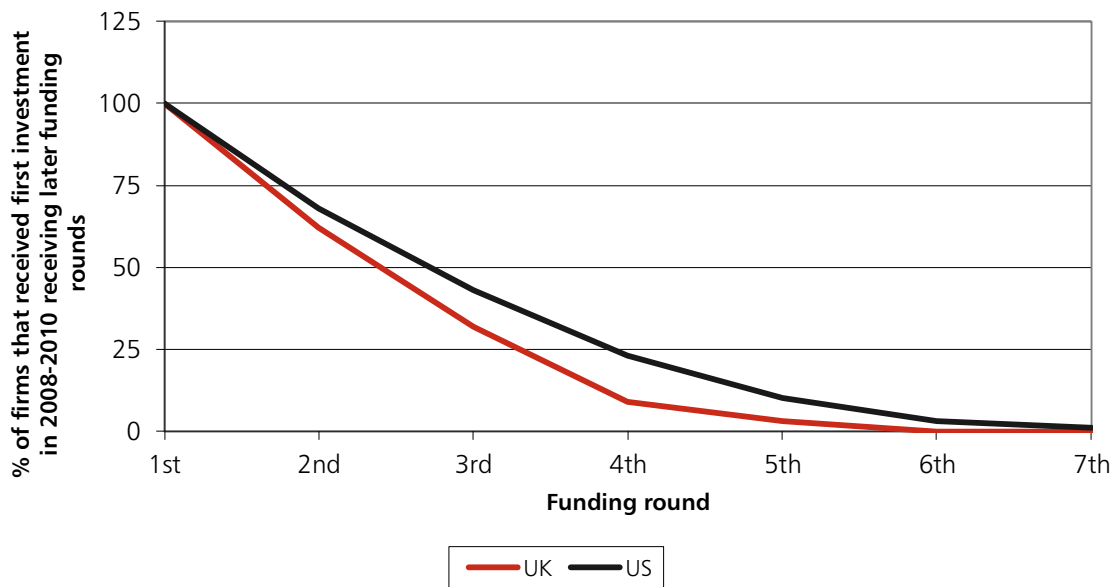
**Chart 3.G: Average levels of investment in venture capital-backed firms in the UK, Europe and the US by funding round<sup>a</sup>**



Source: Figure 9 of 'Scale-up UK: Growing Businesses, Growing our Economy', University of Cambridge and University of Oxford business schools / Barclays, 2016 (available at: [https://www.home.barclays/content/dam/barclayspublic/docs/BarclaysNews/2016/April/Scale%20up%20UK\\_Growing%20Businesses\\_Growing%20our%20Economy.pdf](https://www.home.barclays/content/dam/barclayspublic/docs/BarclaysNews/2016/April/Scale%20up%20UK_Growing%20Businesses_Growing%20our%20Economy.pdf))

<sup>a</sup> For ease of interpretation, this adds together average investments in seed and series A investment rounds, series B and C, and series D and E

**Chart 3.H: Cohort analysis of firms receiving the Seed / Series A funding rounds between 2008 and 2010: the US vs the UK<sup>a</sup>**



Source: 'Small Business Finance Markets Report', BBB, 2016 to 2017 (available at <http://british-business-bank.co.uk/research/small-business-finance-markets-report-201516>)

<sup>a</sup> As shown, 100% of firms of the cohort received the first funding round, by definition

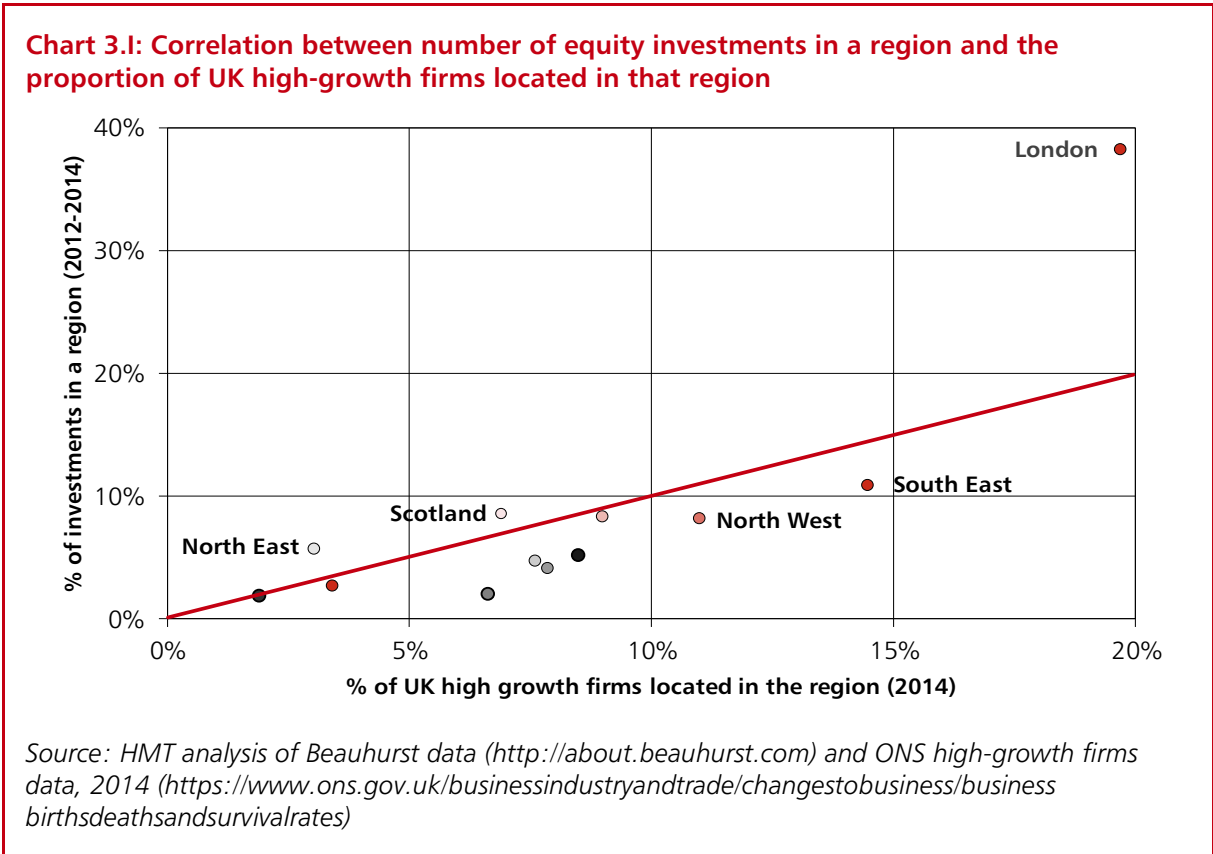
**3.12** Second, recent improvements in the financing of firms have not been felt equally across the economy, with some sectors (especially those outside the digital sector) and some regions (especially outside of London) still experiencing challenges.

**3.13** For example, Chart 3.I illustrates the uneven take-up of external equity investment across the country, with a significantly higher proportion of high-growth firms in London receiving investment. (This difference is seen in London only rather than London and the South East.)

**3.14** Examining the underlying investment data in greater detail,<sup>8</sup> part of this uneven take-up results from the different industrial mix of investments in London versus the rest of the country. This difference was illustrated in Chart 3.C, which shows much higher levels of software-related investment in London. This difference becomes most prominent for larger investments, for example 63% of investments above £2 million in London (2014 to 2016) involved software-related businesses, compared to 32% outside London.

**3.15** The picture is more nuanced for non-software related firms. There is still a higher density of earlier stage and smaller investments (<£1 million) into London-based high-growth firms compared to the rest of the country. As the main source of investment for these firms is from business angels, some have suggested that this may be caused by a higher density of high-net worth individuals with business experience in London capable of acting as business angels.<sup>9</sup>

**3.16** However, a different pattern emerges for larger investments in non-software related firms. Four regions show proportionately more investments over £2 million than their underlying number of high-growth firms: Scotland, the East of England, London and the South East. This shows that there is a freer flow of capital across the country for larger investments.



<sup>8</sup> HMT analysis of Beauhurst data (<http://about.beauhurst.com>)

<sup>9</sup> 'Equity research report: review of equity investment in small businesses', British Business Bank and the Department for Business, Innovation and Skills, 2015 (available at: <http://british-business-bank.co.uk/wp-content/uploads/2015/03/050315-Equity-report-FINAL.pdf>)

**3.17** Public sector involvement in investments less than £1 million is also significant in some areas. For example, publicly-backed funds participate in 78% of investments below £1 million in the North East (by number).<sup>10</sup>

**3.18** In addition, investment in some areas of technology outside the software sector has been more muted than either software-related firms or non-technology firms. For example, levels of investment in spinouts has not increased significantly in value since 2011, in contrast to other areas of the market. Box 3.A examines the role of university spinouts in greater detail.

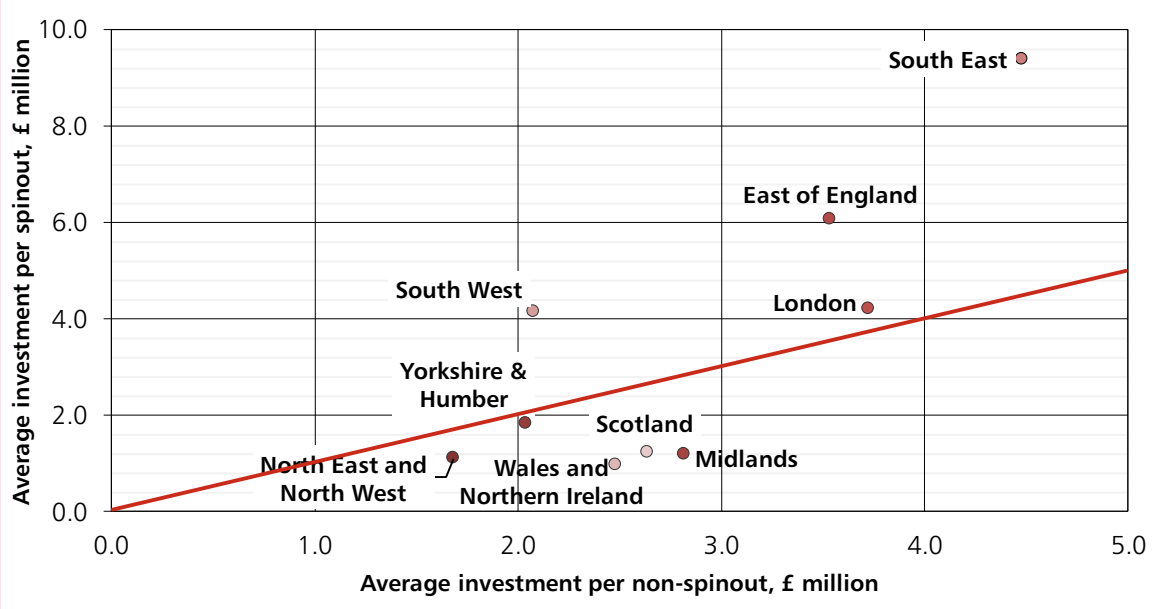
**Box 3.A: University spinouts**

University spinouts, which are typically pre-revenue, research and development-intensive and reliant on significant external equity investment, play an important role in the wider investment market. Between 2011 and 2016, investment in spinouts represented 9% by number and 12% by volume as a proportion of overall investment (Beauhurst). This rises to 21% by number and 29% by value of investments in the technology sector outside London.

The analysis also shows an increase in the number of investments in spinouts over recent years, rising from 45 in 2011 to an average of 85 per year from 2014 to 2016. A number of specific listed investment vehicles specialising in investing in spinouts have also been launched. However, the total amount invested in spinouts has not increased proportionately, falling slightly from £370 million (2011) to £340 million per year (2014 to 2016). This may reflect difficulties in attracting follow-on investment by some spinouts.

Chart 3.J examines investment in spinouts in different areas. There has been strong investment in the South East, East of England, London and the South West, but the chart implies that spinouts in other areas may have found it more difficult to attract investment, which could reflect supply-side or demand-side constraints.

**Chart 3.J: Average investment in spinouts vs non-spinouts in the technology sector**



Source: HMT analysis of Beauhurst data (<http://about.beauhurst.com>)

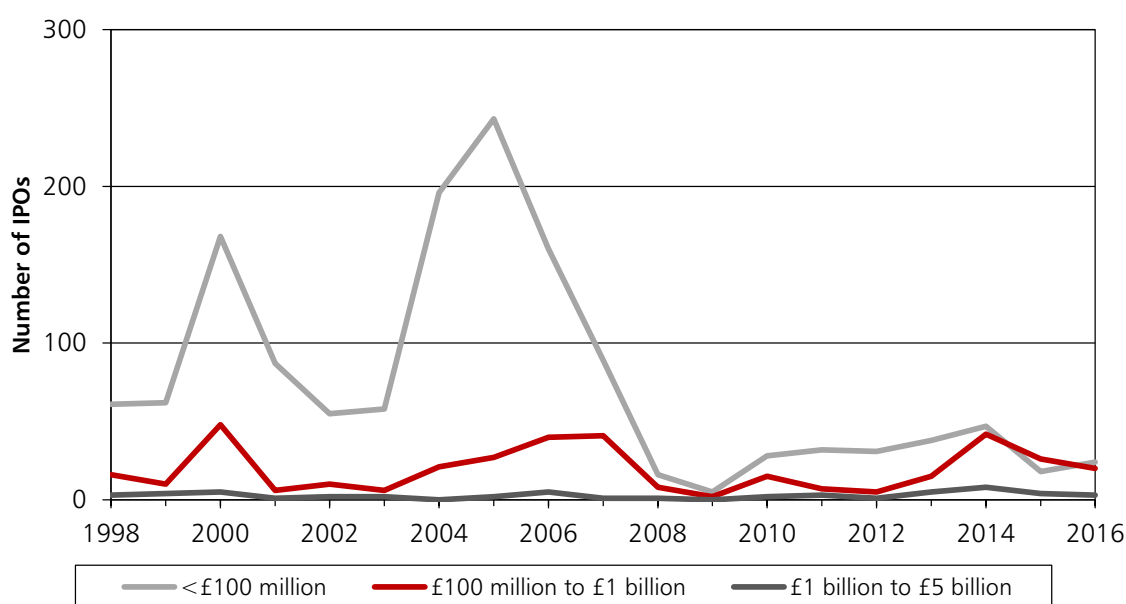
<sup>10</sup> HMT analysis of Beauhurst data, 2011 to 2016 (<http://about.beauhurst.com>)

**3.19** Third, while access to the public markets has recovered since the financial crisis, areas of weakness remain:

- the supply of finance from the public markets to new companies with a market capitalisation of less than £100 million through Initial Public Offerings (IPOs) has decreased since the financial crisis (Chart 3.K). As such, it has become even more important that these companies can access growth finance from private sources.
- as shown in Box 3.B, UK firms in the life sciences industry are less than half as likely to float (as opposed to seek a trade sale) than the equivalent US and European (ex-UK) firms. In addition, only one quoted UK incorporated firm in the life sciences industry has grown beyond a £5 billion market capitalisation since 1999, with other firms being acquired before this point. Firms in this sector are particularly capital intensive and require investors with long time-horizons and stakeholder feedback suggests that the same issues are faced by firms with similar capital-intensive business models in other sectors.

