

Interim Evaluation of British Patient Capital

Research Report
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Executive Summary

In 2017, the UK Government's Patient Capital Review (PCR), led by HM Treasury, identified the lack of long-term finance preventing innovation-focused UK companies from scaling. This led to an overall annual funding gap of around £4 billion, with the problem being most acute for companies requiring more than £5 million in equity investment.

The premise is that the UK suffers from a venture capital (VC) investment cycle that is short-term and sub-optimal: low VC fund financial returns lead to a lack of demand from institutional and other investors (e.g., pension funds, finance institutions) towards VC as an asset class. This contributes to smaller UK VC fund sizes and deals, lower investment in companies, less scale up of companies, fewer exits and unattractive financial returns creating a self-perpetuating cycle. The eventual outcome is start-up companies creating fewer jobs, lower turnover, less innovation etc., to sustain long-term economic growth.

In a global context, the UK VC investment market does well against other European countries. However, VC investment has historically lagged behind the US with the UK having a lower VC investment as a percentage of GDP. UK companies are also less likely to secure follow-on funding (notably after Series B) and the average VC deal size is smaller, especially in R&D intensive and deep tech sectors and at later stages. UK VC investors also typically exit their investments at an earlier stage compared to their US counterparts, which reduces the ability of UK companies to scale up.

As part of its response to the issues identified in the PCR, the UK Government launched the British Patient Capital (BPC) programme in 2018: a £2.5 billion VC Investment Fund set up as a subsidiary of the British Business Bank with both policy and commercial objectives. BPC enables high-growth and innovative companies to access the long-term finance they need to grow; and do this in a way that delivers value for money for the UK taxpayer (through generating a financial return across a portfolio of investments). It is expected to unlock a further £5 billion of private investment, thus supporting a total of £7.5 billion of public and private equity in UK companies over 10 years. By increasing the number of funds of sufficient scale to invest in larger, later stage funding rounds, BPC is expected to enable more companies to achieve their growth ambitions and support the UK economy.

BPC invests on a commercial basis alongside the private sector into VC funds. These funds are expected to focus on two key stages: venture funds undertaking early funding stages from pre-seed up to Series A; and venture growth funds which undertake Series B+ rounds in later stage firms to accelerate growth. BPC investments are primarily undertaken through commitments into fixed-term Limited Partnership funds, but BPC also makes a small number of direct co-investments into companies and is open to evergreen funds. Importantly, BPC is expected to invest in a way that builds the private market and patience of the wider VC ecosystem by: supporting existing Fund Managers (FMs) to establish sufficiently large scale funds; crowding in private sector capital, including via demonstration effects over a long period of time; and potentially establishing a vehicle that can later be sold or floated. Also, BPC does not have explicit policy objectives relating to net zero, equality, diversity and inclusion (EDI), or spatial imbalances in the wider VC market.

Evaluation objectives and approach

SQW, in collaboration with, St John's Innovations Centre, Middlesex University, Beauhurst and Qa Research, was commissioned by the British Business Bank to undertake an interim evaluation of BPC. The work involved a process, impact, and economic evaluation of BPC. For the purposes of this study, we used the PCR definition of patient capital:

“Patient capital is long-term investment in innovative firms led by ambitious entrepreneurs who want to build large-scale businesses... [and it refers to] the supply of long-term capital to both successful start-ups looking to reach large scale, and capital intensive R&D based businesses”.

A total of 38 (of the 52) BPC-backed funds were in scope for the evaluation. These were managed by 22 FMs who had invested in 389 UK-based companies at the time of analysis. This included 24 funds backed by BPC between 2018 and early 2021, and 14 funds from the VC Catalyst. The latter was subsumed into BPC in 2018. The focus of the evaluation was on BPC since its establishment. However, VC Catalyst supported funds were considered as part of the assessment where appropriate. The evaluation excluded funds designated as “Lower Mid-Market” as they have a different investment strategy to the core BPC programme and also funds invested through the Life Sciences Investment Programme (LSIP). Investments undertaken through the Future Fund: Breakthrough programme were also excluded.¹ The evaluation did not cover BPC investments from mid-2021 onwards because it was too early to assess impact.

The evaluation involved a mixed method approach, including the following:

- refining the BPC logic model and theory of change
- a review of monitoring data and the wider VC and equity markets
- interviews with 22 BPC-backed FMs, 10 representatives from the British Business Bank, BPC, Government, and six external stakeholders
- a telephone survey of 48 beneficiary companies and six follow-up case studies
- the development and analysis of comparison groups of non-supported companies, and econometric analysis of impacts (including Monte Carlo simulations).

¹ LSIP and Future Fund: Breathrough programmes will be evaluated separately.

Evaluation findings

Rationale for BPC

We conclude that the rationale for the establishment of BPC was and still is valid to address the later stage gap in VC investment. However, there is scope for refinement to ensure that the central argument is clearer going forward: the sub-optimal functioning of the UK VC investment cycle (as described above) results in a scale up gap at venture growth stage, and to a lesser extent at venture.

The UK's overall VC funding gap with the US is most acute at the later VC stages, but is also prevalent at the early VC stage. BPC should clearly articulate to what extent its activities are focused on solely addressing the later stage VC gap or addressing the overall VC gap by targeting both early and late stage VC.

The feedback from FMs, wider stakeholders and the beneficiary survey supports the overall policy rationale for BPC. All FMs and stakeholders reported a lack of later stage, larger scale VC investors in the UK at the time BPC was established. This remains a challenge. VCs were simply not large enough to make later stage investments and/or follow their investments, leading to a gap in the volume and value of deals, especially from Series B onwards.

Design and delivery

The design of BPC is broadly appropriate and relevant given its rationale and high level objectives (especially commercial). Key attributes of BPC's design that have enabled progress include: having both venture and venture growth funds; its scale and the ability to support large funds, offering large ticket sizes and follow-on, which is particularly critical for scale up; and creating a separate commercial entity. However, there is a need for greater clarity, transparency and communication about the balance between commercial and policy objectives.

BPC's deployment of investment into funds was slightly quicker than anticipated in its first two years since inception, but is now broadly in line with expectations.

The BPC portfolio of funds in scope (i.e., those funds backed by BPC from 2018 onwards) have:

- an average fund size of £173 million, which is broadly in line with the original assumptions underpinning BPC, and the £180 million average fund size of US funds at the time of the PCR.
- an average deal size of c. £5 million compared to the market gap identified by the PCR of £5 million+. This takes into account deal size of BPC-backed funds only, but excludes investment from other FMs.
- included almost equal commitments to venture and venture growth funds (48% and 51% of commitments respectively, excluding co-investments).

The results suggest that BPC's average fund and deal sizes are broadly in line with what was anticipated at the time of the PCR, albeit deal sizes are currently at the "lower end" of the identified market gap of £5 million. It is also worth recognising that for nearly 80% (37 out of 47) of the companies surveyed and willing to quantify, the total average follow-on funding secured was c. £16 million (this may be across more than one deal). This suggests that these companies are in their scale up phase.

There has been a balance between commitment into venture and venture growth funds. More recently, BPC has sought to shift the emphasis from venture to venture growth investment, with the

target of two thirds of funds invested in venture growth. Across the programme as a whole, commitments in 2020/21 were broadly in line with this new target.

BPC delivery processes have generally been effective. Due diligence is very rigorous and thorough, and this is considered to be important for crowding in other private investment. BPC has also provided valuable support to FMs. Monitoring processes appear to be appropriate in terms of BPC's commercial objectives, although the monitoring of performance against policy objectives could be strengthened.

There are also clear, well-defined and rigorous management and governance structures and processes in place for implementing the BPC programme. The roles, responsibilities and reporting of the decision-making bodies and members appear to be robust and suitable to the objectives of BPC.

Impact on firms

The evidence from the beneficiary survey indicates that BPC-backed fund investment has been successful in ensuring that innovative companies have access to the VC they need to grow. BPC-backed funds have targeted their investments in UK-based companies appropriately towards highly technology-oriented and innovative companies, in line with BPC objectives and the funding gap identified at the time of the PCR. The sectoral profile of BPC investments to date is similar to and largely follows the wider market (including R&D intensive sectors, where the funding gap continues to be most acute) reflecting BPC not having a sector specific focus. However, the majority of companies funded by BPC supported funds are geographically concentrated in London and the Greater South East reflecting the existing pipeline of investment opportunities.

The evidence suggests that BPC-backed investment is partially additional. This has enabled companies to access finance more quickly and, although to a lesser extent, at a larger scale than would otherwise have been the case. A smaller proportion of companies would not have been able to secure finance at all without BPC-backed finance. Very few companies would have secured the same amount of finance in the same timeframe in the absence of BPC-backed funds (i.e., finance deadweight). This is encouraging given wider market trends during BPC's lifetime.

Companies are using BPC-backed finance to facilitate growth and innovation, in line with the programme's objectives. The beneficiary survey found evidence of innovation-related outcomes: increased R&D investment, progress/commercialisation of new or improved products or services (mainly new to market), introduction of new/improved processes or practices within the company, and increased sales/market share of existing innovative products or services already in market. **The beneficiary survey also found that company level outcomes are additional.** Without BPC-backed investment, two thirds of survey respondents argued that growth would have taken longer to achieve, been smaller in scale and/or of lower quality. One quarter claimed that growth would not have been achieved at all in the absence of the BPC-backed finance.

The econometric analysis suggests that BPC-backed investment has had a positive statistically significant impact on employment, turnover and valuations of beneficiary companies. The econometric analysis compared the performance of beneficiaries with similar companies that secured non-BPC VC investment (this takes into account BPC and VCC backed deals in scope). We estimate the impact of BPC-backed funding on employment of beneficiaries to date to be between c. 4,600 – c. 5,000 net additional jobs across UK-based beneficiaries in scope. The net impact on turnover of beneficiaries was estimated to be £4.7 million – £5.4 million per year.

More broadly, qualitative evidence suggests the BPC-backed finance is helping innovative companies to secure follow-on investment, achieve their growth ambitions and, crucially, remain in the UK for the foreseeable future.

Impact on funds

BPC has enabled the majority of FMs to raise funds of larger/optimum sizes and accelerated the pace at which funds close, indicating strong evidence of partial finance additionality at the fund level. There is also evidence of full additionality in a minority of cases, whereby funds would not have been able to obtain LP commitments from elsewhere without BPC's involvement. The wider buoyancy of VC markets has provided a tailwind for BPC, but these findings suggest that BPC has not just been "riding the wave" of market trends and has provided additional finance.

BPC has influenced investment strategies of supported FMs in terms of UK content. There is mixed evidence on the extent to which BPC has influenced the investment horizons of some FMs involved, although this was not a stated objective of BPC. In addition, the consultation feedback suggests that BPC has influenced FMs' consideration of, or approach to, EDI in their investments.

BPC has performed well in terms of crowding in private sector finance. By Q3 2021, BPC (including third party mandates) had made commitments of £977 million to the funds in scope, securing £4.9 billion from private LP funds (in gross terms). This is a significant achievement and is attributed to BPC's scale, reputation, ability to follow-on itself, and robust due diligence processes providing credibility and validation which gives other LPs confidence to invest. The econometric evidence also suggests a statistically significant (but not necessarily causal) link between BPC-backed investment into specific UK regions and sectors and non-BPC VC activity in the same areas.

It is too early to fully assess the financial performance of BPC, but preliminary findings are encouraging. By Q3 2021, BPC had realised values of £478 million, a distributed to paid in ratio (DPI)² of 0.13 and a total value to paid-in ratio (TVPI)³ of 1.9 across the funds in scope (on aggregate). These figures include VCC investments. These results are in line with other funds of a similar vintage in the UK market.

Impact on wider finance market

BPC is starting to play a market leadership role and have a positive signalling effect in the wider market. This is helping to improve the functioning of the VC market and strengthen the UK's innovation and enterprise ecosystem. However, it is not clear at this stage to what extent BPC has influenced the attitudes/behaviours of institutional investors (e.g., pension funds) towards the VC asset class. In order to maximise its impact on the wider market going forward, BPC may wish to consider raising the profile of its portfolio's performance externally, ensure resources are sufficient to undertake the wider market leadership role effectively, and clarify in more detail how it will influence institutional investors (and how this will be tracked over time). This will help to further improve BPC's influence on the wider VC ecosystem.

² The ratio of cumulative distributions to LPs divided by the amount of capital contributed by LPs.

³ The sum of cumulative distributions to LPs and the net asset value of the investments, divided by the capital contributed by LPs. A value of 1.9 means investors would get nearly two times their initial money back.

Value for money

It is too early to provide definitive figures on the economic cost effectiveness of the BPC programme, but the evaluation findings suggest BPC is offering value for money. We estimate a Benefit Cost Ratio (BCR) of 3.2. In other words, for every £1 of economic cost of operating the programme, BPC generates £3.2 in additional GVA. The present value of net GVA expected to be generated by BPC beneficiaries in scope between 2013/14 FY and 2030/31 FY was estimated to be £5.1 billion. The economic costs associated with BPC activities to date were estimated to be c. £500 million with further £1.1 billion expected over the next ten years.

Conclusions

Overall, the evidence suggests that BPC has made good progress against both its policy and commercial objectives (i.e., financial and company level performance). In terms of its policy objectives, BPC has increased the supply of additional capital, both directly and by crowding in private investment, and enabled funds of greater scale, with a greater UK focus and that have been able to close more quickly.

Companies are better capitalised than they would have otherwise been, and used BPC-backed finance to support innovation and growth, which has enabled further follow-on investment. The economic evaluation findings suggest that BPC-backed investments are providing value for money for the taxpayer so far.

Going forward, BPC could consider clarifying: (i) the balance between meeting its commercial and policy objectives, priorities and how any trade-offs between them will be managed; and (ii) how BPC will influence the patience of the overall VC ecosystem.

1 Introduction

Policy context

In 2017, the HM Treasury Patient Capital Review (PCR)⁴ supported by an Industry Panel,⁵ identified that the UK venture capital (VC) markets lagged behind the US and that there was a need to increase the supply of long term finance for innovative companies wanting to scale up. In response, HM Government launched the British Patient Capital (BPC) programme⁶ in 2018 – a £2.5 billion Investment Fund incubated in the British Business Bank (the Bank).⁷ This was a package of measures which also included the Managed Funds⁸ and the Regional Angels⁹ programmes.

BPC enables long term investment in high-growth and innovative companies to access the finance they need to grow; and do this in a way that delivers value for money (VfM) for the UK taxpayer. It is expected to unlock a further £5 billion of private investment, thus supporting a total of £7.5 billion of public and private equity in UK companies over 10 years – building the private market by either crowding in private sector capital through public investment or developing the market sufficiently so that Government intervention is no longer required. By increasing the number of funds of sufficient scale to invest in larger, later stage funding rounds, BPC is expected to enable more companies to achieve their growth ambitions and support the UK economy. This means that BPC is driven by both commercial and economic development objectives (often referred to as the “double bottom line”).

BPC invests on a commercial basis alongside the private sector into VC funds that focus on venture and venture growth,¹⁰ with UK content. BPC is demand-led and sector agnostic.¹¹ BPC is specifically targeted at increasing the availability of VC funding to scale up companies. Although BPC contributes to the Government’s wider policy agenda, addressing net zero objectives, equalities diversity and inclusion (EDI), or spatial imbalances in the wider VC market are not specific objectives of BPC.¹²

⁴ HM Treasury (2017) Financing growth in innovative firms: consultation
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/642456/financing_growth_in_innovative_firms_consultation_web.pdf

⁵ Patient Capital Review Industry Panel Response (2017).
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/661397/PCR_Industry_panel_response.pdf

⁶ <https://www.british-business-bank.co.uk/press-release/2-5bn-british-patient-capital-programme-launched-enable-long-term-investment-innovative-companies-across-uk/>

⁷ BPC is set-up as a separate commercial subsidiary of the British Business Bank.

⁸ <https://www.bbinv.co.uk/managed-funds/>

⁹ <https://www.bbinv.co.uk/regional-angels-programme/>

¹⁰ Venture funds invest in early funding stages from pre-seed up to Series A, as firms develop products / seek product market fit. Venture growth funds invest in Series B+, for later stage firms to accelerate growth.

¹¹ In practice, given the importance of innovation for growth, certain sectors attract more investment than others.

¹² There are other British Business Bank policy tools designed to increase the supply of equity finance in the regions and devolved nations, e.g. the Northern Powerhouse, Midlands Engine and Cornwall and Isles of Scilly Investment Funds.

The majority of investments are in fixed-term vehicles, though BPC is open to more innovative structures such as evergreen capital.¹³ BPC also makes a small number of direct co-investments into companies.¹⁴ Importantly, investments from the VC Catalyst (VCC) programme were transferred to BPC in 2018 in order to seed the BPC portfolio. VCC was established in 2013 to invest in funds that were commercially viable but which might fail to reach a satisfactory “first close” without support. Therefore, the types of funds supported under the VCC are likely to be different and broader in size and stage than funds supported since BPC’s inception.

What is patient capital?

For the purposes of this study, we have adopted the PCR (2017) definition of patient capital:

“Patient capital is long-term investment in innovative firms led by ambitious entrepreneurs who want to build large-scale businesses” ...

“...the supply of long-term capital to both successful start-ups looking to reach large scale, and capital intensive R&D based businesses, such as those spun out of universities”.

The PCR also highlighted that 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”*.

Patient capital tends to be associated with a greater tolerance for risk, larger deal sizes, and a wider pool of investors with “deeper pockets”.¹⁵ There is a willingness amongst investors to forgo short term financial returns¹⁶ – often a priority in traditional investing – for greater future returns.

So, what is the long term? It can be anything from 3-5 years in some sectors (e.g., software, fintech) to 10-15 years or more in others (e.g., cleantech, digital health). This reflects the often long pathways in the innovation and commercialisation process for companies, especially those at the “cutting-edge” of science and technology.

It is worth recognising that the above definition contrasts with that used in the US, where patient capital refers to the blending of social and financial returns and is positioned between traditional VC and philanthropy.¹⁷

Also, the British Business Bank state that patient capital should be interpreted as enabling companies to reach their full potential by contributing to the patience of the overall ecosystem. This is through funding available to companies at all stages of their development – accessing funding from both early and later stage investors according to their needs.

¹³ As part of BPC, a £30m evergreen investment was announced in VC firm Draper Esprit (now Molten Ventures).

¹⁴ For example, investing in Thought Machine as part of a £125 million Series B funding round: <https://www.britishpatientcapital.co.uk/press-release/british-patient-capital-to-invest-in-thought-machine-as-part-of-125-million-series-b-funding/>

¹⁵ For example, Limited Partnerships, financial institutions, pension funds, sovereign wealth funds, foundations etc.

¹⁶ This short-termism can inhibit sustainable business models and growth.

¹⁷ St John’s Innovation Centre White Paper No. 1 (2019) Patient Capital – Where are we now?

Study objectives and scope

SQW, in collaboration with, St John's Innovations Centre (Cambridge), Middlesex University,¹⁸ Beauhurst and Qa Research, was commissioned by the British Business Bank to undertake an interim evaluation of the British Patient Capital (BPC) programme. The study involves a process, impact and economic evaluation of BPC to determine whether the programme has been successful in meeting its objectives and is likely to offer value for money. It also takes into account of VC Catalyst (VCC) programme investment, where appropriate.