**3.20** Fourth, the UK has a less developed market for ‘venture debt’, which reduces the range of potential funding sources open to entrepreneurs. From an entrepreneur’s perspective, one drawback of seeking consecutive rounds of external equity investment is that it can dilute their own equity holdings significantly. In contrast, venture debt is a way of raising investment without diluting an entrepreneur’s equity holding further. But venture debt is used more widely by venture stage businesses in the US, with 20% of these firms in the US recorded as using venture debt against 8.4% in the UK.<sup>11</sup>

**Chart 3.K: Number of IPOs of UK-incorporated companies onto LSE exchanges broken down by year and market capitalisation<sup>a</sup>**



Source: HMT analysis of published LSE statistics (available at: <http://www.londonstockexchange.com/statistics/home/statistics.htm>)

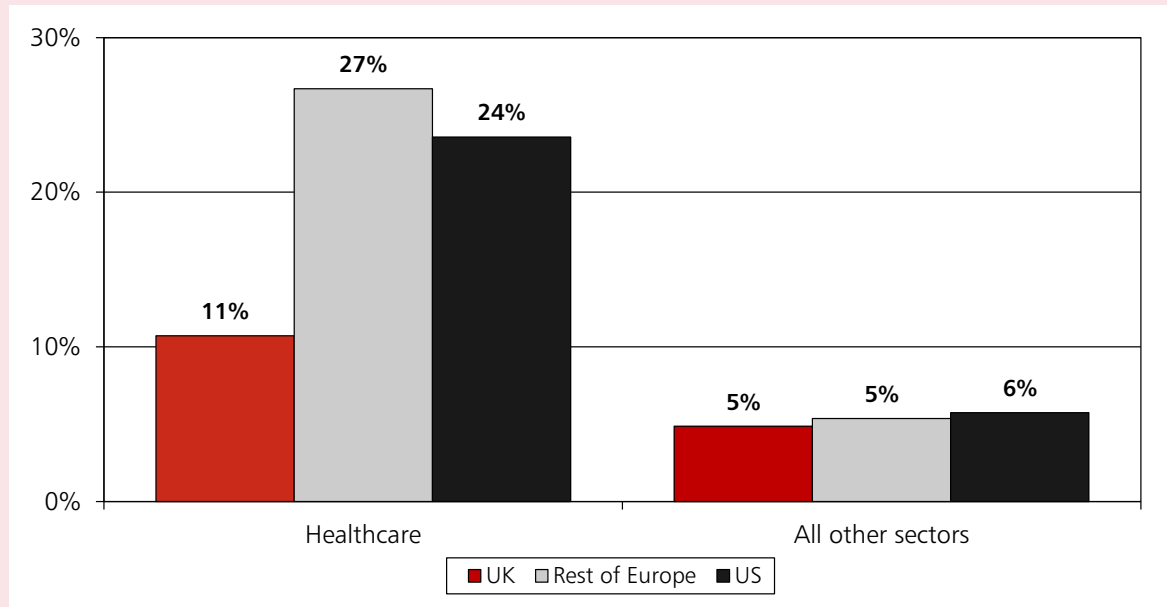
<sup>a</sup> Investment companies and entities have been removed from the analysis

<sup>11</sup> ‘Scale-up UK: Growing Businesses, Growing our Economy’, University of Cambridge and University of Oxford business schools, convened by Barclays, 2016 (available at: [https://www.home.barclays/content/dam/barclayspublic/docs/BarclaysNews/2016/April/Scale%20up%20UK\\_Growing%20Businesses\\_Growing%20our%20Economy.pdf](https://www.home.barclays/content/dam/barclayspublic/docs/BarclaysNews/2016/April/Scale%20up%20UK_Growing%20Businesses_Growing%20our%20Economy.pdf))

### Box 3.B: Scale-ups in the life sciences industry

Very few UK firms have achieved scale in the life sciences industry over the past 15 years. First, a lower proportion of venture capital-backed UK firms in the life sciences industry have floated relative to the US or in the rest of Europe:

**Chart 3.L: Percentage of venture capital-backed companies that 'exit' through floating on a public market**



Source: British Business Bank analysis of Preqin data of exits from VC-backed investments from 2006 to 2016 (<https://www.preqin.com>) – 'healthcare' is used as defined in the Preqin database

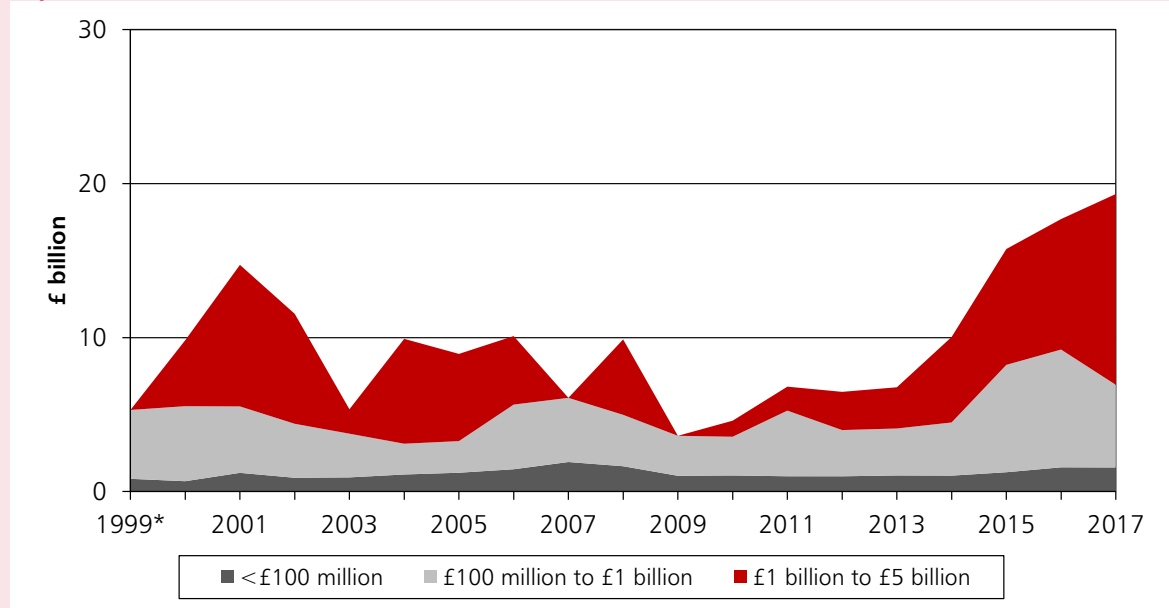
Second, many firms that do float then appear not to have scaled up successfully. For example, only one firm (Shire Pharmaceuticals, which is listed on the London Stock Exchange but has a relatively small UK presence) made the transition to a market capitalisation of greater than £5 billion (in 2007 and then again in 2009) over the fifteen-year period.

In particular, Chart 3.M (overleaf) shows the evolution of the quoted life sciences industry since 1999. Up to 2007, a number of quoted UK incorporated firms grew successfully from less than £1 billion market capitalisation to over £1 billion, shown by the expansion of the red wedge in the chart. These firms included Shire, Celltech, Cambridge Antibody Technology and Galen Holdings. However, by the start of 2007, only one of these firms (Shire) had matured into a larger firm, with the others having been acquired.

As shown in Chart 3.M, new quoted firms in the life sciences industry have only recently started to grow back into the £1 billion to £5 billion market capitalisation band. This has been accompanied by a number of private UK start-ups being valued at over £1 billion, including Oxford Nanopore Technologies Limited and BenevolentAI.<sup>12</sup>

A recent analysis<sup>13</sup> commented on the trend illustrated in Chart 3.M and concluded that "whether through naiveté or inexperience on the part of company founders and investors, too many firms were floated on the stock market too early, on the basis of unrealistic projections about how soon they would bring drugs to the market. Following a series of corporate setbacks in the late 1990s and early 2000s, the sector lost momentum. It is only in the past few years ... that the fortunes of the sector have begun to recover, after a lost decade."

**Chart 3.M: Cumulative market capitalisation of UK-incorporated firms quoted on the London Stock Exchange in the 'pharmaceutical and biotechnology' sector, split by market capitalisation band<sup>a</sup>**



Source: HMT analysis of LSE published data (available at: <http://www.londonstockexchange.com/statistics/home/statistics.htm>) – sector definitions are used as defined in the original dataset

<sup>a</sup> All data from January each year with the exception of April 1999\*

**3.21** Finally, there is evidence that there are opportunities to maximise the effectiveness of some existing government interventions further. The role of current interventions is discussed further in Chapter 6.

**3.22** Alongside this, under some scenarios for the UK's new relationship with the EU, UK funds may lose access to one important investor in UK venture capital (the EIF), dependent on the outcome of negotiations. Chapter 6 considers the current role of the EIF in greater detail.

#### Consultation questions

- 3 Have we correctly identified the UK's current strengths in patient capital?
- 4 In what order would you prioritise the UK's weaknesses in patient capital?

<sup>12</sup> 'The Global Unicorn Club', *CB Insights*, 26 May 2017 (available at: <https://www.cbinsights.com/blog/unicorn-startup-market-map>)

<sup>13</sup> 'Science and the City: Britain's Struggle to Succeed in Biotechnology', Geoffrey Owen and Michael M Hopkins, Oxford University Press, 2016, page 223





# Root causes (1): deployment of / demand for patient capital

## 4

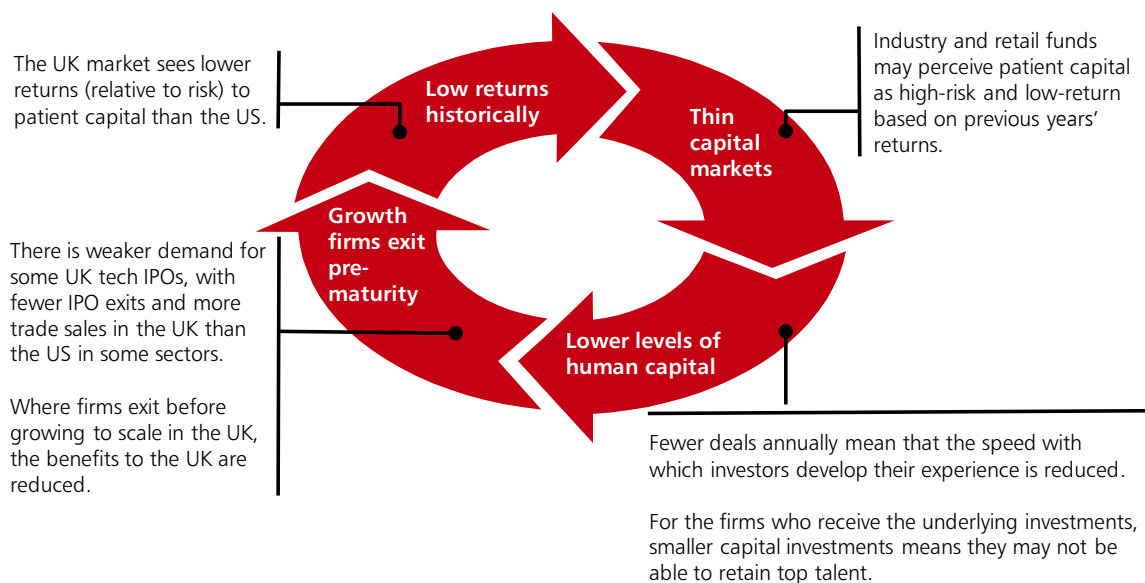
### Effective deployment of capital

**4.1** Private sector investment in patient capital is driven by investors expecting to make a return proportionate to the level of risk involved. This in turn depends on effective allocation of capital within the asset class, with capital being channelled to the most productive firms while also being held back from those firms without long-term potential.

**4.2** The importance of allocating capital effectively is illustrated through evaluations of previous government interventions to support venture capital, as illustrated in Box 4.A. Many of these have been ineffective because they have simply tried to increase the supply of capital to the market overall without considering how to ensure that capital is deployed effectively within the market.

**4.3** In the UK, it appears that a negative feedback loop is operating that reduces the effective deployment of capital within the market. Low returns historically from the asset class have reduced inflows of capital; a thin market holds back UK institutional investors from building up the investment expertise needed to maximise the effectiveness of their investment; lower inflows also prevent firms being able to grow to scale and attract talent; these all in turn feed back into lower returns from the asset class overall. Figure 4.A illustrates this negative feedback loop in operation.

**Figure 4.A: A negative feedback loop that reduces the effectiveness of patient capital deployment**



#### Box 4.A: Lessons from unsuccessful government interventions

Unsuccessful attempts by governments to support venture capital include:

- **providing inappropriate downside protection:** the 1975 Wagnisfinanzierungs-gesellschaft (Venture Finance Company) program in Germany insured up to 75% of investors' losses. The moral hazard created by providing downside protection to investors was thought to have played a key role in the overall poor performance of the programme, which over its lifetime experienced an Internal Rate of Return of minus 25.07%.<sup>1</sup>
- **encouraging over-investment in the market:** the UK High Technology Funds were launched by the UK government around the peak of the dot.com investment boom when the supply of equity finance was already high. At the time of a National Audit Office analysis in 2009<sup>1</sup>, funds launched in a similar period had an average Internal Rate of Return of minus 5.2%, but the High Technology Funds underperformed further, making an equivalent return of minus 9.7%.
- **artificial regional boundaries and other policy restrictions:** the UK government invested £74 million in a series of regional venture capital funds but, at the time of the National Audit Office analysis in 2009<sup>1</sup>, the government's stake was valued at £5.9 million. The poor performance of these funds was put down to poor design, including imposing artificial regional boundaries on where funds could invest.

One academic review<sup>1</sup> sets out a number of lessons to avoid when designing new programmes, including avoiding "(a) mandating local institutional investors to make larger allocations to venture capital, regardless of the nature of the opportunity, (b) substantial upfront tax incentives for investments, which can introduce distorted incentives, (c) a reliance on financial intermediaries to manage these programs, since they are likely to have different incentives, and (d) matching ill-considered incentives offered by other governments".

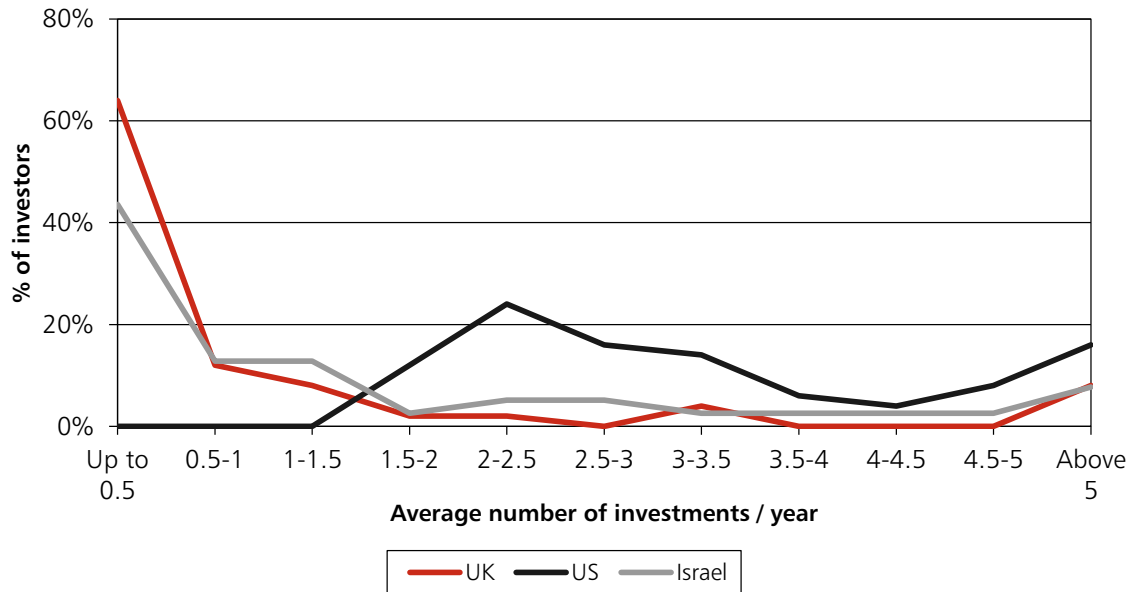
**4.4** This feedback loop stems from the characteristics of the asset class. Patient capital makes a return over the long-term through capital gains; it is relatively illiquid; and it exhibits a relatively high spread of returns between individual investments, making it a relatively high-risk asset class. This spread of returns partly results from the nature of the asset class itself, for example one analysis of venture capital returns found that 50% of returns came from 4% of funds' original investments.<sup>2</sup> For institutional investors, investment risk can be reduced by building up expertise in choosing funds to invest in. But it appears that levels of investment in the UK have historically lacked the critical mass needed for this expertise to build up successfully.

**4.5** Charts 4.A and 4.B illustrate parts of this feedback loop in operation. Chart 4.A considers the average annual number of venture capital fund investments made by the top 50 UK and US-based investors, taking a six year sample from 2011 to 2016. The dataset used captures major investors in funds, but not those who invest small amounts in multiple funds. With this caveat, it shows the majority of UK investors in venture capital made one investment every two years or more; this compares to those in the US making at least 2 investments per year. As a result, US investors are likely to have built up greater expertise in selecting high potential funds.