The purpose of the evaluation is, therefore, two-fold: first, to inform ongoing delivery of BPC to ensure impacts are maximised and the programme delivers against its objectives; and second, to inform future Government policy and investment decisions in relation to BPC.

The evaluation includes both the BPC-supported funds and their underlying portfolio companies based in the UK. As at end of September 2021, BPC has supported 52 funds investing in c. 730 companies, of which c. 400 are UK-based.¹⁹ The assessment is of BPC as a whole, including VCC investments. To date, VCC formed 37% of the funds supported and 40% of the deals supported in scope. As stated earlier, the VCC programme had different objectives to BPC, and it is early in the life of the BPC programme, and so the overall evaluation results are heavily influenced by the inclusion of VCC.

The sample frame for the evaluation was based on the following factors:

- **Fund managers** – all funds with vintage years 2013-2020,²⁰ excluding funds designated Lower Mid-Market (LMM)²¹ as they do not reflect the current investment strategy of BPC;²² split between VC Catalyst and BPC programmes.
- **Companies** – UK-based companies that were funded up to 2020/21 were included. It is likely to be too soon to measure the impact of funding on companies that received funding later in 2021.

Importantly, the evaluation excludes assessment of the Life Sciences Investment Programme (LSIP)²³ and the Future Fund: Breakthrough.²⁴ Both schemes were launched in 2021, and are being delivered by the British Business Bank, via BPC, and will be evaluated separately.

Taking into account the above, **the evaluation scope covered 38 BPC supported funds²⁵ across 22 fund managers, with 389 UK-based companies in receipt of BPC investment.** This is split between £174 million committed by VCC and £611 million committed since BPC was established in 2018.

¹⁸ The Centre for Enterprise and Economic Development Research (CEEDR).

¹⁹ According to Management Information (MI) provided by British Business Bank.

²⁰ Six BPC supported funds were excluded from the analysis if they had a later 2020 or 2021 vintage as it was too soon to assess impact.

²¹ For definition and investment characteristics of Lower Middle Market private equity (as distinct from VC), see p.79 of British Business Bank report: <https://www.british-business-bank.co.uk/wp-content/uploads/2020/02/Small-Business-Finance-Markets-2019-20-report-FINAL.pdf>

²² The inclusion of Lower Mid-Market funds is likely to influence the overall BPC results.

²³ <https://www.britishpatientcapital.co.uk/press-release/british-patient-capital-launches-life-sciences-investment-programme/>

²⁴ <https://www.britishpatientcapital.co.uk/future-fund-breakthrough/>

²⁵ Plus three direct co-investments.

Figure 1-1: BPC supported fund managers (in evaluation scope)



Source: SQW

The key research questions for the evaluation are presented in Table 1-1 below.

Table 1-1: Evaluation research questions

Evaluation type	Topic	Key research questions
Process Evaluation	Design	1. How appropriate and relevant is the design of BPC, given its objectives and market demand/needs?
	Delivery	2. How effectively has BPC been delivered?
	Governance	3. How effective are management and governance arrangements and processes?
Impact Evaluation	Portfolio	4. How does the profile of investment compare to the wider market?
	Finance additionality	5. To what extent did BPC investment into VC funds lead to additional finance for UK scale up companies?
	Firm impacts	6. What impact has BPC had on beneficiary firms, and to what extent are these impacts additional?
Economic Evaluation	Market impacts	7. What impact has BPC had on the finance market?
	Costs	8. What are the costs associated with BPC?
	Benefits	9. What is the quantifiable economic impact of BPC?
	Value for Money	10. Is BPC delivering against its objective and offering value for money?

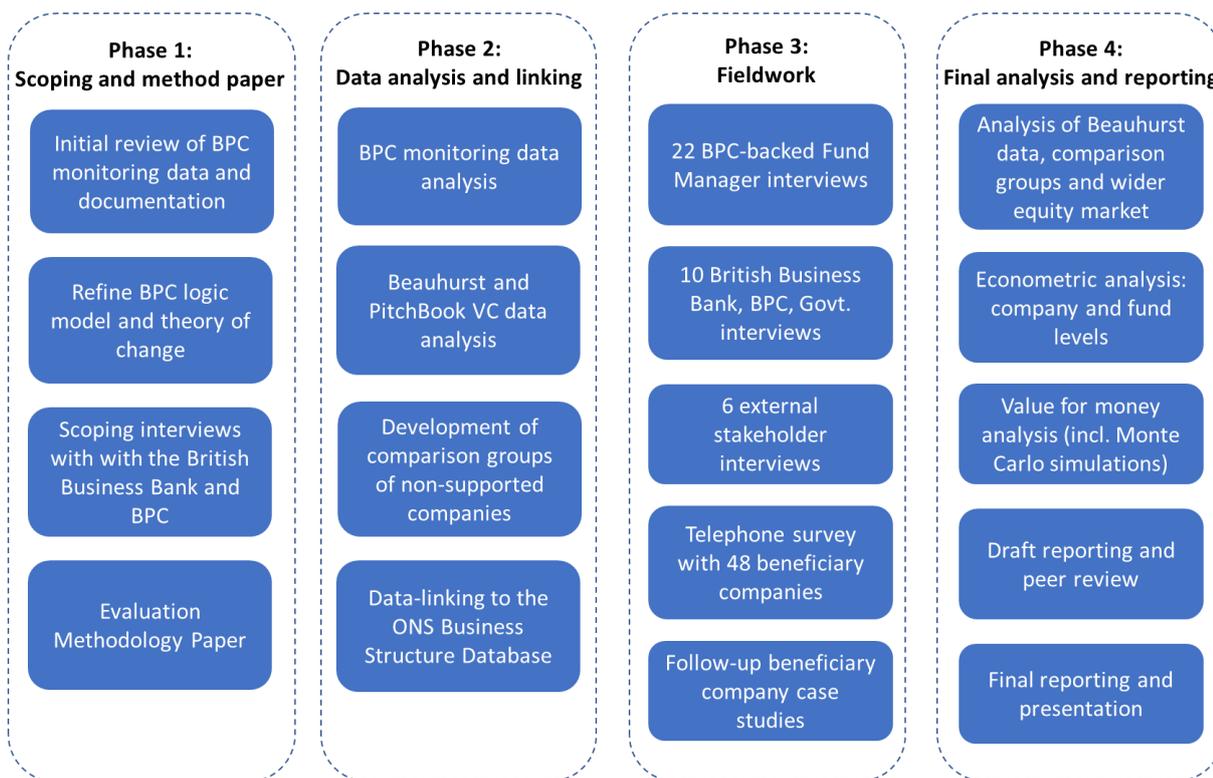
Source: BPC Evaluation Brief and scoping consultations

Overall approach and methods

Our overall approach involved a theory-based assessment to test the extent to which outcomes and impacts have occurred as a result of the BPC programme - in line with the programme’s logic model and theory of change. Specifically, the assessment used contribution analysis (see Annex B for details) to test the evidence on outcomes and impacts, whilst considering other factors which may have contributed to these benefits. This was supported by quasi-experimental analysis of selected key outcome measures.

The work was organised across four phases, as illustrated below. We used mixed methods, drawing on both qualitative and quantitative data. This included: BPC programme document review; monitoring and information (M&I) analysis; development of a programme logic model and theory of change; development and analysis of comparison groups (i.e. firms not supported through BPC); econometric analysis; interviews with four groups – fund managers, representatives from the British Business Bank, BPC, Government and external stakeholders; telephone survey of beneficiary companies; beneficiary case studies; Beauhurst database analysis; and modelling of the equity market; Monte Carlo (MC) simulations for value for money (VfM) assessment.

Figure 1-2: Methodology



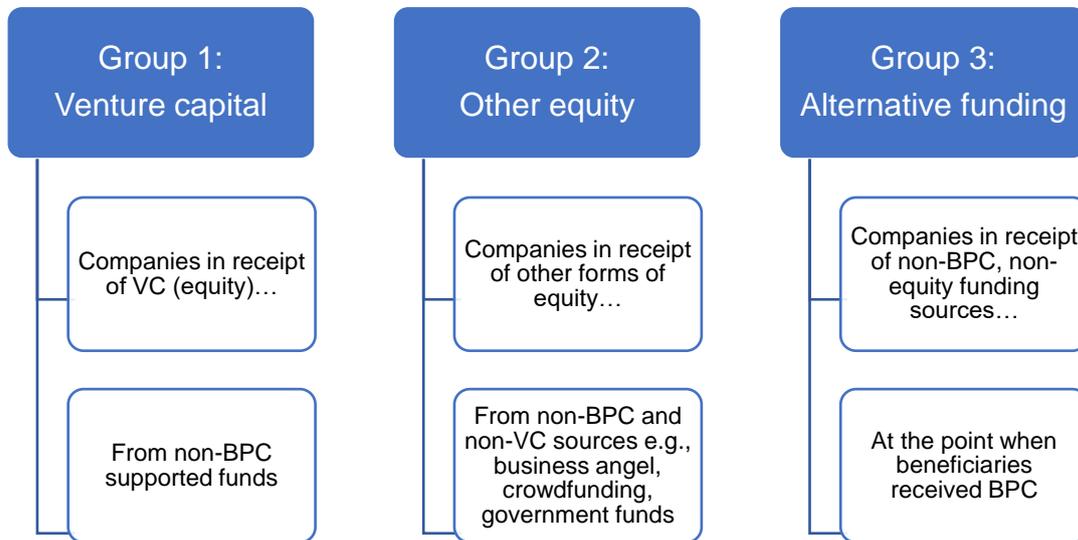
Source: SQW

The **scoping and method paper** set out a framework for the evaluation, including research questions and the detailed methodology. This was informed by a review of programme data and documentation, scoping discussions with representatives from the Bank and BPC, and an initial exploration of statistical/ econometric analysis to assess performance of company beneficiaries against potential comparison groups of companies.