<sup>1</sup> See 'Boulevard of Broken Dreams', Josh Lerner, Princeton University Press, 2012 | 'Engineering a Venture Capital Market: Lessons from the America VC Experience', Ronald J Gilson, Stanford Law Review, Volume 55 (4), pages 1067-1103 (available at: <https://www.jstor.org/stable/1229601>) | Venture capital support to small businesses', National Audit Office, 2009 (available at: <https://www.nao.org.uk/wp-content/uploads/2009/12/091023.pdf>)

<sup>2</sup> 'The European venture capital landscape: an EIF perspective volume III: Liquidity events and returns of EIF-backed VC investments', EIF Investment Fund Research & Market Analysis, Working Paper 2017/41, April 2017 (available at: [http://www.eif.org/news\\_centre/publications/eif\\_wp\\_41.pdf](http://www.eif.org/news_centre/publications/eif_wp_41.pdf))

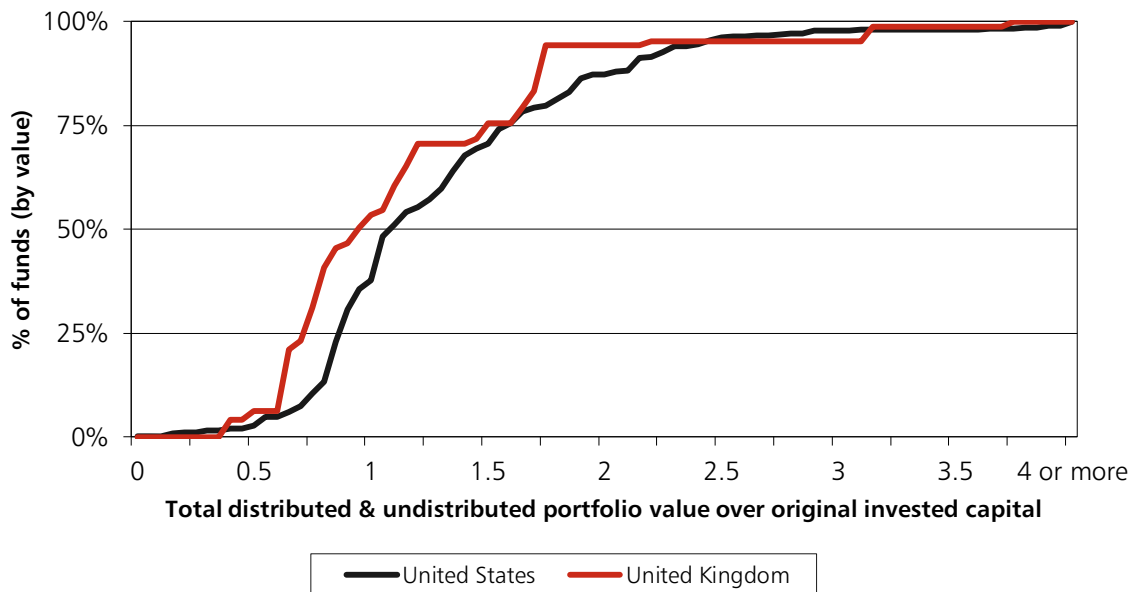
**Chart 4.A: Average number of investments per year by the main investors in the UK, US and Israel into venture capital funds<sup>a</sup>**



Source: HMT and BBB analysis of Pitchbook data, 2011 to 2016 (<http://pitchbook.com>)

<sup>a</sup> The analysis captures the top 50 investors in the US and UK and the top 39 in Israel (as only 39 investors making significant investments into Israeli venture capital in this time period were recorded in the dataset)

**Chart 4.B: Current returns of UK and US venture capital funds from 2007 to 2016**



Source: HMT and BBB analysis of Pitchbook data (<http://pitchbook.com>)

**4.6** Chart 4.B then plots current returns from UK venture capital funds from 2007 to 2016 compared to US funds. This shows a longer tail of lower performing funds in the UK. When considered in the context of Chart 4.A, this may suggest a lack of critical mass among the UK investor community resulting in less optimal choices about which funds to invest in. The chart also illustrates the wide variability of returns when investing in venture capital, which is why institutions tend to consider it as high-risk investment.

**4.7** Further evidence for this feedback loop comes from the lower level of expertise and specialisation among European fund managers compared to the US.<sup>3</sup> This could be a contributory factor to lower levels of successful deployment as successful venture capital investors tend to have a mix of specific sector knowledge and general business expertise, with entrepreneurial experience also a driver of performance.<sup>4</sup> But there is also evidence that successful fund managers in the UK do not attract the same amount of investment for follow-on funds as their counterparts in the US. In particular, by the time that UK fund managers are raising their fifth fund, the size of funds in the US are on average more than twice as large (median of \$281 million) than in the UK (median of \$112 million).<sup>5</sup>

**4.8** There are however signs that the feedback loop is starting to be broken. While industry-reported pooled returns for UK venture funds established before the dot.com bubble is very low, (minus 0.2%), pooled returns made from investment into funds established after 2002 are increasing and currently stand at 7.0%.<sup>6</sup> Nevertheless, UK institutional investors compare these to returns made from other forms of investment with greater liquidity and lower dispersion in returns and, as noted earlier, are not investing in the market in high numbers.

**4.9** Charts 4.A and 4.B illustrate the operation of this feedback loop in the context of venture capital. But there is also evidence that this feedback loop is operating elsewhere.

**4.10** For business angels, higher levels of entrepreneurial and industry experience are associated with more successful outcomes.<sup>7</sup> While stakeholders report that levels of expertise within the market are deepening rapidly, for example with the emergence of a number of 'super angels' (full time business angel investors), there is also evidence of other parts of the market with lower levels of experience.<sup>8</sup>

**4.11** For small cap quoted companies, the highest average returns to investors have been made, according to one study, for stocks floated >20 years ago, followed by stocks floated 8 to 20 years ago, followed by floats from 4 to 7 years ago, followed by more recent floats.<sup>9</sup> This could indicate a lack of depth of expertise among some investors in investing in younger quoted companies.

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<sup>3</sup> 'Myths and facts about European venture capital', British Private Equity & Venture Capital Association, January 2013 (available at: [https://www.bvca.co.uk/Portals/0/library/Files/News/2013/European\\_MandF\\_Report\\_21Jan13.pdf](https://www.bvca.co.uk/Portals/0/library/Files/News/2013/European_MandF_Report_21Jan13.pdf))

<sup>4</sup> 'From Start-Up to Scale-Up: Examining Public Policies for the Financing of High-Growth Ventures', Gilles Duruflé, Thomas F Hellman & Karen E Wilson, Said Business School WP 2017-05, September 2016 (available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2913512](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2913512))

<sup>5</sup> 'Scale-up UK: Growing Businesses, Growing our Economy', University of Cambridge and University of Oxford business schools, convened by Barclays, 2016 (available at: [https://www.home.barclays/content/dam/barclayspublic/docs/BarclaysNews/2016/April/Scale%20up%20UK\\_Growing%20Businesses\\_Growing%20our%20Economy.pdf](https://www.home.barclays/content/dam/barclayspublic/docs/BarclaysNews/2016/April/Scale%20up%20UK_Growing%20Businesses_Growing%20our%20Economy.pdf))

<sup>6</sup> 'Performance measurement survey 2015', BVCA (available at: <https://www.bvca.co.uk/Research/Industry-Performance>)

<sup>7</sup> 'Siding with the angels', Robert E Wiltbank, NESTA, 2009 (available at: [https://www.nesta.org.uk/sites/default/files/siding\\_with\\_the\\_angels.pdf](https://www.nesta.org.uk/sites/default/files/siding_with_the_angels.pdf))

<sup>8</sup> See for example, 'Taking the pulse of the business angel market', Deloitte, 2013 (available at: <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/about-deloitte/deloitte-uk-taking-the-pulse-of-the-angel-market.pdf>)

<sup>9</sup> 'Numis Smaller Companies Index Annual Review 2015', Elroy Dimson and Paul Marsh, Numis Securities Ltd. (available at: <http://www.numiscorp.com/x/numis-indices.html?show=all>)

**Table 4.A: Analyst coverage of companies within different indices / markets**

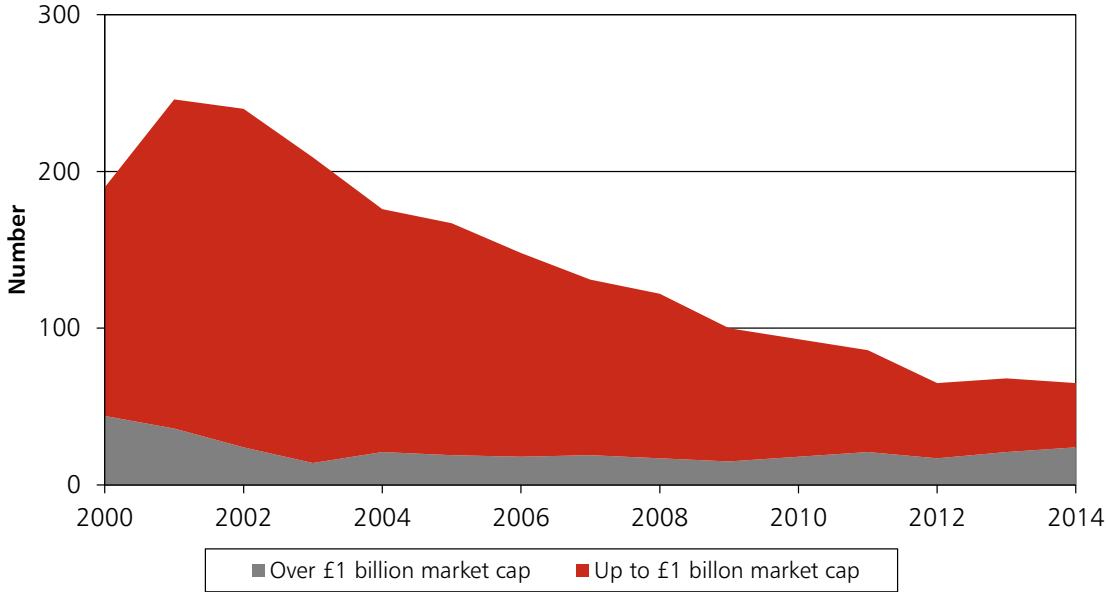
Index / market	Average number of live research opinions	Proportion of companies listed with zero or one live research opinion
FTSE 100	24	1%
FTSE 250	10	8%
FTSE Small Cap	3	41%
FTSE Fledgling	1	84%
AIM	2	65%

*Source: The Department for Business Energy & Industrial Strategy (BEIS) analysis of S&P Global Capital IQ data, May 2017 (<http://marketintelligence.spglobal.com>)*

**4.12** Finally, there are other discrete areas of potential weakness around UK public markets that could also reduce the effective deployment of capital. The availability of research on quoted growing innovative firms remains relatively low, with Table 4.A breaking down current research coverage by the index or market that firms are quoted on. Indices are also being used less by investors to identify growing innovative companies. For example, Chart 4.C shows a decreasing number of firms over time opting to be within the ‘TechMark’ set of indices. Liquidity of private investment before a firm reaches the public market is also greater in the US, with a number of US exchanges established to facilitate the exchange of private investments between investors.

**4.13** In addition, as highlighted in the Industrial Strategy green paper, one suggested change is to make it easier for companies to list with dual class share structures on the UK’s listed markets. While these structures are allowed under a Standard Listing and on some international exchanges, they are not permitted in the UK’s Premium Listing regime. It has been argued by some advocates that allowing dual class shares would make Initial Public Offerings more attractive to UK entrepreneurs. Against this, many investors argue that dual class shares severely weaken corporate governance and are not in the best interests of shareholders. Decisions on the Listing Regime are the responsibility of the FCA.

**Chart 4.C: Number of companies in the ‘TechMark’ index, split by market capitalisation**



*Source: HMT analysis of LSE data (available at: <http://www.londonstockexchange.com/statistics/home/statistics.htm>)*

**4.14** This feedback loop is compounded by other established market failures that reduce investment into patient capital. Previous studies have set out evidence for the existence of an ‘equity gap’ for early stage investment more generally.<sup>10</sup> In particular, information asymmetry between investors and companies is said to result in a rationing of the supply of finance, with this information asymmetry greatest for the earliest stage firms. Successful deployment of patient capital can also result in large spill-over effects through increasing technological innovation, for example supporting increased business research and development and increasing the intensity of competition within individual markets. However, the benefits of these spill-over effects are not captured by investors in those firms, resulting in underinvestment. This mismatch may then act as a brake on technological innovation.

## **Demand for patient capital**

**4.15** There are also areas where demand for capital may hold back effective deployment. One factor differentiating US and European venture capital is the lower rate of European ‘serial’ entrepreneurs. As serial entrepreneurs are on average more successful, this reduces average returns from investment.<sup>11</sup> In addition, while there may not be an overall ambition gap between UK entrepreneurs and those overseas, stakeholders report that some leaders of high-potential UK firms do not fully consider the different options available to them to support their long-term growth. In response, a number of industry programmes<sup>12</sup> have been developed in order to provide greater levels of support to UK entrepreneurs in this position.

**4.16** Founders of firms also appear to be more motivated over the long-term by the autonomy of being an entrepreneur and being in control of their firm rather than through financial incentives. For example, one study looking at remuneration practices within venture capital firms found that founders were less affected by levels of remuneration than other employees, while entrepreneurs of high-potential firms in another survey were said to rarely cite tax as a reason to locate their business in one area over another.<sup>13</sup> However, changes in ownership reduce a founder’s ability to retain control of their business, reducing their own motivations for considering specific ownership structures that require founders to relinquish all control of their business. Equally, if a founder’s shareholding is diluted excessively, their motivation for driving the business forward may also be diluted excessively.

**4.17** Finally, a large minority of demand in parts of the market comes from university spinouts. Evidence from Chapter 3 suggests that spin-outs produced in some areas are more successful in attracting investment than in others. Central and devolved governments have direct influence over the environment in which university spin-outs are conceived through university and other local funding schemes, while other factors (including access to networks of investors and market opportunities) also influence whether spin-outs grow. Technology transfer practices among universities are being considered separately as part of the wider Industrial Strategy.

### **Consultation questions**

- 5 What are the main root causes holding back effective deployment of and demand for patient capital?

<sup>10</sup> Equity Research Report, BIS /BBB 2015 (available at: <http://british-business-bank.co.uk/wp-content/uploads/2015/03/050315-Equity-report-FINAL.pdf>)

<sup>11</sup> ‘Myths and facts about European venture capital’, BVCA, January 2013 (available at: [https://www.bvca.co.uk/Portals/0/library/Files/News/2013/European\\_MandF\\_Report\\_21Jan13.pdf](https://www.bvca.co.uk/Portals/0/library/Files/News/2013/European_MandF_Report_21Jan13.pdf))

<sup>12</sup> See ‘The Scale-Up Report on UK Economic Growth’, Sherry Coutu CBE, November 2014 (available at: <http://www.scaleupreport.org>)

<sup>13</sup> ‘Employee Compensation in Entrepreneurial Companies, IFN Working Paper No.922’, Ola Bengtsson and John R M Hand, Research Institute of Industrial Economics, July 2012 (available at: <http://www.ifn.se/wfiles/wp/wp922.pdf>) and ‘What do the best Entrepreneurs want in a City? Lessons from the Founders of America’s Fastest-Growing Companies’, Morris (December 2013) (available at: [http://issuu.com/endeavorglobal1/docs/what\\_do\\_the\\_best\\_entrepreneurs\\_want](http://issuu.com/endeavorglobal1/docs/what_do_the_best_entrepreneurs_want))

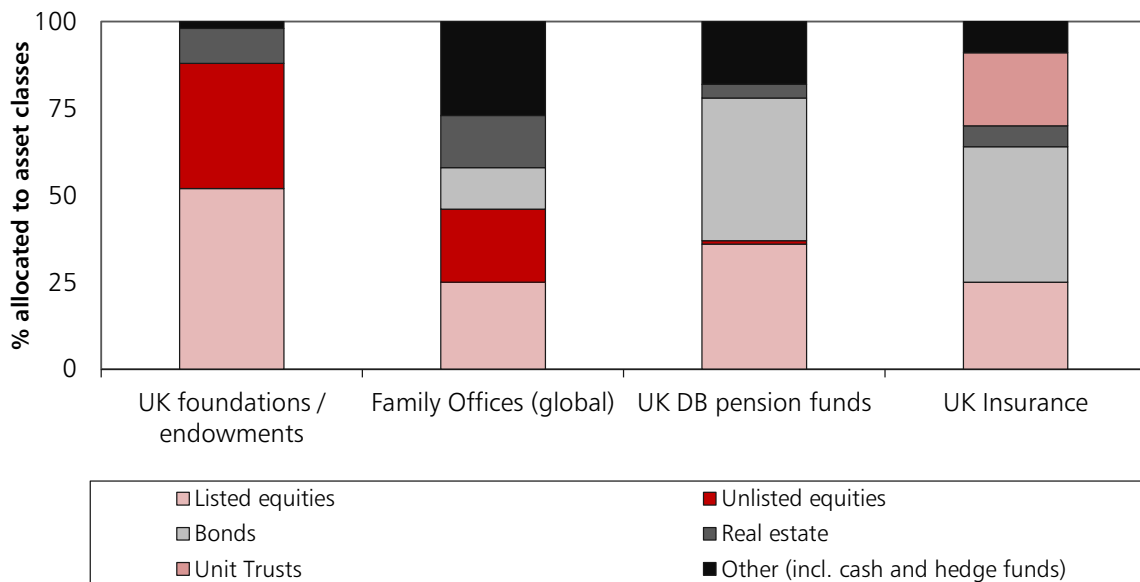
# 5 Root causes (2): supply of capital

## Sources of capital

**5.1** Investors' exposure to patient capital and other forms of long-term finance differs significantly according to the type of investor. This reflects investors' different time horizons, risk appetites, attitudes to liquidity and the wider market and regulatory environment. Chart 5.A provides an illustration of the diversity of investment among different groups of investors.

**5.2** This diversity in turn feeds through to the identity of the main groups of investors in patient capital in the UK. As one example, in one cross-section of venture capital funds raised from 2010 to 2017, 27% of investment came from UK-based private investors, 35% from overseas investors and 38% from the British Business Bank (BBB) and the European Investment Fund (EIF) combined.<sup>1</sup> This chapter examines the root causes underlying this diversity of investment.

**Chart 5.A: a selection of investors' asset allocation choices**



Sources: 'Giving Trends', Pharoah, Jenkins, Goddard and Walker, Association of Charitable Foundations, September 2016 | 'The Global Family Office Report 2016', UBS and Campden Research | 'The Purple Book: DB pensions universe risk profile' Pension Protection Fund, 2016 | 'UK Insurance & Long-Term Savings Key Facts 2016', Association of British Insurers<sup>a</sup> (available at: <http://www.acf.org.uk/policy-practice/research-publications/foundation-giving-trends-2016> | <http://www.globalfamilyofficereport.com> | [http://www.pensionprotectionfund.org.uk/Documents/Purple\\_Book\\_2016.pdf](http://www.pensionprotectionfund.org.uk/Documents/Purple_Book_2016.pdf) | <https://www.abi.org.uk/globalassets/sitecore/files/documents/publications/public/2016/keyfacts/keyfacts2016.pdf>)

<sup>a</sup> ABI data does not break down equities into listed and unlisted equities

<sup>1</sup> British Business Bank analysis of Pitchbook data (<https://www.pitchbook.com>). The identity of only major investors into funds is generally disclosed, and investor details are not disclosed for all fundraisings

## Defined Benefit (DB) pension funds

**5.3** UK Defined Benefit (DB) pension funds hold around £1.3 trillion of assets in total.<sup>2</sup>

**5.4** Over the last decade, these funds' choices around where to invest their assets have shifted significantly. For example, the proportion of DB pension schemes' assets held in equities has fallen from around 60% in 2006 to around 30% in 2016. Meanwhile, DB pension funds' investment in bonds has increased, with funds now holding 51% of their total assets in debt. This includes 11% in total in government fixed interest bonds and 23% in index-linked bonds.<sup>2</sup>

**5.5** These choices around asset allocation partly reflect DB pension funds' maturing liabilities, with few schemes open to new members and many members either in or nearing retirement. The result is a shift in investment behaviour away from higher return investments to lower risk assets that provide a reliable return matching schemes' liabilities. This shift will continue, with the peak in DB pension scheme payments not anticipated to be reached until about ten years' time.<sup>3</sup>

**5.6** There are no regulatory barriers that prohibit UK pension funds from investing in patient capital. For example, 2.4% of local authority pension funds' assets are allocated to private equity,<sup>4</sup> some of which is allocated to venture capital. However, while the data is not sufficiently granular to reach definitive conclusions, it appears for example that overseas institutions invest more in UK venture capital funds than UK pension funds.<sup>5</sup>

**5.7** The review is therefore interested to understand more about the appetite of UK pension funds to invest in UK patient capital and to explore whether there are significant barriers holding back greater investment.

**5.8** One barrier could be fragmentation within UK DB pension schemes. The recent green paper published by the Department for Work and Pensions (DWP) on DB pension funds<sup>6</sup> found that many DB schemes are small. This fragmentation prevents schemes from adopting sophisticated investment strategies that are able to invest in a range of asset classes such as patient capital. Smaller schemes also find it harder to challenge investment advice and may employ less sophisticated investment strategies. The DWP green paper asks whether scheme consolidation may help schemes access better investment opportunities.

**5.9** A second barrier may be risk aversion in choices around asset allocation. The legislation underpinning DB schemes, as with Defined Contribution (DC) and hybrid schemes, requires investment that ensures the security, quality, liquidity and profitability of the portfolio as a whole. These investments should be "predominantly admitted to trading on a regulated market", with "investments in assets which are not admitted to trading on such markets ... kept to a prudent level."<sup>7</sup> Trustees of individual pension funds then determine these schemes' investment strategies within this framework, with trustees underlying responsibilities including an obligation to act "prudently". To carry out their duties, trustees are required to take professional advice to develop an investment strategy for the scheme according to its particular

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<sup>2</sup> 'The Purple Book: DB pensions universe risk profile', Pension Protection Fund, 2016 (available at: [http://www.pensionprotectionfund.org.uk/Documents/Purple\\_Book\\_2016.pdf](http://www.pensionprotectionfund.org.uk/Documents/Purple_Book_2016.pdf))

<sup>3</sup> 'Security and Sustainability in Defined Benefit Pension Schemes', DWP, February 2017 (available at: <https://www.gov.uk/government/consultations/defined-benefit-pension-schemes-security-and-sustainability>)

<sup>4</sup> Local Government Pension Scheme Advisory Board report on investment activities, 2016, (available at: <http://www.lgpsboard.org/index.php/investment-2016>). 6.5% of investments are into 'other' assets, of which 36.6% is into private equity.

<sup>5</sup> British Business Bank analysis of Preqin data, 2010 to 2017 (<https://www.preqin.com>). The identity of only major investors into funds is generally disclosed, and investor details are not disclosed for all fundraisings

<sup>6</sup> 'Security and Sustainability in Defined Benefit Pension Schemes', Department for Work and Pensions, February 2017 (available at: <https://www.gov.uk/government/consultations/defined-benefit-pension-schemes-security-and-sustainability>)

<sup>7</sup> 'The Occupational Pension Schemes (Investment) regulations 2005/3378', Regulation 4 (available at: <http://www.legislation.gov.uk/uksi/2005/3378/regulation/4/made>)



objectives. The Pensions' Regulator also provides detail on what is expected of trustees in terms of investment strategies, and managing the risk and liquidity of investments.<sup>8</sup>

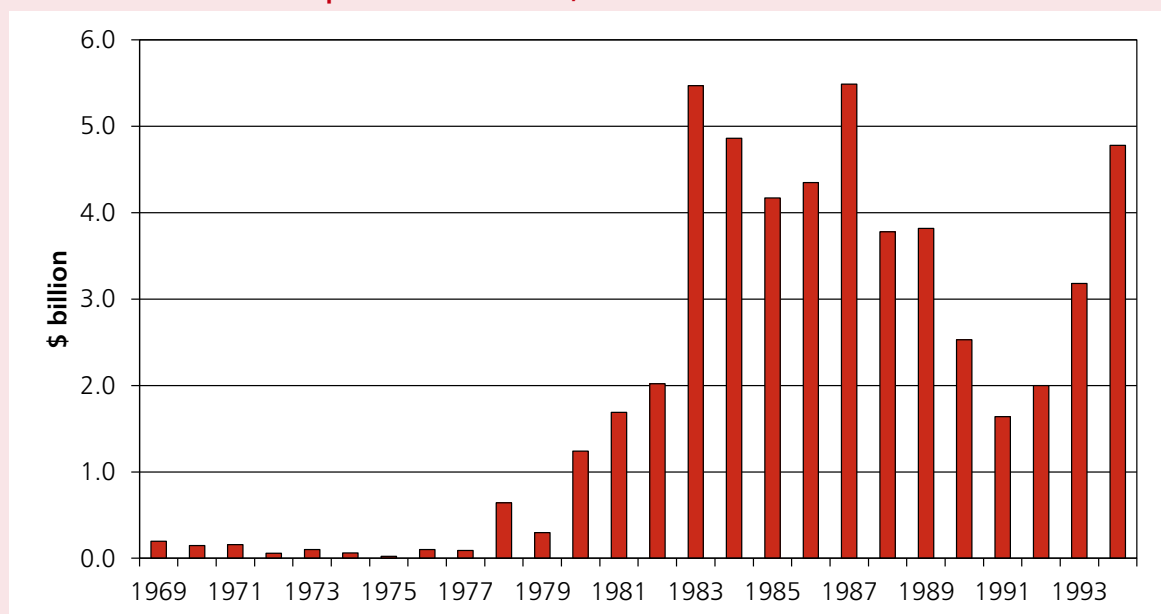
**5.10** The DWP green paper asks whether a conservative interpretation of trustees' responsibilities, coupled with the increasing maturity of schemes, may lead to a sub-optimal allocation of assets. This could both reduce returns for schemes and act as a barrier to investment in patient capital and other forms of long-term finance. Box 5.A sets out one example from the US where excessive risk aversion among investors has been addressed.

#### **Box 5.A: US experience of the Prudent Person Rule**

In 1979 the US Department of Labor clarified the 'prudent man' rule in the Employment Retirement Income Security Act (ERISA). Before then the rules stated that pension managers had to invest with the "care of a prudent man". Consequently, many pension funds avoided investing in venture capital because it was believed that a fund's investment in a start-up company could be viewed as imprudent.

In response, the Department of Labor ruled that portfolio diversification was a consideration in determining the prudence of an individual investment. Thus, the ruling established that allocating a small part of a portfolio to venture capital funds would not be seen as imprudent. The clarification is widely seen as opening the door for pension funds to invest in venture capital as an asset class as part of a diversified portfolio of investments.

#### **Chart 5.B: US Venture Capital Commitments, 1969 to 1994**



Source: 'What Drives Venture Capital Fundraising?', Paul A Gompers, Josh Lerner, *Brookings Papers on Economic Activity. Microeconomics*, July 1998, pages 149-192 (available at: <http://www.hbs.edu/faculty/Pages/item.aspx?num=2384>)

<sup>8</sup> The Pensions' Regulator provides further guidance: <http://www.thepensionsregulator.gov.uk/guidance/guidance-for-trustees.aspx>

**5.11** Finally, pension funds and other institutional investors typically have minimum investment amounts of €25 million to €50 million.<sup>9</sup> Below this size, it is less economically attractive for them to carry out due diligence before investing. As such, the size of funds that invest in patient capital are often perceived as being too small to attract the interest of institutional investors.

## Insurers and Defined Contribution (DC) pension schemes

**5.12** Insurers are the other main group of institutional investors in the UK and hold around £1.9 trillion in assets.<sup>10</sup> The three largest UK insurance companies domiciled in the UK hold around £1 trillion of these assets. The majority of insurance products (£1 trillion) are held as unit-linked products where the value of the liability tracks exactly the returns of the funds invested. This includes £850 million of unit-linked products held by pension savers, including individuals.

**5.13** For insurance, Solvency II is the European Directive for the prudential regulation of insurance companies. It requires more capital to be held against holdings of some forms of unlisted equities compared to listed equities.<sup>11</sup> However, investments in European Venture Capital Funds, European Social Entrepreneurship Funds, and European Long-Term Investment Funds attract the same capital treatment as equities listed on regulated markets.

**5.14** For DC pension scheme investment, the underpinning legislation is identical to that for DB pension schemes.<sup>12</sup> On average, DC pension savers are significantly further away from retirement than the equivalent DB pension fund scheme member. For example, nearly half of DC pension savers are 25 years or more from retirement age, with nearly 20% below the age of 30.<sup>13</sup> In principle, this should mean that long-term investments such as those provided by patient capital are more attractive to this group of investors.

**5.15** However, it appears that the investment platforms used by many individual and occupational pension schemes require their investments to be able to be traded and valued on a daily basis.<sup>14</sup> This limits investment in less liquid assets such as unlisted equities in smaller companies. DC pension funds savings should be capable of being relatively easily valued and accessed by savers, and switched to alternative pension providers within a reasonable timeframe. However, by narrowing their choice of investments to those priced and tradable on a daily basis, savers may not be receiving optimal returns on their investments. This is also in contrast to their much longer investment time horizon. The current position appears to result from accepted market practice rather than regulation, and adds to a short-term investment perspective for these pension fund products.

## Banks

**5.16** Banks need to hold capital against holdings in equities as defined by Basel III regulations and their current implementation in Europe and the UK. This includes specific regulations that relate to banks' capital requirements to be held against investments in venture capital funds.<sup>15</sup>

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<sup>9</sup> 'Assessing the Potential for EU Investment in Venture Capital and Other Risk Capital Fund of Fund', European Commission, October 2015 (available at: <https://ec.europa.eu/programmes/horizon2020/en/news/assessing-potential-eu-investment-venture-capital-and-other-risk-capital-fund-funds>)

<sup>10</sup> 'Insurance and financial stability', Bank of England Quarterly Bulletin, Q3 2015 (available at: <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2015/q303.pdf>)

<sup>11</sup> This is for firms that use the Standard Formula to calculate capital requirements. In addition, firms may apply for regulatory approval to use internal models to calculate capital requirements

<sup>12</sup> The Occupational Pension Schemes (Investment) regulations 2005/3378', Regulation 4 (available at: <http://www.legislation.gov.uk/ukxi/2005/3378/regulation/4/made>)

<sup>13</sup> ONS Pensions Analysis, ASHE Data, 2017 (available at <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/workplacepensions/adhocs/007156proportionofemployeeswithworkplacepensionsbyagebandandtypeofpensionuk2016>)

<sup>14</sup> See for example 'The hidden trade-off in DC pensions', Zuhair Mohammed, The 300 Club, 2015 (available at: <https://www.the300club.org/wp-content/uploads/2015/12/300-Club-paper-Zuhair-M-081215.pdf>) | 'Supporting UK Productivity with Long-term Investment' The Investment Association, March 2016 (available at: <https://www.theinvestmentassociation.org/assets/files/press/2016/20160322-supportingukproductivity.pdf>)

<sup>15</sup> This is set out section 2.2.209 of the General Prudential sourcebook (available at: <https://www.handbook.fca.gov.uk/handbook/GENPRU/2.pdf>)

**5.17** Five of the UK's largest banks decided in 2010 to set up the Business Growth Fund (BGF) to provide finance to profitable small businesses looking for significant levels of investment to expand their operations. The BGF has since become one of the UK's most important sources of development capital. Chapter 3 provides further details of the BGF.

## Family offices, endowments and charitable foundations

**5.18** In contrast to pension funds and insurance companies, family offices, endowments and charitable foundations have a much higher allocation of funds to patient capital. Asset allocation data is only available for family offices globally, but this identifies 21% of total investment in unlisted equities (11% in direct investment, 7% into funds and 3% through co-investment).<sup>16</sup> Endowments and charitable foundations appear to invest a greater proportion of their assets in unlisted equities (36%).<sup>17</sup>

**5.19** However, the total funds under management for UK-based family offices, endowments and charitable foundations are relatively small compared to pension funds and insurance assets. Charitable foundations hold £114 billion in assets, while estimates of assets held by family offices in the UK vary.

## Corporates

**5.20** UK corporates make a small but important contribution to investment in patient capital, most typically in venture capital. Just before the dot.com crash, up to three-quarters of FTSE 100 firms had a corporate venture unit. Most of these firms withdrew from venture capital investment shortly after, leaving some firms unable to attract new investment. But corporate venturing has started to increase again, with 37 UK firms in 2011 having a corporate venture capital unit and 24 overseas firms with corporate venture staff in the UK.<sup>18</sup>

**5.21** Corporate venture is prominent in some sectors and at some stages of development, for example it is particularly prominent in supporting later stage life science investment.<sup>19</sup> In addition, corporates are also increasingly operating early stage support programmes, for example many of the 163 accelerator programmes currently operating in the UK relying on corporates sources for funding.<sup>20</sup>

**5.22** The UK currently performs strongly in its ability to attract corporate venture investment. In a comparison across 33 countries, the UK was the second most attractive destination for corporate venture investment (100 investments in 2016) and significantly ahead of the third placed country (Germany with 58 investments), although behind the US (1077 investments).<sup>21</sup>

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<sup>16</sup> 'The Global Family Office Report 2016', UBS and Campden Research (available at: <http://www.globalfamilyofficereport.com>)

<sup>17</sup> 'Giving Trends', Cathy Pharoah, Richard Jenkins, Keiran Goddard and Catherine Walker, Association of Charitable Foundations, September 2016 (available at: <http://www.acf.org.uk/policy-practice/research-publications/foundation-giving-trends-2016>)

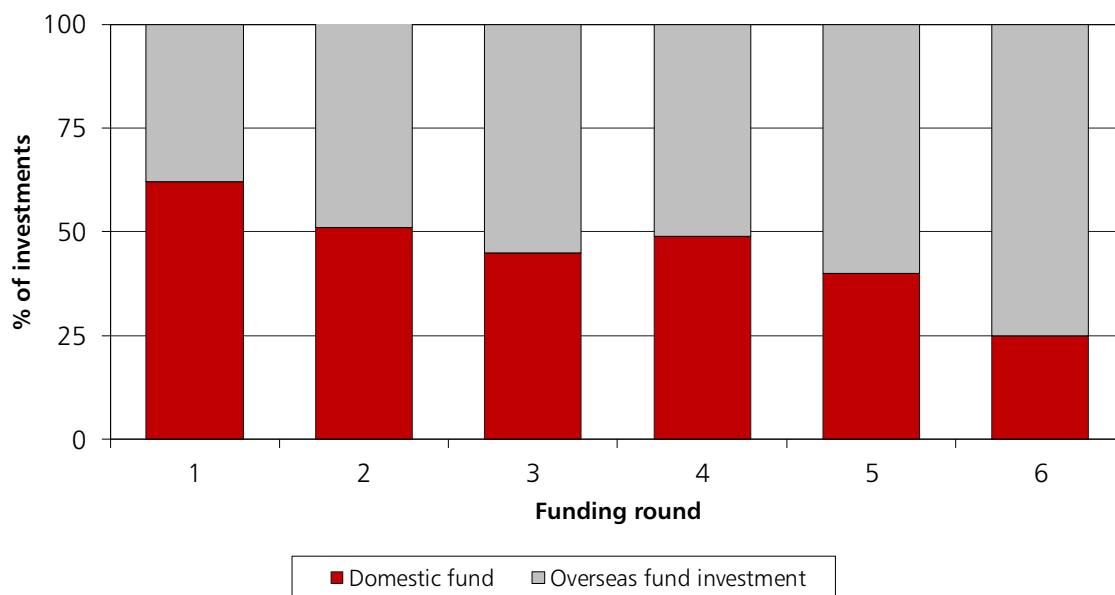
<sup>18</sup> 'Corporate venturing in the UK', James Mawson, The RSA, July 2012 (available at: <https://www.thersa.org/globalassets/pdfs/reports/corporate-venturing-report.pdf>)

<sup>19</sup> HM Treasury analysis of Beauhurst data (<http://about.beauhurst.com>)

<sup>20</sup> 'Business Incubators and Accelerators: the national picture', Jonathan Bone, Olivia Allen and Christopher Haley, NESTA for the Department for Business, Energy and Industrial Strategy, BEIS research paper number 7, 2017 (available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608409/business-incubators-accelerators-uk-report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608409/business-incubators-accelerators-uk-report.pdf))

<sup>21</sup> Data provided by Global Corporate Venturing (<http://www.globalcorporateventuring.com>) from their proprietary database

**Chart 5.C: % of investments by domestic and overseas investors, split by funding round**



Source: 'Scale-up UK: Growing Businesses, Growing our Economy', University of Cambridge and University of Oxford business schools, convened by Barclays, 2016 (available at: [https://www.home.barclays/content/dam/barclayspublic/docs/BarclaysNews/2016/April/Scale%20up%20UK\\_Growing%20Businesses\\_Growing%20our%20Economy.pdf](https://www.home.barclays/content/dam/barclayspublic/docs/BarclaysNews/2016/April/Scale%20up%20UK_Growing%20Businesses_Growing%20our%20Economy.pdf))

## Overseas Investors

**5.23** Overseas investors are particularly important investors in some aspects of patient capital. Looking at venture capital specifically, overseas funds invest directly into UK firms. Around half of the investment committed to UK venture capital funds came from investors based overseas.<sup>22</sup> As illustrated in Chart 5.D, overseas funds' participation also increases at later stages (and therefore at larger deal sizes), suggesting that they are stepping in where domestic funds do not have the capacity or appetite to provide this investment. Sovereign wealth funds have also become active global investors in venture capital, investing around 8% of UK venture capital in 2015.<sup>23</sup>

## Charities

**5.24** Charities are starting to invest in companies as a means to further their charitable goals. For example, Parkinson's UK recently invested in a spinout from Sheffield University (Keapstone Therapeutics), Alzheimer's UK has invested in the Dementia Discovery Fund and Cancer Research set up a technology transfer fund (this has since merged with another fund, Syncona). Another charity – Fight for Sight – is now receiving royalty payments from technology that it has helped to commercialise.