The **data analysis** profiled BPC’s investments in portfolio companies based on monitoring information provided by the Bank and constructed the three comparison groups of companies in

receipt of: venture capital, other equity, and alternative non-equity funding (Figure 1-3). Group 1 is the most meaningful comparison group as it is aligned with BPC’s focus on VC equity, but Groups 2 and 3 are also useful to demonstrate the difference in performance with other forms of finance.

Figure 1-3: Comparison groups for company level analysis



Source: SQW

The list of comparator companies from all of the above three groups and BPC beneficiaries were first identified in Beauhurst database and then passed on to the Business Statistics team at the Department for Business, Energy, Industrial Strategy (BEIS) who carried out the **data-linking**. They identified these businesses in the Inter-Departmental Business Register (IDBR)²⁶ using Company House Registration Numbers (CRNs), and extracted data on turnover, employment, business age and location starting from 2011/12 financial year. **The linked Beauhurst-IDBR dataset was then used for the econometric analysis of net impacts of BPC at the company level.** BPC monitoring data was also used to create a regional and sector profile of BPC investments which was used to investigate BPC’s impact at the fund level.

The fieldwork involved 38 consultations with key individuals involved in and/or of knowledge of BPC. A full list of consultees is provided in Annex A. These discussions mainly gathered views on the market context and rationale for BPC, the design and implementation of BPC, key outcomes and impacts of BPC (on funds, companies and the wider VC market), finance and outcome additionality of BPC, and key lessons to inform future policy.

To complement the M&I analysis, consultations, and econometric analysis, **a CATI²⁷ survey of company beneficiaries** was undertaken by Qa Research. A total of 48 companies were interviewed out of 140 contacts that were made available to SQW,²⁸ representing a response rate of 34%.²⁹ The overall purpose of the survey was to provide evidence on the additional benefits from

²⁶ The IDBR is a list of UK businesses used by government for statistical purposes. It provides the main sampling frame for surveys of businesses carried out by the Office for National Statistics (ONS) and other government departments. The main sources of input are Value Added Tax (VAT) and Pay As You Earn (PAYE) records from HMRC.

²⁷ Computer Assisted Telephone Interview.

²⁸ For which telephone numbers were made available to SQW by Fund Managers where consent had been granted by firms or were identified through the Beauhurst database by SQW.

²⁹ The survey respondents accounted for 12% of the total population of in-scope companies (48 of 389).

the investments made by BPC supported funds into companies – the focus was on equity investments in which a BPC-backed FM was involved. These investments could have been made over several equity rounds or via tranches split into different payments. The survey topics included: the motivations for seeking finance, finance additionality, experience of the investment process including follow-on finance,³⁰ additional outcomes and impacts achieved and/or expected relating to innovation and company growth, and any wider benefits.

Illustrative case studies involving short follow-up telephone interviews were undertaken with six company beneficiaries. The case study companies were selected from the survey and were sampled based on: the types of benefits described, stage of company development, level of additionality reported, spread across the Fund Managers, sectors and geographies. The purpose of the case studies was to obtain a “deeper” understanding of *how* BPC investment translates into outcomes and impacts for companies – testing the BPC theory of change.

At the analysis and reporting stage econometric techniques was used to estimate BPC’s impacts at the company and fund levels. At the company level, we followed a **difference-in-differences methodology** by comparing trends in business performance and valuations between BPC beneficiaries and comparison groups over time. To ensure robustness of our findings, this analysis was also carried out on a subset of companies from the three comparison groups. These were selected using **propensity score matching (PSM)** – a statistical matching technique. PSM allowed us to choose comparator businesses that were the most similar to BPC beneficiaries in terms of their observable characteristics. For example, their pre-funding size as measured by employment and turnover, age and stage of evolution, target client groups, previous access to public funding (e.g., from Innovate UK), etc.

To investigate **BPC’s impacts at the fund level, we examined** the relationship between BPC and non-BPC VC **investment into particular regions and sectors**, looking for evidence of “crowding in” or displacement of non-BPC backed deals. The fund-level analysis also examined the differences in the average size of private contributions to BPC and non-BPC funds. In addition, we studied the effect BPC had on trends in number and value of VC deals in the UK. This involved comparing the UK to several countries, including France, Germany, Switzerland, Netherlands, USA, Canada, Israel, etc., using a synthetic control approach (which we describe in more detail in Section 9).³¹

The results of econometric analysis were triangulated with findings from other strands of research and underpinned the Value for Money (VfM) analysis. To reflect the wide range of observed outcomes and the inherent uncertainty associated with long-term investment, the VfM analysis involved carrying out **Monte Carlo simulations** to obtain a range of possible benefit-to-cost ratios (BCR) and their relative likelihoods.

³⁰ This refers to any additional or new equity funding rounds.

³¹ SQW’s analysis of BPCs impact at the fund level draws on data from PitchBook.

Key issues and challenges

The key issues and challenges in undertaking the evaluation and reporting the findings are summarised as follows (further detail is set out in Annex B):

- Investee companies were not necessarily aware (or expected to know) that the equity investment they had received from fund managers was from BPC
- The assessment of additionality (i.e., what would have happened in the absence of BPC investment) was on two levels – BPC investment into private VC funds and in the underlying portfolio companies
- Investment by stage, sector, vintage, along with the varying and long timescales associated with innovation influence financial returns and economic impacts
- The wider context also affects fund and company performance, for example: access to non-BPC investment, development of technologies, the evolving finance and innovation ecosystem, public policy, and external “shocks” to the UK economy.

Report structure

The remainder of this report is structured to address the evaluation objectives, as follows:

- **Section 2** presents the key market trends and developments in the UK VC ecosystem
- **Section 3** sets out the programme logic model and theory of change
- **Section 4** profiles the BPC portfolio investments covering funds and companies
- **Section 5** presents the findings from the process evaluation
- **Section 6** presents the findings from the impact evaluation at the company level
- **Section 7** presents the findings from the impact evaluation at the fund level (and market)
- **Section 8** assesses the extent to which BPC investment led to additional finance
- **Section 9** sets out the econometric analysis of net impacts
- **Section 10** presents the findings from the economic evaluation including value for money
- **Section 11** provides key conclusions and lessons for the future.

Finally, there are seven supporting appendices: list of consultees; detailed methodology; further analysis of BPC portfolio; beneficiary survey; information on exits; summary of selected international VC programmes; and summaries of company case studies.

2 Market context

This section provides an overview of the key trends and developments in the VC market (mainly) since the PCR in 2017. It highlights the overall growth in UK VC in terms of the volume and value of deals, investment stage, sector, fundraising activity, exits and financial returns. It identifies some of the wider structural developments influencing the VC market. It also provides views of BPC-supported FMs and stakeholders on the trends and issues observed in the UK. This section therefore “sets the scene” against which BPC operates.