**5.25** As such, this is a new and emerging area of investment in areas with high social returns where other investors may lack the risk appetite to invest.

<sup>22</sup> British Business Bank analysis of PitchBook data (<http://pitchbook.com>)

<sup>23</sup> 'BVCA Private Equity and Venture Capital Report on Investment Activity 2015', Autumn 2016 (available at: <https://www.bvca.co.uk/Portals/0/library/documents/BVCA%20RIA%202015.pdf>)

## High Net-worth individuals and retail investors

**5.26** High Net-Worth individuals and retail investors are a very important source of capital to the whole economy, with more than £1 trillion of assets managed in the UK for UK retail investors.<sup>24</sup> For patient capital in particular, investment from individuals in early stage businesses has supported a significant increase in the availability of early stage investment since 2010 as shown in Chapter 3. It has also been accompanied by the creation and expansion of new forms of investment, for example through crowdfunding.

**5.27** Retail investors in pooled investment vehicles such as open ended investment companies and investment trusts also provide important funding to businesses looking to scale up.

## International examples

**5.28** Finally, a number of countries have implemented policy initiatives to support venture capital activity, including the US, Canada and Israel, which the UK can draw lessons from. Box 5.B (overleaf) provides specific examples.

### Consultation questions

- 6 What are the main barriers holding back effective supply of patient capital by major investors?

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<sup>24</sup> 'Asset Management Market Study, Interim Report', Financial Conduct Authority, November 2016, (available at: <https://www.fca.org.uk/publication/market-studies/ms15-2-2-interim-report.pdf>)

### Box 5.B: International examples: Canada, the US, and Israel

In the late 2000s the **Canadian** government set up the Venture Capital Action Plan to encourage domestic investment in venture capital. Under this programme, four funds of funds were raised totalling \$1.36 billion, with \$904 million raised from private sector investors.<sup>25</sup> One of these funds, Northleaf Venture Catalyst Fund, raised \$200 million in 2014 from institutional investors and \$100 million public capital.<sup>26</sup> In June 2017 it completed its program with 13 fund investments and 11 direct investments. While it is too early to assess the overall financial performance, the portfolio appears to be performing well.<sup>27</sup>

The Small Business Investment Companies (SBIC) program was established in 1958 to spur economic growth in **the US**. SBICs are chartered and regulated by the US Small Business Administration (SBA) to act as financial intermediaries that finance small businesses. They operate as a public-private partnership, where each SBIC is required to raise at least \$5 million from private investors and can then access additional capital from SBA leverage. There are restrictions on the size of business they can invest in and they must only invest in companies with 50% or more of their assets and operations in the US. Since its inception, SBIC investments have included some of America's largest companies, including Apple, FedEx and Tesla. Between 2011 and 2016 the program channelled more than \$21 billion of capital to more than 6,400 US small businesses, spanning a variety of industries across the country.<sup>28</sup> The more recent 'Enterprise Capital Fund' programme run by the British Business Bank was modelled on the SBIC programme.

In the early 1990s, the **Israeli** government created Yozma, a \$100 million government initiative, with the hopes of attracting international venture capitalists. Yozma was set up to invest into ten venture capital funds. Fund managers would have to raise \$12 million, with Yozma then providing around \$8 million.

Each fund was required to have three partners: one Israeli-based, one overseas venture capital partner, and a well-established Israeli investment company or bank. This was to create learning opportunities and international connections for the domestic partners. Yozma did not offer any downside protection to private investors, but they were given a call option on Yozma's \$8 million (40%) stake at cost plus 5 to 7% interest after five years to increase their potential upside. (This form of return enhancement for private investors might not be possible for a UK fund under EU State aid rules discussed further in Box 6.A.)

Around 200 start-ups were funded during the life of the funds.<sup>29</sup> In 9 of the 10 funds both general and limited partners took the option of buying the government's investment.<sup>30</sup> Yozma was then privatised in 1997 as the sector was considered strong enough to no longer need government support. Israel is now ranked second in the world for venture capital availability.<sup>31</sup>

<sup>25</sup> 'Venture Capital Action Plan Performance Metrics', Government of Canada (available at: <https://www.ic.gc.ca/eic/site/061.nsf/eng/03032.html>)

<sup>26</sup> 'Northleaf Venture Catalyst Fund', Ontario Capital Growth Corporation (available at: [http://www.ocgc.gov.on.ca/index\\_en.php?page=northleaf-venture-catalyst-fund](http://www.ocgc.gov.on.ca/index_en.php?page=northleaf-venture-catalyst-fund))

<sup>27</sup> 'Northleaf Venture Catalyst Fund successfully completes \$300 million investment program with \$15 million commitment to Lumira Capital', Northleaf Capital Partners' (available at: <http://www.northleafcapital.com/news/northleaf-venture-catalyst-fund-successfully-completes-300-million-investment-program-15>)

<sup>28</sup> 'SBIC Programme Overview', the SBA, 2016 (<https://www.sba.gov/sbic/general-information/program-overview>)

<sup>29</sup> 'Targeting venture capital: lessons from Israel's Yozma program', Gil Avnimelech and Morris Teubel, in 'Financial Systems, Corporate Investment in Innovation, and Venture Capital', edited by Anthony Bartokas and Sunil Mani, Edward Elgar Publishing, 2004, page 94

<sup>30</sup> 'Israel's VC industry thrived because of Yozma. Now, it wants to do the same for Asia', Daniel Hay, Tech in Asia, March 2015 (available at: <https://www.techinasia.com/israel-vc-yozma-looks-to-asia>)

<sup>31</sup> WEF Global Competitiveness Report 2016/17 (available at: <https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1>)

# 6 Current interventions

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**6.1** This chapter sets out current interventions that play a role in promoting entrepreneurship and encourage patient investment. These include:

- the **tax advantaged venture capital schemes** (the Enterprise Investment Scheme (EIS), Seed Enterprise Investment Scheme (SEIS), and Venture Capital Trusts scheme (VCT)) provide a range of tax reliefs to individuals when they invest directly or indirectly through a fund in qualifying early stage companies. Investors must hold investments for 3 years for SEIS and EIS and 5 years for VCTs to qualify for upfront income tax reliefs.
- **Social Investment Tax Relief (SITR)** provides similar incentives to EIS to invest in social enterprises.
- **Entrepreneurs' Relief (ER)** provides a 10% rate of Capital Gains Tax (CGT) for qualifying disposals of business assets by those connected to a business after 1 year of ownership.
- **Investors' Relief (IR)** provides a 10% rate of CGT for external investors in unlisted companies with a holding period of at least 3 years.
- **Business Property Relief (BPR)** has a primary purpose of preventing the break-up of businesses upon death of a business owner or shareholder by providing a relief from Inheritance Tax (IHT) for qualifying businesses, shares and business assets held for at least 2 years. BPR also plays a role in some investment decisions, including for qualifying investments in companies quoted on growth markets such as the Alternative Investment Market (AIM).
- investment programmes include those run by the **British Business Bank**, such as its VC Catalyst and Enterprise Capital Funds, and the **European Investment Fund**.

**6.2** Programmes targeted at specific investors / companies need to operate within the current framework for state aid to ensure that they target a specific market failure. Box 6.A provides further details of this framework.

## Tax reliefs

**6.3** The tax advantaged venture capital schemes seek to encourage investment into early stage companies with high growth potential that would otherwise struggle to raise investment. To target the schemes towards this population of companies, and to comply with State aid regulations, there are limits on the size and age of company eligible to receive tax advantaged investment, as well as exclusions for certain activities which are typically lower risk. More information on State aid is provided in Box 6.A. Greater flexibility is allowed for knowledge intensive companies, as they can face particular difficulty given that they often operate in new and unproven markets with novel business models.

**6.4** EIS and SEIS provide tax relief to individuals when they invest directly in qualifying companies. The VCT scheme provides tax relief to individuals when they invest in certain collective investment vehicles (Venture Capital Trusts) that invest in qualifying companies. The tax advantages available through the three schemes are summarised in table 6.A.

### Box 6.A: State aid

Where government considers whether to support particular activities or sectors, it must consider whether that support is considered a State aid. State aid is a government subsidy that gives some businesses a distortive advantage over their competitors and impacts on trade in the European Union. Two relevant examples for this consultation are:

- government providing a subsidy to investors to encourage investment into specific types of companies or funds. This could be in the form of downside protection for investment into a fund, an upfront incentive to invest in a company or fund, or a preferential return to other investors in a fund. Existing UK State aids include the Seed Enterprise Investment Scheme (SEIS), the Enterprise Investment Scheme (EIS) and Venture Capital Trusts (VCTs), which all provide an upfront incentive to investors alongside other reliefs. There are various specific State aid frameworks for this form of subsidy. Both EIS and VCTs required approval by the European Commission based on evidence that the subsidy is addressing and sufficiently targeted at a specific market failure.
- government providing a subsidy to individual firms for specific activities. For example, Innovate UK provides grants to innovative firms engaging in the commercialisation of research. This form of subsidy is also subject to a specific regime defining the types of activities that can be subsidised.

The current State aid regime for substantial subsidies requires sufficient evidence of market failure and the necessity and proportionality of the intervention before allowing innovative state support for individual companies and funds. The regime also means that government cannot provide a subsidy for investors to invest in a specific type of fund or group of companies outside of current State aid limits. As an illustrative example, it would not be possible to provide a new narrow incentive for investment into funds that only invest in R&D-intensive firms, or in certain sectors, without new quantitative evidence that this would address a specific market failure. It would also be difficult to provide preferred returns to investors in a fund for similar reasons.

The UK will continue to be subject to the EU State aid regime while it remains a member of the EU. As this review is looking at measures that can be implemented through Budget 2017, this consultation seeks responses consistent with the current State aid regime.

**6.5** The schemes have delivered a significant quantity of investment to the market. Chart 6.A shows investment made under EIS and money raised by VCTs since the inception of the schemes. EIS in particular is praised highly by business angels as having supported significant amounts of new investment since its inception.

**6.6** Entrepreneurs' Relief (ER) was introduced in 2008 and provides for a 10% rate of CGT for qualifying disposals of business assets. The purpose of ER is to act as an incentive for entrepreneurs to start and grow their business by allowing them to keep more of the rewards when their investment is successful. The government increased the lifetime limit of gains eligible for ER from £2 million to £10 million between 2011 and 2012 in order to support entrepreneurs. CGT relief costs increased from £1.5 billion in tax year 2010 to 2011 to £3.5 billion in 2014 to 2015, and ER is forecast to cost £2 billion in 2016 to 2017.<sup>1</sup> HM Revenue & Customs is undertaking new quantitative research to further understand the impact on behaviour of Entrepreneurs' Relief. This research will be published later in the year.

<sup>1</sup> Estimated costs of principal tax reliefs, 2016, (available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/579720/Dec\\_16\\_Main\\_Reliefs\\_Final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/579720/Dec_16_Main_Reliefs_Final.pdf))



**Table 6.A: The design of the tax-advantaged venture capital schemes**

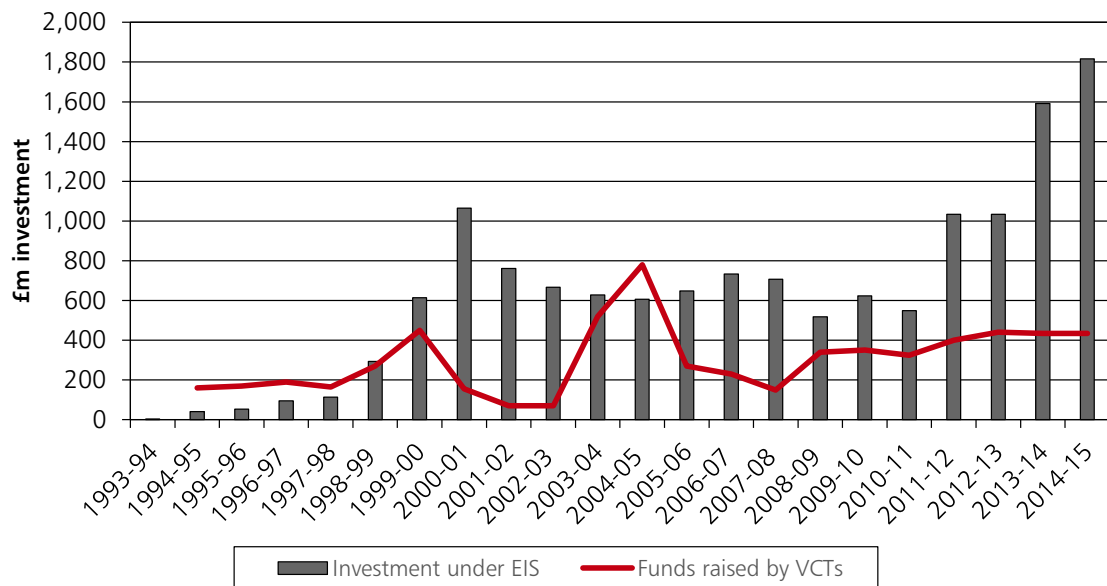
	<b>Seed Enterprise Investment Scheme</b>	<b>Enterprise Investment Scheme</b>	<b>Venture Capital Trusts</b>
<b>Tax Reliefs</b>			
Upfront Income Tax relief	50%	30%	30%
Capital Gains Tax relief	Gains on shares exempt; 50% of other gains exempt when invested in SEIS	Gains on shares exempt; CGT chargeable on other gains can be deferred when invested in EIS	Gains on shares exempt
Dividends	Tax payable	Tax payable	Tax exempt
Loss Relief	Losses can be offset against income tax	Losses can be offset against income tax	Not available
<b>Investee company limits</b>			
Annual investment limit	N/A	£5 million	£5 million
Lifetime investment limit	£150,000	£12 million (£20 million for knowledge intensive)	£12 million (£20 million for knowledge intensive)
Age limit at time of first tax advantaged investment <sup>a</sup>	2 years	7 years (10 years for knowledge intensive)	7 years (10 years for knowledge intensive)
<b>Investor limits</b>			
Annual investment limit	£100,000	£1 million	£200,000
Minimum holding period	3 years	3 years	5 years
<sup>a</sup> The age limit applies from the first commercial sale for EIS and VCT, and to the age of the trade for SEIS. For EIS and VCT it only applies to the initial investment, not for follow-on funding. There are also exceptions to this rule to enable flexibility for older companies undergoing significant change			

**6.7** The primary purpose of Business Property Relief (BPR) is to prevent businesses from having to be broken up to pay inheritance tax (IHT) on the death of the owner or major shareholder. BPR also drives investment decisions by allowing IHT relief for qualifying investments in unlisted shares, including on growth exchanges such as the Alternative Investment Market (AIM). BPR provides an unlimited IHT relief at 100% for unincorporated businesses and unlisted shares, and at 50% for controlling holdings of listed shares and business assets. The business or company has to carry on mainly trading activities. To qualify for BPR, shares and other business assets have to be held directly by an individual for at least 2 years.

**6.8** Alongside the many ordinary family businesses that qualify for the relief, there is a large and growing market for BPR 'products' for investors. HM Treasury (HMT) estimates that at least £4 billion is invested via BPR products.<sup>2</sup> Some of this investment is also made in renewable energy providers, asset backed lenders, and asset-heavy businesses, alongside a mix of AIM-quoted companies.

<sup>2</sup> HMT analysis of published holdings from the tax planning industry. Note: this figure should be considered a minimum, as not all providers provide published holdings

**Chart 6.A: Investment under EIS and VCT since inception of the schemes**



Source: HMRC National Statistics for EIS (available at: <https://www.gov.uk/government/statistics/enterprise-investment-scheme-and-seed-enterprise-investment-scheme-statistics-october-2016>) and VCTs (available at: <https://www.gov.uk/government/collections/venture-capital-trusts-statistics>)

## Investment programmes

**6.9** The British Business Bank is responsible for central government's investments in venture capital. It has currently set aside a budget of £200 million per year for new commitments into venture capital funds (these commitments are then drawn down over the life of the funds) split equally between:

- Enterprise Capital Funds (ECFs): this invests in funds making equity investments up to £5 million in early stage, high growth firms. The Bank invests up to two thirds of the size of the fund. The Bank's investment is structured to increase the return to private investors if the fund is successful but does not provide any downside protection to private investors. Since the programme's inception in 2006, 23 funds have been invested in by the Bank worth just over £550 million (end of January 2017). £284 million of investment in total has so far been drawn down by these funds.
- VC Catalyst: the Bank was provided an additional £400 million at Autumn Statement 2016 to invest over four years to make commitments of up to £50 million in individual funds. It is targeted at funds seeking to make investments of over £5 million.

**6.10** The British Business Bank also invests in the Business Angel Co-Fund, which invests alongside syndicates of business angels. It has a dual mandate, both to make a commercial return on its investments and to encourage more business angel syndicates to form, thereby encouraging the professionalization of investment.

**6.11** The Scottish government also runs its own investment programme in venture capital through the Scottish Investment Bank and Scottish Enterprise. In tax year 2015 to 2016, these programmes invested just over £50 million into Scottish companies. The Welsh and Northern Ireland governments also run venture capital investment programmes through Finance Wales and Invest NI.

**6.12** In addition, some Local Enterprise Partnerships in England have chosen to allocate some of their allocations under the European Regional and Development Fund to venture capital. As set out in Chapter 3, these tend to make investments under £1 million and account for up to 70+% of investments by volume in some parts of the country. The Northern Powerhouse Investment Fund and the Midlands Engine Investment Fund are examples of these programmes, which allocate a proportion of their investments into venture capital.

**6.13** Alongside these interventions, the European Investment Fund is a major investor in UK venture capital. Box 6.B sets out the EIF's current role in the UK market.

## Relative costs of current interventions

**6.14** For tax programmes, the direct cost of the schemes is the level of tax foregone. For EIS HMRC estimates this to be on average around 36% of the size of the investment, around 44% for VCTs and around 56% for SEIS. This takes account of Income Tax relief and CGT exemption, as well as exemption from dividend tax for VCTs. However, other factors need to be taken into account when assessing the schemes.

**6.15** First, by the nature of the schemes, it is not possible to ensure that the schemes target only those firms that would otherwise struggle to access finance. For example, a 2015 study found that around four in ten companies would probably have been able to raise finance from non-tax-advantaged sources in the absence of the schemes.<sup>3</sup> The schemes only provide additional investment when the investment would not have taken place in the absence of the relief.

**6.16** Second, the upfront Income Tax relief provided through the schemes encourages a subset of investors and fund managers to use them for 'capital preservation' investments. This typically involves investment in lower risk, often asset-based companies that generate stable returns without aiming for significant growth. Even with no growth in capital and low dividend payments, an investor will see a healthy return. Industry estimates suggest that the majority of EIS funds (which are distinct from VCTs and invest on behalf of EIS investors) had a capital preservation objective in tax year 2015/16, and around a quarter of VCTs have investment objectives characteristic of lower risk capital preservation.<sup>4</sup>

**6.17** Third, there are other practices intended to reduce investor exposure to risk, including tax-advantaged funds investing alongside one another in individual companies, and funds making loans on uncommercial terms. These are intended to reduce the risk of investment.

**6.18** For investment programmes, the cost of the programmes represents any subsidy provided by the programmes combined with reasonable provisions for potential losses through the schemes. This approach allows more precise targeting than through tax, including through programmes such as the British Business Bank's Enterprise Capital Fund programme. It also has the advantage of making a direct return to government at the end of the investment period. However, investment programmes sometimes struggle to attract the volume of capital that a tax relief can release.

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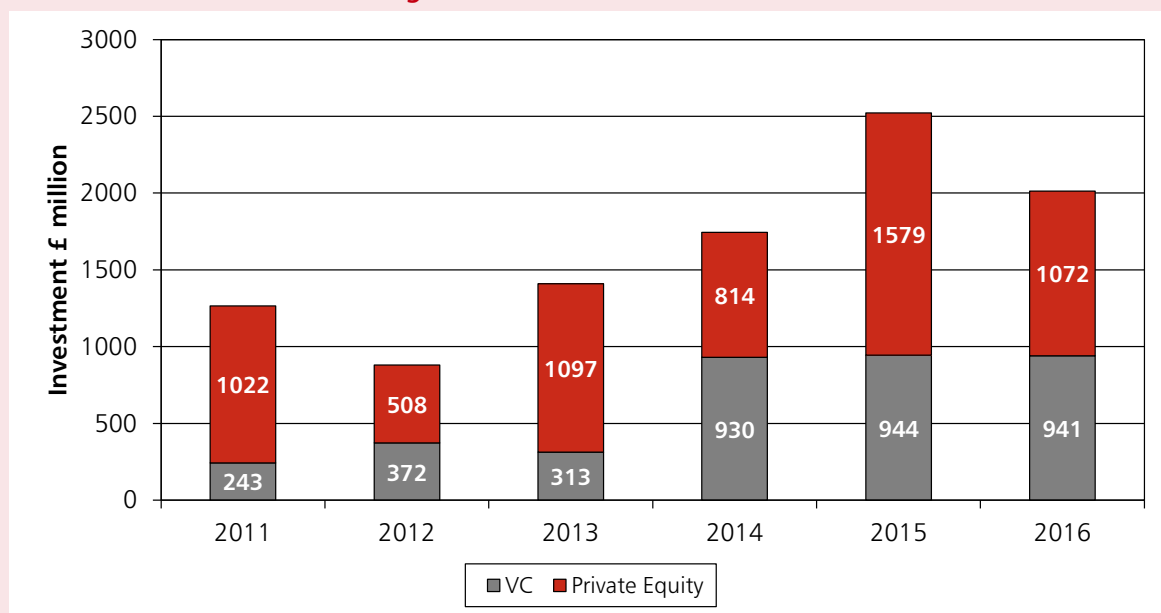
<sup>3</sup>The use and impact of venture capital schemes', Ipsos Mori research for HMRC, February 2015 (available at: <https://www.gov.uk/government/publications/the-use-and-impact-of-venture-capital-schemes>)

<sup>4</sup> HMT analysis of VCT investment objectives

### Box 6.B: The current role of the European Investment Fund (EIF)

The European Investment Fund (EIF) was founded in 1994 to operate programmes to increase access to finance across Europe. Its main shareholder is the European Investment Bank (EIB), with other public and private shareholders including the European Commission. It operates mandates from the EIB and other investors that facilitates the following levels of investment in UK venture capital and private equity:

**Chart 6.B: investments involving EIF-backed funds into UK-based firms since 2011**



Source: HMT and British Business Bank analysis of Pitchbook data (<https://pitchbook.com>)

It should be noted that these figures do not represent the total invested by the EIF into individual funds because other investors invest into individual funds alongside the EIF and EIF-backed funds invest in individual firms alongside other funds. These figures also include pan-European or EU-based EIF-backed funds making investments in the UK rather than just investments by UK-based funds. To provide further context, the 'market share' of EIF-backed funds in different parts of the market are estimated as follows:

**Table 6.B: % of EIF- and BBB-backed funds investing in different parts of the market**

Market segment	% of investments involving EIF-backed funds	% involving BBB-backed funds
<b>Early stage venture capital</b> (first two investments <£100 million)	14% by value / 3% by number	6% by value / 3% by number
<b>Later stage venture capital</b> (round 2+ and >£100 million)	34% by value / 15% by number	14% by value / 12% by number
<b>Smaller private equity</b> (PE) (investments <£50 million)	13% by value / 5% by number	0% by value / 1% by number
<b>Larger private equity</b> (investments >£50 million)	1% by value / 3% by number	0%

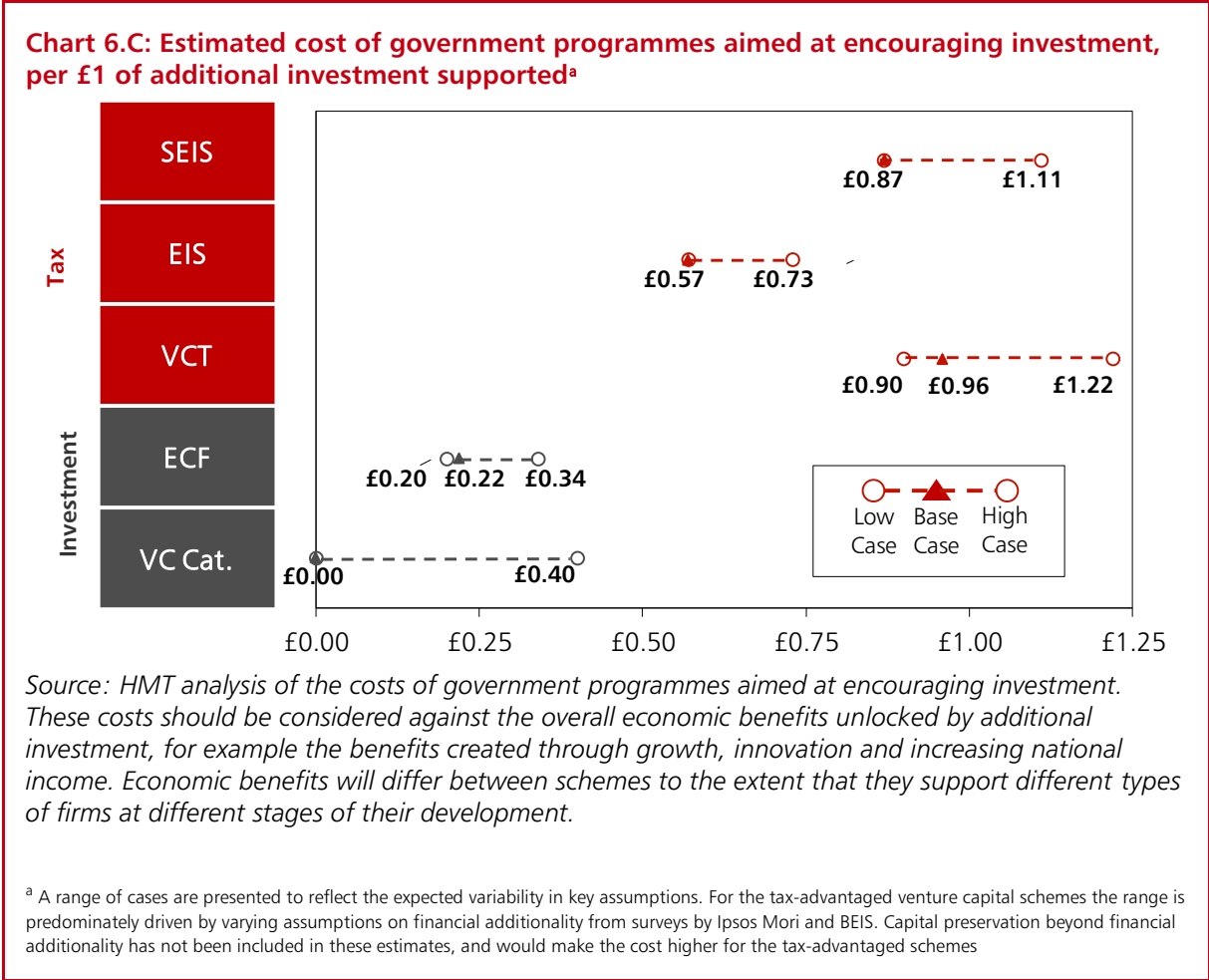
Source: HMT and BBB analysis of Pitchbook data, 2014 to 2016 (<https://pitchbook.com>)

When investing, the EIF also tends to act as a first ('cornerstone') investor into individual funds, helping to crowd in other investment into those funds.

**6.19** To illustrate the different costs of these different schemes, Chart 6.C shows the estimated cost to government per £1 of additional investment supported through the venture capital schemes compared with British Business Bank programmes with a similar objective. The base case makes no assumption regarding capital preservation in the venture capital schemes, and is therefore likely to be an underestimate of the cost for those schemes. The government believes that a mixture of tax reliefs and public sector investment programmes is appropriate to support early stage investment. Although investment programmes can be better targeted at specific parts of the market than tax reliefs for investors, they are unlikely to be able to support the scale of investment currently supported through EIS. Nevertheless, the government’s view is that the first step in funding any new commitments should be to re-prioritise existing resources where these are being used less effectively.

**Holding periods of different programmes**

**6.20** Existing reliefs have a range of minimum investment periods: 1 year for Entrepreneurs’ Relief, 2 years for Business Property Relief, 3 years for SEIS, EIS and Investors’ relief, and 5 years for Venture Capital Trusts. A short minimum investment period can encourage investors to focus on lower return investments that can be sold quickly after the end of the minimum investment period rather than focus on the long-term growth of individual companies. However, it is also important that the minimum investment period does not unnecessarily constrain investors and entrepreneurs from making the best decisions for their company, and does not damage market liquidity. Minimum optimal holding periods also vary by sector, while different tax reliefs operate across sectors.



## Investors in different programmes

**6.21** Finally, the tax reliefs attract a range of investors. For example, within the broader mix of investors, around half of individuals claiming relief through SEIS, EIS, or VCT (or a combination thereof) had a total income equal to or in excess of £100,000 in the tax year 2014 to 2015. Through SEIS, EIS and VCT, the total amount of Income Tax relief available to an individual is £410,000 per year. The government needs to balance encouraging investment by those with the means to do so with ensuring fairness across the tax system.

### Consultation questions

- 7 Which programmes (investment programmes, tax reliefs and tax-incentivized investment schemes) have most effectively supported the investment of patient capital to date?
- 8 Are there areas where the cost effectiveness of current tax reliefs could be improved, for example reducing lower risk 'capital preservation' investments in the venture capital schemes?
- 9 Are there other ways the venture capital schemes could support investment in patient capital, in the context of State aid restrictions and evidence on cost effectiveness?
- 10 When is it more appropriate for government to support patient capital through investment rather than through a tax relief?
- 11 Is there an optimum minimum length of time of investment for entrepreneurs and investors to focus on the long-term growth of their company and, if so, what is it?
- 12 What other steps could government take to make current tax reliefs more efficient and effective, to provide the best support in line with their policy objectives?

# 7 Implications for policy

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## Overall approach

**7.1** The previous chapters have set out how weaknesses in the supply of patient capital create a gap between the current level of investment in UK firms and the level that would be provided in a fully-functioning system. However, analysis of the root causes of these weaknesses suggests that there is finite capacity within the current infrastructure to allocate existing and further capital effectively in the short-term. Lessons learnt from previous government interventions in the UK and other countries also demonstrate that the over-supply of capital in the short-term can encourage the misallocation of capital and so reduce the supply of capital in the long-term.

**7.2** A successful approach to supporting the availability of patient capital should therefore seek to catalyse patient capital as an asset class that offers attractive risk adjusted returns to investors and, once established, does not require continued government intervention. To achieve this, any new approach needs to emphasise increasing the effective allocation of capital to high potential firms in order to increase the overall quantum of capital longer term.

**7.3** It is also clear that a number of investors are held back from investing in patient capital by various barriers. These reduce the pool of potential investment in patient capital, which in turn reduces the efficiency by which capital is allocated to patient capital. Removing these barriers will have different degrees of impact. The review's working assumptions are that:

- public investment into patient capital may provide valuable short-term support and, if targeted, can also support increased capability within the market. However, high levels of public investment reduce the vibrancy of markets over the longer term and may not be sustainable given fiscal constraints.
- greater levels of institutional investment appear crucial for the long-term health of the market but institutional investors are unlikely to increase the level of their investment in the short-term through existing channels.
- on the other hand, retail investors are already investing in patient capital and there is potential for greater levels of investment over the short-term. Investment through listed funds provides transparency of returns, which supports efficient asset allocation between funds. Longer term, there appears to be capacity for greater retail investment, although there does not appear to be significant latent capacity to increase levels of effective investment through existing channels such as the Enterprise Investment Scheme (EIS) and Venture Capital Trust (VCTs) reliefs.
- in addition, overseas investors, foundations, family offices and corporates are also already active investors in patient capital and there is scope to attract further investment from these sources to the UK. These investors are therefore likely to amplify the effects of any increase in effective investment by other investors.