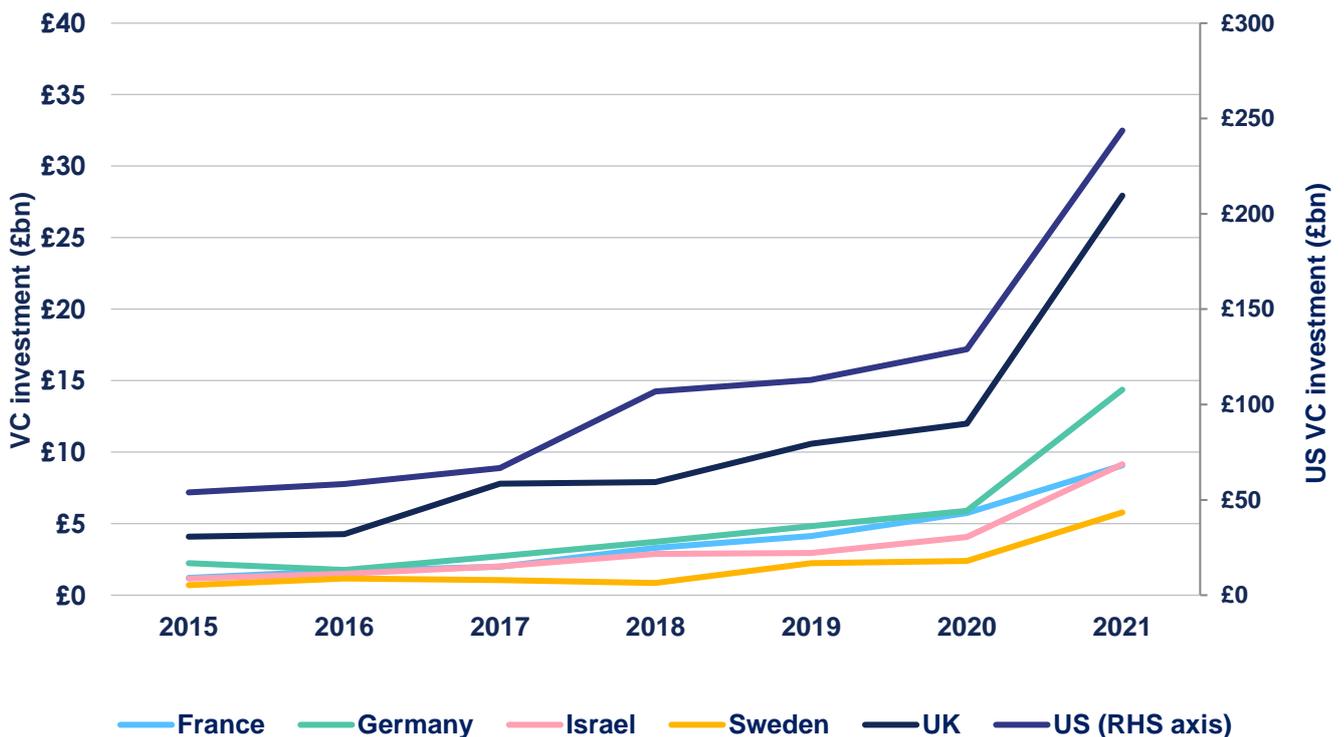
Key messages

- The UK is the largest VC market in Europe, larger than France and Germany combined. Between 2017 and 2021, the value and number of UK VC investment deals increased by 256% and 57%, respectively. UK VC investment jumped to a record £28 billion in 2021. The growth in UK VC reflects global trends in VC activity, for example, France, Germany, Sweden, Israel and the US have seen the number and value of deals rise since 2015.
- The increase in UK VC deals is across all investment stages – seed, early and later. Historically, seed and later stage VC have had the lowest number of deals, but later stage VC deals has closed the gap with early stage deals (especially since 2018). The most common sectors for UK VC investment include: software, fintech, R&D intensive and deep tech.
- UK VC commitments in UK VC funds increased from £2.5 billion to £4.5 billion between 2017 and 2021. Over the same period, UK-based funds increased from 21 to 39, and the average fund size increased 37% from £126 million to £172 million. The larger deal sizes have led to record levels of UK VC fund “dry powder”, nearly £10 billion.
- Overseas and non-traditional VC investors (including corporate and private equity) have become more active in the UK VC market. Around 40% of deals in the first three quarters of 2021 were by overseas investors, mainly in later stage rounds.
- There are 40 private companies with “unicorn” status (\$1 billion+ valuation) that are headquartered in the UK, and a further 14 have exited. The number of companies undergoing an exit via an acquisition or IPO was 116 in 2013, rising to 550 by 2018, and 781 in 2021. Over 90% of exits were through acquisitions.
- The 10-year horizon Internal Rate of Return (IRR) for VC funds established since 1996 was c. 14% in 2021 (compared to c. 8% in 2018). VC fund returns now exceed investing in public markets i.e., the FTSE all share-index.
- UK VC investment lags the US: £244 billion US VC investment in 2021 (8.5 times larger than the UK); smaller average VC deal size in the UK (particularly in rounds 3-6); less investment in R&D and deep tech sectors, especially at later stage.

Key trends in the UK VC market

There has been growth in the UK VC investment market over the period 2017-2021 (Figure 2-1). The investment value and the number of UK VC deals increased by 256% and 57%, respectively.³² In 2021, VC investment reached a record £28 billion, more than double compared to 2020. The UK is not alone in experiencing this growth, with other countries also observing increases in VC investment and the number of deals. The UK is the largest VC market in Europe, larger than France and Germany, but is well behind the frontrunner, the US (with £244 billion of VC in 2021).

Figure 2-1: VC investment, by country (£billion)



Source: British Business Bank Equity Tracker 2022 (British Business Bank user defined search of PitchBook - Results may differ to PitchBook’s own figures)

The growth in the UK (described above) is symptomatic of the wider equity market³³ encompassing all fundraisings, including but not limited to VC investment. Between 2013 and 2017, this growth aligned with an increase in the number of deals taking place, signalling that a larger number of fundraisings was a key factor in this trend. From 2018 onwards, the number of deals stagnated to a certain extent. However, the value of these investments increased, reflecting how the growth experienced in these years was caused by more high-value deals.

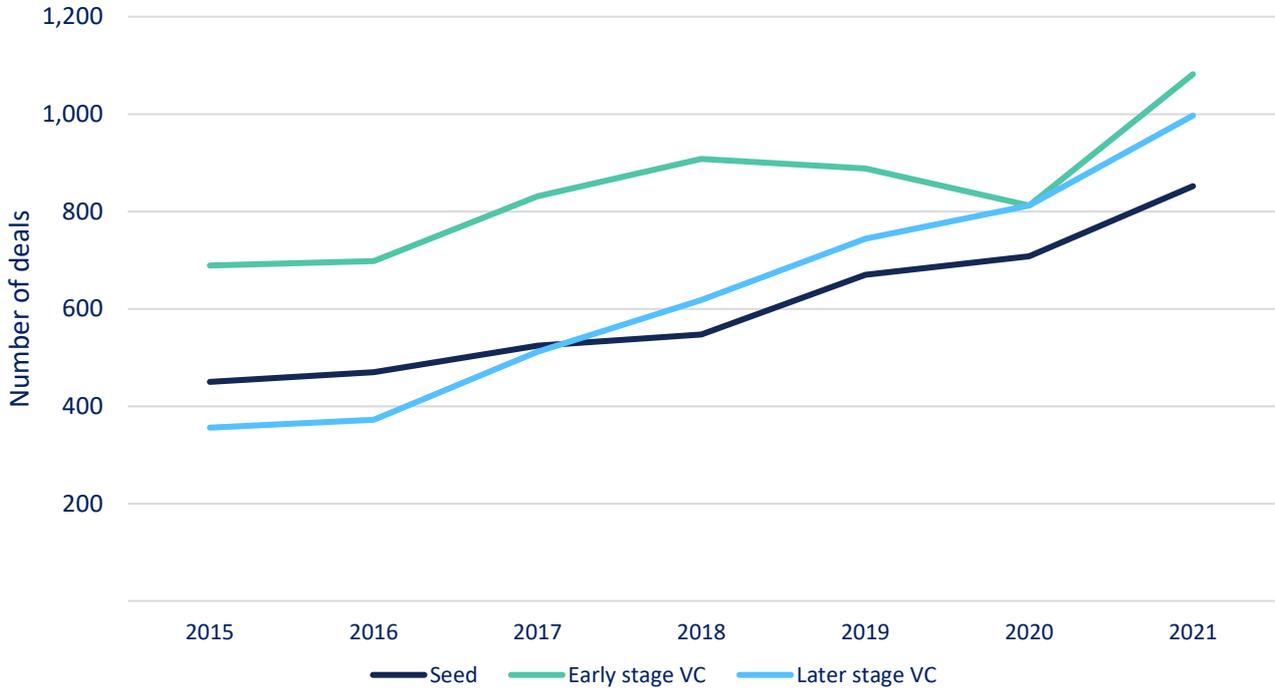
The increased number of VC deals is reflected across all stages, in particular later stage. There has been a 95% rise in later stage VC deals over the period 2017-2021. Historically, more

³² British Business Bank Equity Tracker 2022.

³³ Based on Beauhurst (2022): Equity-backed companies are those that receive any amount of equity investment from any source. For example, it captures activity of business angels, equity crowdfunding platforms, venture capital funds, corporate venture and private equity funds. This market has been used because it reflects the overall market in which the BPC funds are operating. i.e., the total universe of potential portfolio companies.

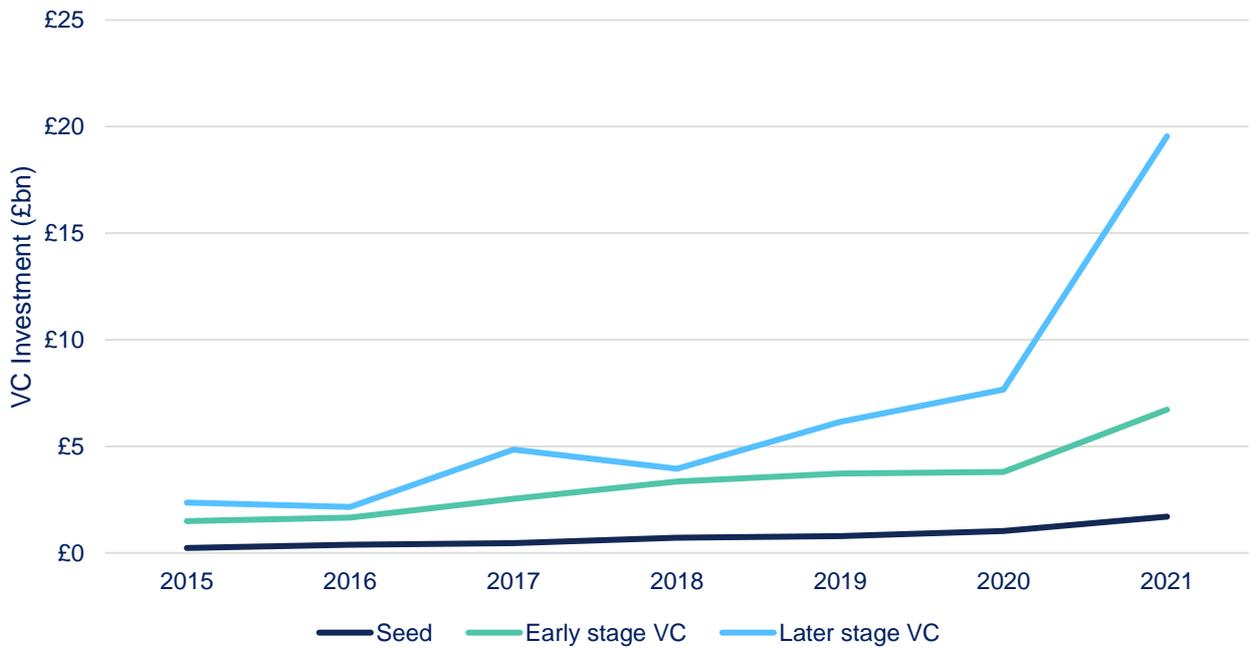
deals have been done at early stage, but later stage deals are closing the gap. This has meant greater amounts of investment given larger cheque sizes (Figure 2-2).

Figure 2-2: UK VC number of deals, by stage



Source: British Business Bank user defined search of PitchBook. (Results may differ to PitchBook’s own figures)

Figure 2-3: UK VC investment, by stage



Source: British Business Bank user defined search of PitchBook. (Results may differ to PitchBook’s own figures)

UK VC fundraising in terms of total commitments in UK VC funds increased from £2.5 billion to £4.5 billion between 2017 and 2021. This partly reflects the increase in UK-based funds increasing from 21 to 39 over the same period. As a consequence, the average fund size increased from £126 million in 2017 to £172 million in 2020. The larger fund sizes have led to record levels of UK VC fund “dry powder”³⁴ of £9.8 billion (20% more than in 2020).³⁵

The UK market has also seen increased interest from overseas VCs and non-traditional VC investors, including corporate and private equity investors. In the period 2011-2016, overseas investors contributed to less than one quarter of UK VC deals, rising to 29% of deals in 2021.³⁶ They were particularly involved in later stage rounds.