**7.4** As such, it is likely that no one investor group should be the sole focus of any new policies to increase the supply of patient capital. As a result, this chapter focuses on the four potential areas for new policy interventions in Table 7.A. These would sit alongside any proposals that the Financial Conduct Authority (FCA) brings forward to follow up its recent discussion paper.<sup>1</sup>

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<sup>1</sup> Discussion paper 17/2, Review of the Effectiveness of Primary Markets: The UK Primary Markets Landscape', Financial Conduct Authority, February 2017 (available at: <https://www.fca.org.uk/publication/discussion/dp17-02.pdf>)

**Table 7.A: Outline of policy proposals**

Objective	Brief outline of proposals
Crowding in new investment effectively, including a domestic EIF replacement if required	Increase government investment to crowd in effective institutional investment, e.g. through a new public-private evergreen vehicle, a series of fund of funds, a new Green Investment Bank-type institution set up as a new subsidiary of the BBB, and / or simply increasing existing activities within the BBB
Increasing effective retail investment, including through listed vehicles	Provide support for new funds to list; tax proposals are also discussed
Shifting attitudes to investment in patient capital	Focus on removing barriers affecting Defined Benefit (DB) pension funds and Defined Contribution (DC) pension savers
Other measures to increase investor capability	Create new programmes to attract new fund managers; in addition, the Business Growth Fund, university spin-outs and business angel networks are all areas that support availability of capital outside London

7.5 The rest of this chapter considers these areas in greater detail.

## Crowding in new investment

7.6 Government investment can crowd in private investment into patient capital if it is seen to signal good potential investments. By making ‘cornerstone’ investments into funds, it can also reduce some of the information asymmetries that hold back private investment. This is why Autumn Statement 2016 included a government commitment for £400 million of new investment into venture capital funds over the next 4 years through the British Business Bank (BBB). This builds on the Bank’s established ‘Enterprise Capital Fund’ programme.

7.7 However, there is a strong case that government should seek to crowd in new investment significantly beyond this commitment. First, the government should be ready to replace some investment currently made by the European Investment Fund (EIF) if the EIF is no longer an investor in the UK. Second, although important, it is clear that the EIF’s current level of activity in the UK is not sufficient by itself to meet the identified need for patient capital. Third, there is a strong case to address wider gaps in the market that are not currently supported by the EIF.

7.8 Accordingly, the government is exploring the potential for a mutually beneficial relationship with the EIF once the UK has left the European Union. But the UK needs to be prepared for all potential outcomes, including the scenario in which no mutually satisfactory agreement can be reached.

7.9 Box 6.B showed how venture capital funds backed by the EIF have supported investments into UK-based firms of slightly over £900 million per year (2014 to 2016). EIF-backed funds are particularly active in later stage venture capital investments and at larger investment sizes, where evidence from previous chapters has demonstrated a continuing sub-optimal supply of capital. By supporting new investments in this part of the market, the EIF is helping to increase the supply of venture capital to UK firms.

7.10 Box 6.B also showed that EIF-backed funds have participated in around £1 billion per year of private equity investment into UK firms from 2014 to 2016.



**7.11** The UK's private equity industry is very developed, with the UK host to a quarter of the top 20 private equity investors in the world.<sup>2</sup> Previous government studies have shown that gaps in the provision of patient finance extend to 'growth finance', for example with the Rowlands Review in 2009 identifying a gap in the availability of (non-leveraged) finance for profitable growing firms for investments below £10 million.<sup>3</sup> The Business Growth Fund was set up partially to address this gap and Chart 3.D showed the resulting expansion of the supply of growth capital over the past five years. But the majority of the EIF's private equity investments appear to be into funds focusing on much larger investments and leveraged finance and not focused on this gap.

**7.12** There is therefore a question to what extent the UK should replicate the full scope of the EIF's current activities if a domestic replacement is needed.

**7.13** Second, even with current levels of EIF activity, there remains lower capacity within UK venture capital to back firms requiring follow-on investment. As set out in chapter 2, this results in a gap in performance between UK and US venture capital of up to £4 billion per year.

**7.14** Third, there appear to be further gaps in the market that could be filled by additional investment not currently covered by the EIF:

- the lack of capacity within the current UK market appears to be most acute for firms requiring substantial amounts of capital to scale up, for example for some firms approaching the point of cross-over between the private and public markets.
- there remain few investors who have the capacity to make large investments into individual funds. For example, if a technology transfer fund or another large fund was to be seeking significant levels of new investment, existing government programmes would not have sufficient capacity to make these investments even if it was shown to be additional to private investment.
- finally, as noted previously, the market infrastructure in the UK for providing instruments such as venture debt and mezzanine capital is less sophisticated than that in the US.

**7.15** As such, there appears to be a good case for supporting new investment into patient capital, either with or without the EIF investing in the UK. Any new investment from government would be provided through the British Business Bank.

**7.16** There are a number of different ways that new investment could be facilitated by government. One approach highlighted in initial discussions with the industry panel would involve setting up a public-private partnership with investment from both government and institutional investors. This would allow institutional investors to invest effectively in patient capital while at the same time building up their own expertise of successful investment and, over time, make their own direct investment into funds. It would also create an enduring new institution to support the long-term development of the market.

**7.17** However, initial engagement with the investment community has suggested that investors may look for government to guarantee a minimum investment return in order to attract investment in a new investment vehicle. But previous evaluations of government interventions to support patient capital show that providing downside protection for investors does not in

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<sup>2</sup> 'PEI300, 2017' Private Equity International (available at: <https://www.privateequityinternational.com/pei300>); 'Private Equity Demystified', Institute of Chartered Accountants in England and Wales, 2014 (available at: <http://www.icaew.com/en/technical/corporate-finance/financing-change/private-equity-demystified-an-explanatory-guide-160216>) identifies four UK funds in the largest 20 globally

<sup>3</sup> 'The provision of Growth Capital to UK Small and Medium Size Enterprises' the Department for Business Innovation and Skills, February 2009 (available at: <http://webarchive.nationalarchives.gov.uk/20121212135622/http://www.bis.gov.uk/files/file53698.pdf>)

general incentivise effective investment. The government's ability to provide preferred returns to private investors (as used for example by the Canadian government) is also limited by current State aid rules. As such, government investment into a fund would likely need to be on equal terms with private investors.

**7.18** To increase the attractiveness of a public-private partnership to private investors, a new institution could instead be set up with a relatively broad investment mandate. The EIF adopts this approach, making investments into both venture capital and private equity. By doing so, the EIF reduces the overall risk of its investment portfolio through diversification. A similar approach focusing on the areas of weakness in the UK market might be for an institution to invest part of its portfolio in specific types of small cap quoted companies alongside venture capital funds. However, this would create a less focused institution which might reduce the impact on the target areas.

**7.19** An alternative approach would be for government to invest in a series of new UK-specific fund of funds, an approach previously taken in Canada. This would provide time-limited government intervention in the market while building a track record of investment in patient capital, after which investors could reallocate capital to the most productive fund or fund of funds by themselves. While investors are sometimes sceptical of investing in fund of funds because of the perception that the additional layer of fees reduce overall returns for investors, recent research suggests that the average performance of fund of funds in venture capital net of fees is on a par with direct investment in venture funds.<sup>4</sup>

**7.20** However, an approach involving any form of public-private partnership may not get off the ground in the short-term because of a lack of investor appetite. It may also not be capable of stepping up quickly enough in the event that the EIF is no longer an investor in the UK. In this case, government would need to increase its own direct investment into venture capital funds. It could do this simply by increasing investment through existing structures within the British Business Bank. An alternative approach would be to incubate a new institution within the British Business Bank and then sell stakes in that institution (or the entire institution) once it has an established track-record of making returns. This was the approach taken when setting up the Green Investment Bank, which could be replicated in this case. The advantage of this approach is that it might result in a more targeted institution than a broader public-private partnership; its disadvantage is that it only crowds in private investment indirectly at first until it is able to build up a track record of strong investment.

**7.21** It is likely that a combination of these measures may be needed, especially if the EIF is no longer an investor in the UK. This consultation therefore asks for views about the most effective combination of measures that would support greater overall investment in patient capital in the long-term. Ultimate decisions on the scale of any potential new fund will be made by the Chancellor at Budget 2017, weighing up the case for this use of public funds against other competing priorities.

## **Increasing effective retail investment**

**7.22** As set out in Chapter 3, one of the recent strengths of the UK market for patient capital has been the emergence of a small group of listed funds that invest in patient capital. These provide the advantage of allowing retail (and institutional) investors to invest directly into funds with a diversified portfolio of investments. They can also provide transparency about their investment strategy and investment returns. While short-term influences in the public markets

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<sup>4</sup> 'Financial Intermediation in Private Equity: How Well Do Funds of Funds Perform?', Robert S Harris, Tim Jenkinson, Steven N Kaplan, Ruediger Stucke, National Bureau of Economic Research Working Paper No. 23428, May 2017 (available at: <https://www.nber.org/papers/w23428>).23428, May 2017 (available at: <https://www.nber.org/papers/w23428>)

can sometimes be perceived to push funds towards targeting shorter term returns, this new emerging asset class of funds appears to be increasing effective investment in patient capital.

**7.23** The UK market seems relatively unique in the emergence of this new way to invest in patient capital through listed vehicles. The US capital markets support 'Business Development Companies', which have similar structures and tax advantages as Real Estate Investment Trusts (REITs). However, these structures tend to invest in debt rather than equity and so are not directly comparable with the UK's listed funds.

**7.24** These funds also appear to address some of the weaknesses that contribute to a patient capital gap. In particular, they tend to be larger funds with the depth of capital capable of providing substantial amounts of follow-on capital to firms in their portfolios. They also tend to focus on the commercialisation of research developed in the UK.

**7.25** As such, creating the conditions to support further investment through this emerging group of funds and to support the creation of more listed funds could support the review's overall aim of catalysing greater effective investment in patient capital.

**7.26** There are two approaches that could help. First, these funds are investing in an asset class with relatively unique characteristics, which creates some challenges for these funds. The Financial Conduct Authority has encouraged new entrants into other financial services sectors, for example firms developing innovative products and services through Project Innovate and new banks working with the Prudential Regulation Authority (PRA) via its New Banks Unit. The regulator is considering a similar programme to assist new asset managers, seeking authorisation in the United Kingdom, when entering the market. This could assist asset managers creating all types of investment funds, including new funds that invest in patient capital.

**7.27** Second, the review could consider changes to existing reliefs or wider tax schemes to support investment into patient capital funds. The government would want to ensure that any change would be:

- effective at stimulating sufficient scale of new investment, and not primarily providing a reward for investment that would already have taken place
- well targeted towards companies in need of patient capital investment. The government would need to consider whether any such targeting is compliant with State aid rules
- not overly complex or burdensome to administer, either for government or providers of financial products
- affordable in the context of the public finances, and not open to abuse

**7.28** In addition, as set out in Chapter 6, there are already a number of existing reliefs in place. Any changes should seek to maximise existing resources aimed at supporting investment and entrepreneurship through the tax system.

**7.29** A number of ideas have been suggested, including:

- a new 'patient capital ISA' in the form of an additional Individual Savings Account (ISA) allowance that can be invested in listed funds that make patient capital investments. This could help channel additional retail investment towards firms that need patient capital. However, it would be difficult to define these funds in legislation so that investment was both targeted at those firms most in need of patient capital and compliant with the State aid obligations that continue to apply. Without being able to define the scope of a new product effectively, the investment criteria for a

new relief would be broad and may therefore not support new investment effectively. In addition, given that ISA investors can already invest up to £20,000 per year into these types of asset it is unclear that this option would have a sufficient impact to justify the complexity it would add to the wider ISA regime. The government is therefore not minded to pursue this option. Instead, market-driven creation of more listed funds investing in patient capital may provide ISA investors with more opportunities to invest in patient capital within the current regime.

- Business Investment Relief (BIR) makes it easier and more attractive to potential investors to bring their money from overseas to invest in UK businesses. The government has said that it will give further consideration to ideas that will expand the BIR scheme, to encourage greater investment in UK businesses.
- stamp taxes could be removed from the purchase of shares in closed ended funds which have a minimum level of investment in unquoted equities. The case for this would be to increase liquidity in these funds, which could make them more attractive to both retail and institutional investors. Even long-term investors value liquidity as they need confidence that they could sell their investments if needed, even though they may plan on long holding periods. However, the review has not yet found sufficient evidence that such a change would result in a significant change in the level of investment in these funds. The design of any such scheme would need to take account of the possibility of avoidance of stamp tax on the underlying investments using these vehicles but also minimise the administrative burden on claimants.

**7.30** As set out in Chapter 6, there is ultimately a trade-off between the extent to which resources are used to extend tax relief for individuals investing in patient capital and the extent to which additional support is provided through a new fund. The review's current view is that focusing new resources on increasing investment via a fund may be more effective and provide better value for money than spreading resources to include changes to the tax environment. As such, the review is currently minded not to recommend the introduction of a new tax incentive to support greater retail investment in listed patient capital funds. This consultation seeks views on whether this is the right approach.

## Shifting attitudes to investment in patient capital

**7.31** Chapter 5 set out a number of barriers holding back investment in patient capital. The most significant of these barriers may hold back two large pools of potential investment from investing more in patient capital: Defined Benefit (DB) and Defined Contribution (DC) pension investors.

**7.32** Where there are barriers to patient capital among these investors, these barriers are likely to be evident for other illiquid assets. As such, a lack of investment in patient capital by these investors would be a symptom of a more general lack of effective asset allocation through a failure to exploit the illiquidity premium.

**7.33** One specific underlying cause appears to be the scale of individual funds. For DB pension funds, the Department for Work and Pensions (DWP) issued a consultation in February 2017 examining Security and Sustainability in Defined Benefit Pension Schemes. This explores whether there is scope to encourage or facilitate some schemes to make more optimal investment decisions, and to mitigate any barriers to the greater use of alternative asset classes. The paper then considers the arguments for and against the aggregation of smaller schemes into one or more consolidation vehicles in order to reduce costs, improve investment options and governance.

**7.34** In addition, local authority pension schemes are currently collaborating to form pools of capital of at least £25 billion to achieve cost savings and the benefits of scale.<sup>5</sup> As set out in the guidelines establishing these pools of capital, this pooling will also enable administering authorities to improve their capacity and capability to invest in large-scale infrastructure projects and other illiquid or alternative assets, including venture capital and other forms of patient capital.

**7.35** DC pension schemes share similar issues of scale with DB schemes. DWP published a Call for Evidence on easing barriers to transfers without member consent in 2016 to assist consolidation,<sup>6</sup> which they intend to respond to in due course.

**7.36** A second cause may be the perception of risk by some DB (and DC) pension funds. As set out previously, the legislation on both DB and DC pension scheme investment requires that the scheme's assets must consist predominantly of investments admitted to trading on regulated markets and that investments which are not traded on such markets are kept to a prudent level.<sup>7</sup> Trustees of both DB and DC pension schemes also have a fiduciary duty under the common law, meaning that they must have an undivided loyalty to the member, and a duty of care. These fiduciary duties were recently reviewed by the Law Commission<sup>8</sup> who concluded, in line with case law, that these duties support investment in the long-term best interests of members.

**7.37** Stakeholders have however raised questions about the quality of scheme trustees' investment decision making. For example, the DWP February 2017 paper on DB funds set out the intention to investigate the factors that influence investment strategies and the choice of asset classes further.

**7.38** If this is found to be an issue that affects investment in illiquid assets such as patient capital, it may be helpful to consider the sort of tailored communication issued in the United States in the late 1970s. This would set out a position that a balanced investment portfolio can include a portion of investment in higher-risk, illiquid assets, where these investments are made with the purpose of increasing overall investment returns and appropriate risk management principles have been followed. These steps could help to shift the attitudes of trustees and investment managers to fully consider the potential benefits of investment in illiquid assets for scheme members as well as the potential risks.

**7.39** In addition, given the economic importance of patient capital to pension schemes as well as to the UK economy, there is also a case to take steps to facilitate ongoing investment and encourage the development of a more open attitude to investment in patient capital. Specific measures could include providing greater clarity about the ability of pension fund trustees to make investments in patient capital, the effect of existing legislation in permitting this kind of investment, practical examples of such investments, and more detailed guidance setting out the sorts of steps that pension funds should take when making investments in order to satisfy themselves that they are acting prudently.

**7.40** Finally, many DB funds have more generally shifted out of equities into bonds and especially into gilts. This partly reflects the structure of these funds' liabilities and the preference of corporate sponsors to minimise the volatility of returns in the pension funds. However, while traditionally pension funds invested in equities in part to hedge the impact of inflation, this hedge is now increasingly provided by index-linked gilts, with pension funds now holding 23%

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<sup>5</sup> Local Government Pension Scheme Advisory Board (available at: <http://www.lgpsboard.org/index.php/structure-reform/investment-pooling-2015>)

<sup>6</sup> 'Bulk transfers of defined contribution pensions without member consent: Call for evidence' Department for Work and Pensions, December 2016 (available at: <https://www.gov.uk/government/consultations/bulk-transfers-of-defined-contribution-pensions-without-member-consent>)

<sup>7</sup> 'The Occupational Pension Schemes (Investment) regulations 2005/3378', Regulation 4 (available at: <http://www.legislation.gov.uk/uksi/2005/3378/regulation/4/made>)

<sup>8</sup> 'Fiduciary Duties of Investment Intermediaries LC350', The Law Commission, 2014 (available at: <http://www.lawcom.gov.uk/project/fiduciary-duties-of-investment-intermediaries>)

of their assets in index-linked bonds.<sup>9</sup> If the supply of index linked gilts were to become more constrained, due to either a reduction in overall borrowing or a change in the split of issuance between index-linked and conventional gilts, then DB pension funds might need to find additional ways to hedge against inflation risk.

**7.41** A third potential cause relates specifically to DC schemes. In particular, many trustees and providers of DC pension schemes are limited in their ease of allocating a portion of their assets to patient capital or other form of illiquid assets. This is because market practice for the institutional investment platforms used by most schemes generally dictates that all their investments should be priced daily and tradable daily. This practice is usual despite many DC savers being several decades from drawing on their pension or changing their pension allocation as they approach retirement. This reduced ability to make use of the full range of available asset classes for maximum efficiency and diversification both reduces investment returns and reduces the pool of capital available to invest in particular asset classes such as patient capital.

**7.42** Ultimately all DC pension scheme investments, whether they are individual or workplace personal pensions, or DC or DB occupational pensions, are pooled, both with other members of the scheme and, in the case of DC pensions, with other investors in the underlying pooled funds in which their contributions are ultimately invested. As long as those pools are large enough, the investments are available in a way that pension schemes can hold, and trustees and providers believe they are in members' best interests, there should be no barriers to pension schemes allocating a proportion of their investment to patient capital.

**7.43** The best approach to removing these barriers would therefore be industry-led. This consultation therefore seeks views about the steps needed to support investment by DC pension investors in less liquid asset classes such as patient capital.

## **Other measures to support investor capability**

**7.44** Successful investment in patient capital requires experienced and talented fund managers. The challenges faced by a fund manager in raising his or her first fund create a natural market entry barrier to new fund managers and evidence suggests that successful fund managers in the UK are also able to scale up their activities less quickly than those in the US.

**7.45** In the US, the Kauffman foundation runs a 'venture capital fellowship' programme helps to support the development of new venture capital fund managers and others interested in venture capital, which has seen some UK fellows in recent years. Potentially, a similar programme in the UK could help attract further new talent to the UK fund management industry to invest in patient capital. Alternatively, a new investment programme could target the most promising new venture capital fund managers, attracting them to set up and invest their first fund in the UK. The British Business Bank's 'Enterprise Capital Fund' programme has already supported a number of new fund managers raising their first funds, but a new programme that proactively seeks out the best potential fund managers from within the UK or internationally may help to attract further high potential new fund managers.

**7.46** Separately, the previous chapters have identified a number of areas influencing the supply of equity specifically outside of London. Focusing on these areas could help to build further investment capability to increase supply of capital outside of London. These include:

- the Business Growth Fund has its most significant market presence outside of London. In the areas where it has set up offices, it appears to have helped to build

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<sup>9</sup> 'The Purple Book: DB pensions universe risk profile', Pension Protection Fund, 2016 (available at: [http://www.pensionprotectionfund.org.uk/Documents/Purple\\_Book\\_2016.pdf](http://www.pensionprotectionfund.org.uk/Documents/Purple_Book_2016.pdf))

up local finance ecosystems, supporting businesses more widely to obtain equity investment.

- investment in university spin-outs makes a significant contribution to overall levels of investment in technology-focused firms outside of London. A new investment fund such as that proposed earlier in this chapter could also have the capacity to provide 'cornerstone' investment on a commercial basis into new or existing university technology transfer funds. As several existing funds specialising in technology transfer are listed, any changes that support the creation of more listed patient capital funds may also support greater investment in university spin-outs.
- one driver of lower levels of investment outside of London may be lower levels of business angel investment. Two approaches could help to address this. First, crowdfunding could be explored as a support for business angel investment outside traditional geographic boundaries. Second, the government currently invests alongside business angels through the British Business Bank. This approach could be adapted to help clusters of business angel investment across the country to grow to critical mass.

**7.47** As the Industrial Strategy green paper consulted on measures to address the regional imbalance of equity investment, this consultation does not ask again about potential measures. Instead, it focuses on views about other potential measures to increase investor capability. For example, the measures set out in this consultation could support new University Investment Funds (including university-linked or independent funds that specialise in spinout investment) to set up and existing ones to expand to increase the commercialisation of technology from UK universities. The consultation therefore asks what further steps, if any, government could take to increase investment into university spin-outs specifically.

**7.48** Finally, while many of the proposals above focus on private investment and not the public markets, there may be specific measures that could also increase investment in patient capital through the public markets. Chapter 6 asked about the effectiveness of current incentives, some of which support investment through the public markets. The FCA's discussion paper on the effectiveness of capital markets asked about some of the specific regulatory issues affecting access to capital from the capital markets. Alongside this, other areas of policy supporting investment capability (e.g. the availability and production of research and the use of indices) are led by the investment community rather than by government. As such, this consultation asks whether there are additional measures relating to the public markets and within government's control that could increase the provision of capital through the capital markets further.

### **Consultation questions**

- 13 What scale of new investment should the government seek to unlock and over what timeframe?
- 14 Should resources be focused on one intervention (e.g. a single fund of significant scale) or spread over a number of different programmes?

### **Crowding in new investment**

- 15 When considering how to replace EIF investment if the EIF were no longer an investor in the UK, to what extent should the government seek to replicate the EIF's current activities in (a) venture capital and (b) private equity?
- 16 Beyond replicating existing EIF investment if required, what areas should government focus on to increase investment in patient capital?
- 17 When considering how to support increased investment, should the government consider supporting one or more of the setup of a public-private partnership, a new incubated fund in the BBB to be sold in part or full to private investors once it has established a successful track record and a series of private sector fund of funds to invest in patient capital?
- 18 If desirable, what steps should government take to encourage investors to form a new public-private partnership to increase investment in patient capital?

### **Increasing effective retail investment**

- 19 What steps should the government take to support greater retail investment in listed patient capital vehicles?
- 20 Will focusing resources on increasing investment provide better value for money than changes to the tax environment?

### **Removing barriers holding back potential investment**

- 21 Beyond measures already being considered to support more effective asset allocation decisions by DB pension funds across their portfolio of investments, what further steps should be taken to support investment by DB pension funds in patient capital?
- 22 How can individual DC pension savers be best supported to invest in illiquid assets such as patient capital?
- 23 Are there barriers to investment in patient capital for other investors that the government should look to remove?

### **Other measures to support investment capability**

- 24 What steps should government take to support the next generation of high potential fund managers to develop their knowledge and skills and to raise their first or next fund?
- 25 What further steps, if any, should government take to increase investment into university spin-outs specifically?
- 26 What further steps should be taken to increase investor capability in the public markets to invest effectively in firms requiring patient capital to grow to scale?



# List of consultation questions

## A

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**A.1** The full list of questions asked in this consultation are as follows:

- 1 Do a material number of firms in the UK lack the long-term finance that they need to scale up successfully?
- 2 Where is the gap most acute by type of firm, stage of firm development and amount invested?
- 3 Have we correctly identified the UK's current strengths in patient capital?
- 4 In what order would you prioritise the UK's weaknesses in patient capital?
- 5 What are the main root causes holding back effective deployment of and demand for patient capital?
- 6 What are the main barriers holding back effective supply of patient capital by major investors?
- 7 Which programmes (investment programmes, tax reliefs and tax-incentivized investment schemes) have most effectively supported the investment of patient capital to date?
- 8 Are there areas where the cost effectiveness of current tax reliefs could be improved, for example reducing lower risk 'capital preservation' investments in the venture capital schemes?
- 9 Are there other ways the venture capital schemes could support investment in patient capital, in the context of State aid restrictions and evidence on cost effectiveness?
- 10 When is it more appropriate for government to support patient capital through investment rather than through a tax relief?
- 11 Is there an optimum minimum length of time of investment for entrepreneurs and investors to focus on the long-term growth of their company and, if so, what is it?
- 12 What other steps could government take to make current tax reliefs more efficient and effective, to provide the best support in line with their policy objectives?
- 13 What scale of new investment should the government seek to unlock and over what timeframe?
- 14 Should resources be focused on one intervention (e.g. a single fund of significant scale) or spread over a number of different programmes?
- 15 When considering how to replace EIF investment if the EIF were no longer an investor in the UK, to what extent should the government seek to replicate the EIF's current activities in (a) venture capital and (b) private equity?
- 16 Beyond replicating existing EIF investment if required, what areas should government focus on to increase investment in patient capital?

- 17 When considering how to support increased investment, should the government consider supporting one or more of the setup of a public-private partnership, a new incubated fund in the BBB to be sold in part or full to private investors once it has established a successful track record and a series of private sector fund of funds to invest in patient capital?
- 18 If desirable, what steps should government take to encourage investors to form a new public-private partnership to increase investment in patient capital?
- 19 What steps should the government take to support greater retail investment in listed patient capital vehicles?
- 20 Will focusing resources on increasing investment provide better value for money than changes to the tax environment?
- 21 Beyond measures already being considered to support more effective asset allocation decisions by DB pension funds across their portfolio of investments, what further steps should be taken to support investment by DB pension funds in patient capital?
- 22 How can individual DC pension savers be best supported to invest in illiquid assets such as patient capital?
- 23 Are there barriers to investment in patient capital for other investors that the government should look to remove?
- 24 What steps should government take to support the next generation of high potential fund managers to develop their knowledge and skills and to raise their first or next fund?
- 25 What further steps, if any, should government take to increase investment into university spin-outs specifically?
- 26 What further steps should be taken to increase investor capability in the public markets to invest effectively in firms requiring patient capital to grow to scale?

# B Terms of reference for the review

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## Objectives

**B.1** The review will strengthen the UK further as a place for growing innovative firms to obtain the long-term 'patient' finance that they need to scale up, building on current best practices.

## Scope

**B.2** The review will consider all aspects of the financial system affecting the provision of long-term finance to growing innovative firms. It will in particular:

- consider the availability of long-term finance for growing innovative firms looking to scale up
- identify the long-term root causes affecting the availability of long-term finance for growing innovative firms, including any barriers that investors may face in providing long-term finance
- review international best practices to inform recommendations for the UK market
- consider the role of market practice and market norms in facilitating investment in long-term finance
- assess what changes in government policy, if any, are needed to support the expansion of long-term capital for growing innovative firms

**B.3** When considering barriers that investors may face, the review will consider any influence that affects investment in long-term finance to a greater degree than other forms of business investment. This includes the effectiveness of existing support and relevant influences that have a broader impact beyond long-term finance.

**B.4** The review will complement and draw upon work being done by the regulators to consider how regulation affects investors' decisions. It will draw on the discussion document that will be led by the FCA around the structure of the UK's listed markets.

## Outputs

**B.5** The review will begin work in January 2017. Its final recommendations will be presented to the Chancellor ahead of the Autumn Budget 2017.

## Leadership

**B.6** The review will be led by HMT and it will report to the Chancellor. It will work closely with the Department for Business, Energy and Industrial Strategy and the British Business Bank.

There will be an industry panel drawn from leading investors and entrepreneurs. This panel will be chaired by Sir Damon Buffini. Its role will be to provide input, advice and challenge to the HMT Review team. Its members will act in a personal capacity rather than represent the views of their firm/organisation. All executive decisions of the review will be the responsibility of HMT.



# Terms of reference for and members of the Industry Panel

## Members of the panel

**C.1** The Chair invited the following individuals to be members of the panel:

- Kym Lynn Denny, CEO, hVIVO PLC
- Dr Fiona Marshall, FMedSci Chief Scientific Officer & Co-founder, Heptares Therapeutics Ltd
- Ambarish Mitra, Founder and CEO, Blippar
- Sara Murray OBE, CEO & Founder, Buddi
- Tim Score, Former Finance Director, ARM
- Juliet Davenport OBE, CEO & Founder, Good Energy
- Neil Woodford CBE, Founding Partner, Woodford Investment Management
- David Norwood, Acting CEO, Oxford Sciences Innovation Plc
- Stephen Welton, CEO, Business Growth Fund
- Professor Lucy Armstrong, CEO, The Alchemist
- Dr Mike Lynch OBE, FRS, FREng, Founder, Invoke Capital
- Tim Hodgson, Head of Thinking Ahead Group & Founder, Thinking Ahead Institute
- Stuart Paterson BA, CA, MBCS Partner, Scottish Equity Partners
- Gervais Williams, Senior Executive Director, Miton Group plc
- Dr Nigel Wilson Group, CEO, Legal & General
- Tay Lim Hok, Deputy Group Chief Investment Officer/President, GIC Europe
- Nikhil Rathi, CEO, London Stock Exchange Plc & Director of International Development LSE
- Professor Fiona Murray, Professor of Entrepreneurship, MIT Sloan School of Management.

## Terms of reference

### Objectives

**C.2** The Industry panel will develop and suggest a package of recommendations as part of a formal response to Her Majesty's (HM) Treasury's consultation on patient capital. In doing so, the panel will operate independently and feed into the work of HMT's review by:

- providing guidance and assistance on the key issues effecting innovative businesses access to the long-term 'patient' capital they need to scale up
- helping to define the key themes for the review's consultation phase (to be published in spring)
- providing feedback and guidance on the review's output later in the process by means of a formal response to the public consultation, in particular recommending a cross-industry consensus on potential policy measures to encourage long term investment in growing UK businesses
- providing input to the review team to help refine and modify the review proposals following market consultation, as well as providing on-going input on potential market impact
- helping to take forward those parts of the final recommendations requiring industry ownership, where necessary

**C.3** With the support of a secretariat the panel will analyse evidence, provide expert insight and undertake discussion regarding:

- the barriers and opportunities for entrepreneurs and UK businesses across sectors and regions to secure different types of long term finance which is required to scale up their businesses
- the incentives and disincentives for different types of capital providers to offer long term finance to UK businesses
- the characteristics of sector specific and/or non-UK investment ecosystems, policy interventions and novel initiatives which have encouraged and discouraged long term investment in growing businesses within and outside the UK
- ideas and innovative options for mechanisms for the UK Government to support long term capital investment to scale up growing UK businesses

## **Stakeholder engagement**

**C.4** The industry panel will consult on issues and recommendations with stakeholders across industries and sectors. It will also undertake new research on the above issues as necessary. It will carry out this work within the scope of the Terms of reference set out in the overall review.

## **Membership**

**C.5** The Chair of the panel will decide on its membership to be representative of a cross-industry perspective on issues relevant to patient capital. This will include the perspective of entrepreneurs, fund managers and investors.

**C.6** All members of the panel will act in a personal capacity rather than represent the views of their organisation. Members of the panel will not receive remuneration.

**C.7** The panel will have its own secretariat, separate from that of the review team. Members of the review team may be invited to join all or part of panel meetings and the Chair and secretariat to the panel will provide regular progress updates to the review team.

## **Accountability**

**C.8** The panel is independent from the main review and does not carry out responsibilities on behalf of HMT. Information about panel governance, membership and these Terms of reference

will be made available through a public website. The panel's formal response to the autumn consultation will be made publicly available.

## **Confidentiality**

**C.9** There will be a duty of confidentiality imposed on all panel members. Panel members may be exposed to sensitive information as part of panel discussions. In all cases where third parties see panel documentation, individual panel members are expected to accept responsibility for ensuring that those third parties are aware of and respect the confidentiality and sensitivity which attaches to the panel and to the documents in question.





# D Data sources

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**D.1** The analysis of equity investments in unlisted businesses set out in earlier chapters of this consultation document uses the industry databases of Beauhurst, Preqin and Pitchbook. Public equities analysis uses London Stock Exchange (LSE) data.

## Beauhurst

## Beauhurst

**D.2** Beauhurst's dataset is built from the bottom-up, identifying each individual business receiving investment. This enables the data to be analysed by company stage, sector and location, or according to the type of investor, or the size of investment. In this document equity investment sourced to Beauhurst includes any form of external equity finance, excluding transactions on public equity markets, buyouts and family and friends rounds which exclude outside investors. The definition therefore captures the activity of business angels, equity crowdfunding, venture capital funds, corporate venturing, and private equity funds. The investments reported are all publicly announced deals.<sup>1</sup>

## Preqin

**D.3** Preqin is a source of data on the alternative assets industry, providing information on private equity, real estate, hedge fund, infrastructure, private debt and natural resources asset classes. Preqin provides information on funds and fundraising, financial performance, institutional investors and deals, both in the UK and abroad.<sup>2</sup>

## Pitchbook

**D.4** Pitchbook provides data on venture capital and private equity, capturing information on companies, deals and deal metrics, investors, fund and fund performance and Limited Partners. Pitchbook has international coverage of deals, providing country and is widely used in the venture capital industry.<sup>3</sup>

## London Stock Exchange

**D.5** London Stock Exchange (LSE) publishes statistics on a range of metrics and measures including new issues new issues and market capitalisation.<sup>4</sup>

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<sup>1</sup> For more information: <http://about.beauhurst.com/>

<sup>2</sup> For more information: <https://www.preqin.com/>

<sup>3</sup> For more information: <http://pitchbook.com/>

<sup>4</sup> For more information: <http://www.londonstockexchange.com/statistics/home/statistics.htm>





### **HM Treasury contacts**

This document can be downloaded from  
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