UK VC investment is mainly in software, fintech, R&D intensive and deep tech³⁷ sectors. In 2021, software had the largest value with £17.2 billion, fintech received £10.2 billion, R&D intensive sectors £8.billion, of which £4.billion was invested in deep tech. There is a shortfall in deep tech funding with insufficient scale of later stage funds when compared to US. More widely, there is a UK VC bias towards tech and software investing (see below for further discussion on deep tech sector).

More UK companies are achieving “unicorn” status i.e., companies reaching \$1 billion valuation. Since 2017, the UK has created more new unicorn companies than France and Germany, but is well behind the US. According to Beauhurst (2022),³⁸ there are 42 privately owned companies with a \$1 billion+ valuation headquartered in the UK (a further 17 have exited and two are no longer active). Prior to reaching unicorn status, the average unicorn raised nearly £100m in equity investment, across five funding rounds. The average unicorn is seven years old when it reaches its billion-dollar valuation.³⁹

Since 2013, exits have continued to rise across the whole UK high-growth ecosystem.⁴⁰ According to Beauhurst (2022), the number of companies undergoing either an acquisition or IPO was 116 in 2013, increasing significantly to 550 by 2018, with 781 companies exiting in 2021. In 2020, because of wider interruptions caused by factors such as Brexit and the COVID-19 pandemic, the number of exits taking place dropped by 19% between 2019 and 2020.⁴¹

The UK is the most common location to exit for these companies, whether through stock market listing, or the head office of their acquiring company (50% of exits between 2018 and 2022 fall into this category). Over 90% of the exits that took place were in the form of an acquisition. The average age at which an equity backed company experiences an exit event is around 13 years after their

³⁴ According to PitchBook (2021), dry powder refers to the amount of committed, but unallocated capital a VC or private equity firm has on hand. It is the unspent cash reserve that is waiting to be invested.

<https://pitchbook.com/blog/what-is-dry-powder>

³⁵ British Business Bank (2022) Small Business Finance Market 2021/22 Report. British Business Bank calculations of Preqin data as at 06/01/2022.

³⁶ British Business Bank Equity Tracker 2022.

³⁷ R&D intensive companies attempt to ‘commercialise technologies with long and costly processes’. Deep tech companies are ‘founded on tangible scientific discoveries or meaningful engineering innovation’. See Small Business Equity Tracker Report (2021) for details. <https://www.british-business-bank.co.uk/small-business-equity-tracker-2021/>

³⁸ <https://www.beauhurst.com/research/unicorn-companies/>

³⁹ The UK unicorns are in fintech, healthtech, cleantech, insurtech, proptech, e-commerce, digital security, data analytics, gaming, travel, food and drink and other sectors. Some of unicorn companies have received BPC investment, including Graphcore, Revolut, Thought Machine and Cazoo.

⁴⁰ Exits ultimately generate financial returns, provide liquidity, and capital for re-investment. The three main exit routes for VC backed companies are buyouts, mergers and acquisitions (M&A), and Initial Public Offerings (IPOs).

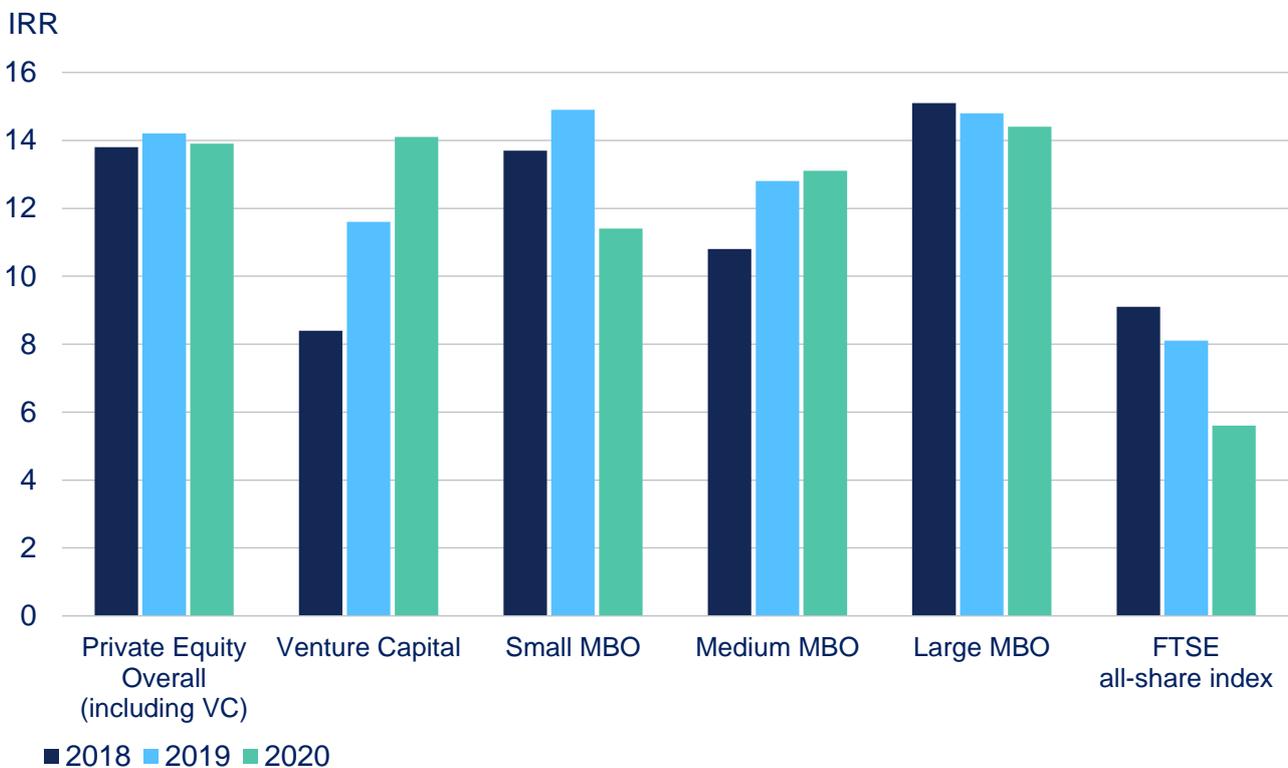
⁴¹ Note that exits, especially IPOs, are under pressure and the situation is likely to get worse during 2022 (St John’s Innovation Centre, 2022).

incorporation. The most prevalent Beauhurst company stage at the time of exit is the established stage (46%), followed by growth (25%) and venture (25%). A small proportion (11%) exit while still at the seed stage.

VC returns have been improving partly due to exit activity in recent years. BVCA (2021)⁴² data indicates that the 10-year horizon Internal Rate of Return (IRR) for VC funds established since 1996 was 14.1% in 2021, an increase from c. 8% in 2018 (Figure 2-4). VC fund returns now exceed those of small and medium Management Buy-Out (MBO) funds, and investing in public markets i.e., the FTSE all share-index. However, VC fund returns lag behind MBO funds. Interestingly, the PCR Industry Panel reported in 2017:

“In order to be attractive to investors, VC returns need to show a premium over listed equities of at least 2-3%, to compensate for the lack of liquidity and lack of control. Historically, the average UK VC fund has been unable to achieve this”.

Figure 2-4: 10 year horizon IRRs and market comparators



Source: British Business Bank (2022) Small Business Markets Finance Report 2021/22, based on BVCA (2021)

Wider developments in the UK VC market

Since the PCR in 2017, there have been wider changes in the UK VC market that are worth highlighting as these influence the investment environment. We summarise these as follows.

⁴² BVCA (2021) Performance Measurement Survey Report 2020: <https://www.bvca.co.uk/Research/BVCA-Publications/Details/Performance-Measurement-Survey-2020>

- **Use of Special Purpose Acquisition Companies (SPACs) as an exit route** – These are investment vehicles formed to raise capital via an IPO and subsequently merge with or purchase an existing company. Some UK companies have exited on US markets in 2021 via a SPAC. However, at the time of writing, the environment for exiting via a SPAC has cooled and is unlikely to be a significant exit route in the foreseeable future.
- **European Investment Fund (EIF) retreating from UK VC funds** – The PCR Industry Panel estimated that up to a third of venture funding could be withdrawn as a result of the UK's departure from the EU. Between 2014 to 2016, the EIF committed £242m per year into UK VC funds. During 2019-2021, average annual commitments declined by 60% to £97 million per year.⁴³
- **Importance of tax relief schemes to stimulate entrepreneurial activity** – The Enterprise Investment Scheme (EIS) and the Seed Enterprise Scheme (SEIS) reduce the risk of investing in early stage companies, and create a potential “pipeline” for later stage investments. In 2020/21, 5,820 companies raised a total of c. £1.8 billion through the EIS and SEIS,⁴⁴ suggesting the significance of these schemes and business angels for the early stage equity ecosystem.⁴⁵
- **Implementation of the Hill Review⁴⁶ should make the UK more attractive for companies** – The UK Listing review examines how the UK can enhance its position as an international destination for IPOs and improve the capital-raising process for companies seeking to list in London. Listing in the UK should become more attractive following the implementation of the Hill Review recommendations.⁴⁷

In addition to the above, we highlight the following analysis undertaken by the British Business Bank (2022) on the UK venture financing since the PCR in 2017 using PitchBook data:

- **The ratio of venture investment to GDP in the UK has almost trebled from 0.27% in 2015-17 to 0.76% in 2019-2021.** However, US VC investment has also continued to grow relative to GDP, equivalent to 0.98% of US GDP in 2019-21. The UK's relative position against the US has improved since 2017: the US VC market was 1.6 times larger than the UK in 2015-2017 and is now 1.3 times larger in 2019-2021.⁴⁸
- **The average VC deal size between the UK and US has widened.** For companies initially raising funding in 2012-13, UK companies raised on average 1.1 times less than US companies on their first VC investment round. By the third and fourth rounds, UK average deal sizes were twice as small compared to the US. The gap continued by rounds five and six, with UK average deal sizes being at least three times smaller than in the US.⁴⁹

⁴³ British Business Bank Equity Tracker 2022.

⁴⁴ In 2020 to 2021, 3,755 companies raised investment under EIS, raising a total of £1,658m (decline from previous year). In 2020 to 2021, investment under SEIS remained consistent: 2,065 companies raised investment under SEIS, compared to 2,070 in the previous year. However, the amount raised by SEIS companies increased by 4% to £175m compared to £169m in the previous year.

<https://www.gov.uk/government/statistics/enterprise-investment-scheme-seed-enterprise-investment-scheme-and-social-investment-tax-relief-may-2022>

⁴⁵ British Business Bank Small Business Finance Market Report 2021/22: <https://www.british-business-bank.co.uk/research/small-business-finance-markets-report-2022/>

⁴⁶ <https://www.gov.uk/government/publications/uk-listings-review>

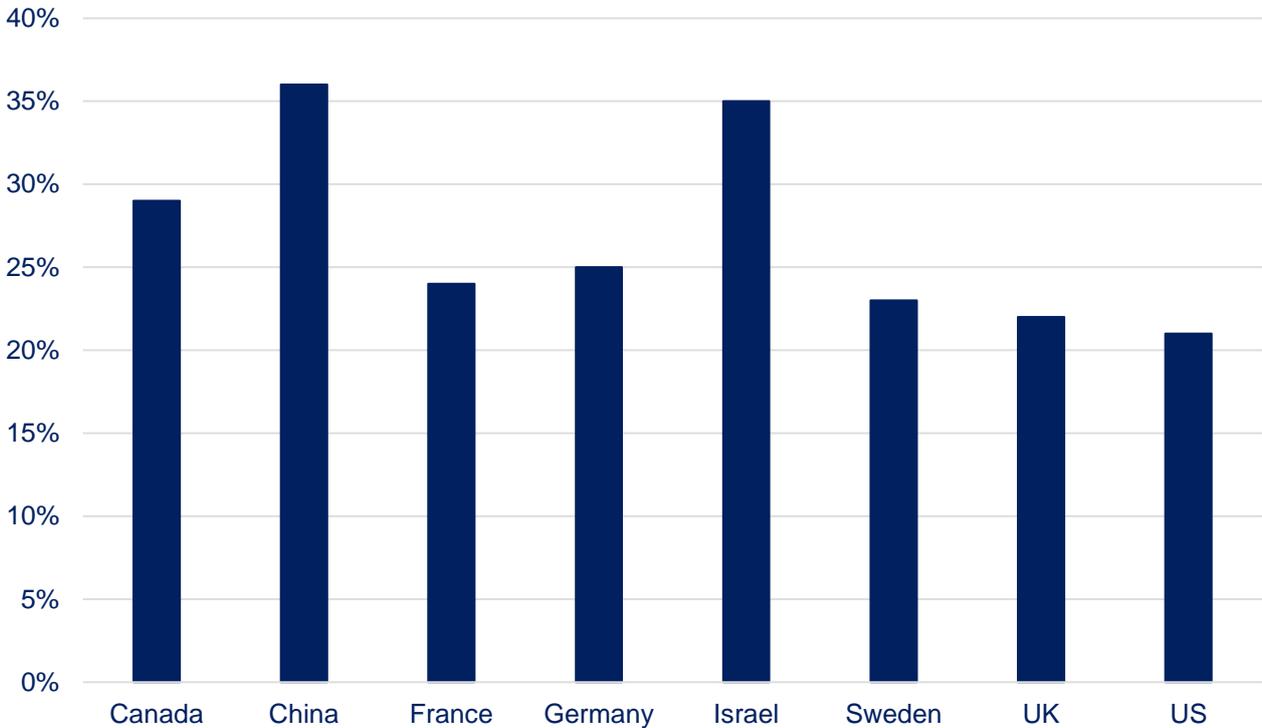
⁴⁷ An alternative view is that Hill Review's proposals on dual class shares are unlikely to achieve the goal of improving competitiveness in the international IPOs market (University of Oxford, 2021). See: <https://www.law.ox.ac.uk/business-law-blog/blog/2021/05/hill-review-and-long-and-winding-road-premium-listed-dual-class-share>

⁴⁸ British Business Bank Equity Tracker 2022.

⁴⁹ British Business Bank Equity Tracker 2021.

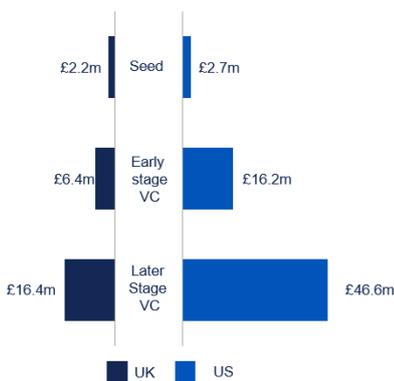
- **The overall VC funding gap between the UK and US is largely driven by differences in investment in R&D intensive sectors and deep tech.** The proportion of UK VC deals in the deep tech sector was similar to the US (2019-2021): 22% compared to 21% (Figure 2-5). However, US deep tech deal sizes were 2.8 times larger than in the UK in 2021, mainly due to later stage VC: £46.6 million in US versus £16.4 million in UK.⁵⁰

Figure 2-5: Deep tech deals as a proportion of all deals by country (2019-2021)



Source: British Business Bank Equity Tracker 2022

Figure 2-6: Deep tech average deal sizes by stage (2019-21)



Source: British Business Bank user defined search of PitchBook. (Results may differ to PitchBook’s own figures)

⁵⁰ It may be relevant that in 2018 EIS rules were adjusted to favour research-intensive firms, providing a larger pool of angel back firms for tech focused VCs to invest in.

- **Equity deals are disproportionately concentrated in London relative to wider innovation measures.**⁵¹ Nearly 50% of UK equity deals were in London-based companies in 2021. However, “London represented 22% for the UK’s number of patents, 17% for the number of university spin outs, 13% for Innovate UK expenditure and 19% of total Research Council expenditure”. It is worth noting that VC deals are also concentrated in the US in the East and West Coast: California, New York, and Massachusetts accounted for 54% of deals and 73% of US VC investment in 2021.

Overall, the story is one of market growth in VC investment and scaling up in the UK (and globally). The increased investment into UK VC funds with larger VC funds closing is a positive development, as is the narrowing of the gap with the US (on some measures) since the PCR in 2017. However, the majority of the investment into UK VC funds is from overseas sources. There is also limited activity in the UK VC market by institutional investors (e.g., pension funds).

Ultimately, the market context described above raises the critical question, *is BPC providing additional benefit or simply “riding the wave”?* This is explored in later sections.

Fund manager and stakeholder perspectives

This sub-section presents the overall feedback from BPC-supported FMs and stakeholders. Their views broadly align with the trends and developments presented above.

Both FMs and stakeholders⁵² recognised the **marked and rapid increase in the availability of VC capital since BPC was established** in 2018. This was characterised as a buoyant market with strong exit values and a wider diversity of VC investors and more large-scale funds. Stakeholders observed a narrowing gap in terms of the volume of later stage deals and improvements in the number of firms progressing to later stage (these findings corroborate data presented earlier in Section 2).

Consultees also reported how non-traditional investment has “flooded the VC space”, in part because of low yields from fixed income products during the global low interest rate environment. That said, it was **not clear whether the role of UK-based institutional investors in the VC market had shifted significantly**. A minority of consultees also questioned whether these investors are “committed for the long-term”, with some evidence of non-traditional players retreating from the VC market and returning to other asset classes as interest rates rise.⁵³

There were, however, **differences in opinion on the availability of finance at different stages**. Some stakeholders reported that early stage financing had improved, but the lack of finance at later stages (Series B+) was still an issue (and as a result, firms exit/get acquired earlier). Other stakeholders have observed a shift towards larger/late stage funding, albeit through a combination of UK and US investors (see below), with a decline in investment at earlier stages (up to Series B) and concerns about a gap opening up below the level at which BPC operates.

According to stakeholder consultees, the following issues remain in the UK:

The US (or at least overseas investors) is a major source of VC finance in the UK. Whilst the volume of VC capital has increased and more UK firms are raising larger amounts of money

⁵¹ British Business Bank compared the number of equity deals is compared to a range of innovation activity including Research Council and Innovate UK spend, number of patents filed and number of university spin outs. The British Business Bank analysis was based on Beauhurst, UKRI, IPO, HESA and ONS data.

⁵² British Business Bank, BPC, UK Government and external stakeholders.

⁵³ It is worth recognising that overseas investment maybe cyclical – economic trend driven.

(including at later stage), most of this is from overseas investment. In the view of one consultee, “*all of the top West Coast VC funds are coming to the UK*”,⁵⁴ attracted by e.g., the strength of UK academic excellence. The perceived “*high dependence on overseas investors*” puts the UK in a “vulnerable” position.⁵⁵ UK firms were still being bought out by US investors and, as a result, these firms (or at least their leadership teams) may move to the US.

VC finance has gravitated towards software and fintech sectors.⁵⁶ This masks challenges faced by other sectors, especially cutting-edge, disruptive technologies with higher R&D capital requirements and those that take longer to reach market traction, commercialisation, develop credible market viability and achieve solid financial performance (e.g., deep tech and life sciences).

The value of later stage deals in the UK has improved, but still relatively lower than in the US. UK companies are still under-capitalised, securing smaller deals, having to raise funding more frequently and on aggregate received much less than their US counterparts by the fifth funding round. This has implications for scale up and their ability to compete in international markets. Again, the lower size of later stage deals is particularly challenging for deep tech and life science sectors due to their high capital requirements.

Insufficient UK investors at later stage. All stakeholder consultees agreed this remained an issue, with a perceived “long way to go to close the gap”. The loss of EIF has also created more pressure in this space. Most consultees also suggested that **UK companies were still exiting earlier than is optimal** (i.e., still insufficient capital in VC sector, and a lack of capital in public markets).

Finally, improvements in the wider availability of VC was also echoed in the beneficiary firm survey which found that companies were able to raise finance in a relatively short amount of time (most were less than six months), had discussions with multiple VC funds and received multiple offers. See Section 6 for details.

⁵⁴ This includes establishing a physical presence in the UK.

⁵⁵ In our view, certain cyclical economic trends may favour this, but it may not occur longer term.

⁵⁶ These sectors tend to favour shorter time horizons (compared to for example, deep tech or clean tech).

3 BPC programme logic model

Key messages

- The rationale for BPC, as put forward by the PCR and BPC Business Case, relates to the sub-optimal VC investment cycle: low VC fund financial returns leads to a lack of demand from institutional and other investors towards VC as an asset class. This contributes to smaller UK VC fund sizes and deals, lower investment in companies, less scale up of companies, fewer exits and unattractive financial returns (and the cycle continues). The problem is most acute for companies requiring more than £5 million in equity investment.
- As part of this cycle, the Business Case and subsequent British Business Bank evidence identified barriers and failures relating to the short-termism in the VC investment market; weaker performance of the UK VC market compared to the US (esp. later stage and in deep tech sectors); information failures amongst companies and investors; and positive spillovers.
- To overcome these market problems, BPC provides longer term, larger scale, and diversified VC investment for scaling up companies. British Business Bank is expected to invest £2.5 billion over 10 years, committed at a rate of around £333 million p.a. to VC fund managers – and unlock £5 billion of private investment into innovative firms. The focus is on venture and venture growth funds, investing in VC LP funds, evergreen vehicles and co-investments. BPC includes 19 fund investments from the VC Catalyst programme, representing c. £266 million of the total £2.5 billion BPC fund. VC Catalyst invested in commercially viable funds which might fail to reach a “first close” without support.
- Key activities of BPC include: selection of FMs, allocation of funding to FMs, building a diversified portfolio, non-financial support to portfolio companies, monitoring and reporting, BPC management and governance, BPC industry-wide catalysing, championing, and market leadership activities. These activities are expected to translate into key benefits over time: larger funds that close more quickly and with greater UK content; increased R&D and innovation, employment, turnover, company valuations; financial returns/exits; and a stronger UK VC market.
- The feedback from FMs and wider stakeholders supports the overall rationale for BPC. However, in our view, there is scope to refine the rationale for BPC so that it is clearer: the sub-optimal functioning of the UK VC investment cycle results in a scale up gap at venture growth stage, and to a lesser extent at venture.

This section sets out the “refined” BPC programme logic model and theory of change, including the context and rationale, objectives, inputs, activities and intended benefits. It provides the framework to assess the performance of BPC, testing the progress made in BPC activities translating to benefits for fund managers, companies and the wider VC market. The logic model was informed by a review of programme documentation and scoping consultations.

Strategic context and rationale

The PCR (2017) highlighted the strength of the UK entrepreneurial ecosystem in the start-up and early stages of company development. However, it also identified the constraints in the number of companies being able to scale up to their full potential (to the detriment of the UK economy). This

has contributed to the UK's reputation as the “home” for ideas rather than unicorn⁵⁷ successes, especially compared to the US.⁵⁸

The premise was that the UK had a venture funding problem which hindered enterprises scaling up and limited returns to investors.⁵⁹ There was, according to the PCR Industry Panel, insufficient capital to match entrepreneurs’ demand with too little equity available to “*make the long-term, larger investments required to scale a business...a particular problem for companies requiring more than £5m in equity investment*”. The PCR identified an annual equity funding gap of around £4bn per year.

The solution in the form of patient capital offers the opportunity of long term, larger scale, and diversified VC to help companies access more of the finance they need to scale up. The debate is nuanced, but key observations and data indicate that the UK could do better (see below).

There is a “sub-optimal investment cycle” – Small VC funds lead to the underfunding of scale up companies, as illustrated in Figure 3-1. According to the BPC Business Case (2018),⁶⁰ this is partly due to the lower financial returns from investment in UK VC when compared to the risk-reward profile of alternative asset classes. The lower returns make investment in VC less attractive for institutional and other investors. This leads to smaller VC funds and deals, lower growth for companies, and weaker financial returns at the fund level.⁶¹

The PCR also considered the small size of some funds a barrier to deliver follow-on funding to ventures but also to its attractiveness to large institutional investors. Since 2006, there has been a decline in UK equity investment by pension funds and insurance providers.⁶² This is in contrast to US VC funds that use more funding from institutional sources (e.g., pension funds, insurance companies, foundations and endowments).

⁵⁷ A unicorn is defined as a privately held company worth over \$1bn which has received VC funding.

⁵⁸ Comparisons are made to the US because globally it is the most established venture capital ecosystem.

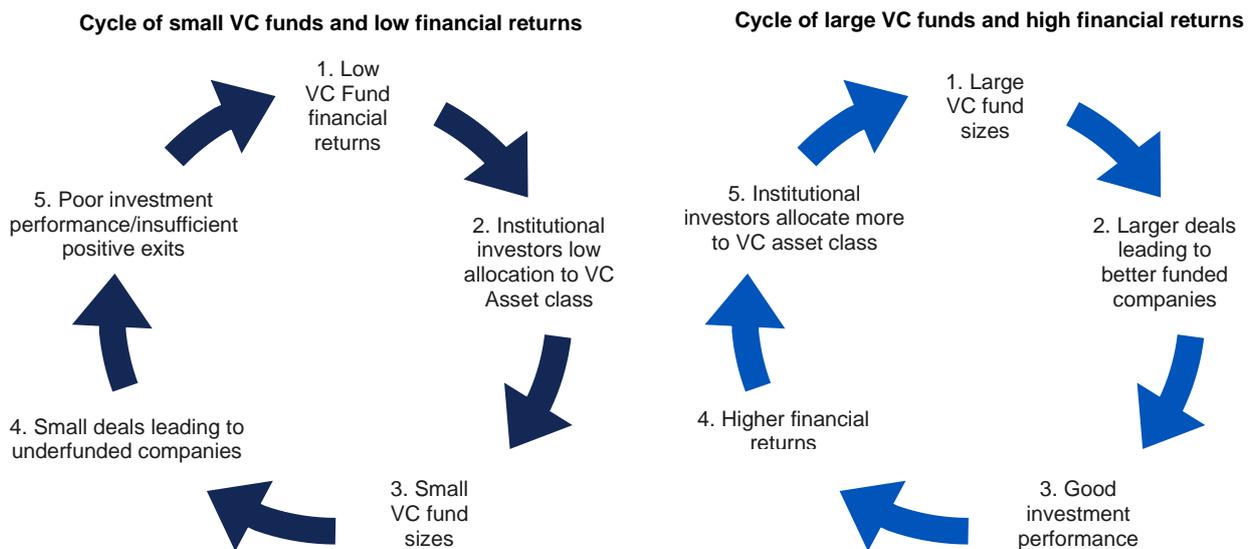
⁵⁹ The PCR Industry Panel (2017) identified the lack of: large scale VC funds, patience in VC investments, attractive financial returns; and sector and technology specific expertise amongst investors as contributing to low levels of capital, resulting in UK companies being “stuck” in incremental growth or exiting early. The Panel also identified a problem for companies requiring more than £5m of equity investment.

⁶⁰ Full Business Case – British Patient Capital (2018).

⁶¹ Analysis contained in the British Business Bank's 2017 Equity Tracker report show UK VC investors appear to exit their investments at a relatively early stage compared to investors in the US, which reduces the ability of businesses to scale up (Full Business Case – British Patient Capital).

⁶² Ibid 17.

Figure 3-1: Investment cycles



Source: BPC Business Case based on the British Business Bank Small Business Finance Markets Report 2017/18

The UK VC market lags behind the US – British Business Bank research at the time of the PCR (2017)⁶³ compared the UK and the US venture ecosystems on key measures. This revealed the following (see also Figure 3-2):

- The amount of VC funding in relation to the size of economy in 2015 was 0.23% of UK GDP, compared to 0.44% in the US.⁶⁴ If the UK performed the same as the US in terms of proportion of GDP, this would have translated into an additional £4 billion in 2015.
- UK VC backed companies were less likely to achieve follow on funding, compared to the US. UK companies were broadly on par with their US counterparts when raising Series B investment round (UK 62% versus US 68%), but the gap widened with each subsequent round, with less than one per cent of UK companies reaching Series F or G rounds.
- UK companies raised on average less per funding round, compared to the US, with difference most acute for later stage VC rounds.⁶⁵
- The average UK VC fund was 1.5 times smaller than the average US fund (£118m compared to £180m); and the average US VC fund had 5.2 LP investors compared to 2.9 in the UK.⁶⁶
- UK VC investors exit their investments at an earlier stage compared to their US counterparts, which reduces the ability of businesses to scale up. Furthermore, UK VC backed companies upon exiting have received fewer funding rounds on average compared to those in the US (1.9 compared to 2.7).⁶⁷

⁶³ British Business Bank Small Business Finance Reports 2016/17 and 2017/18, BPC Business Case, PCR 2017.

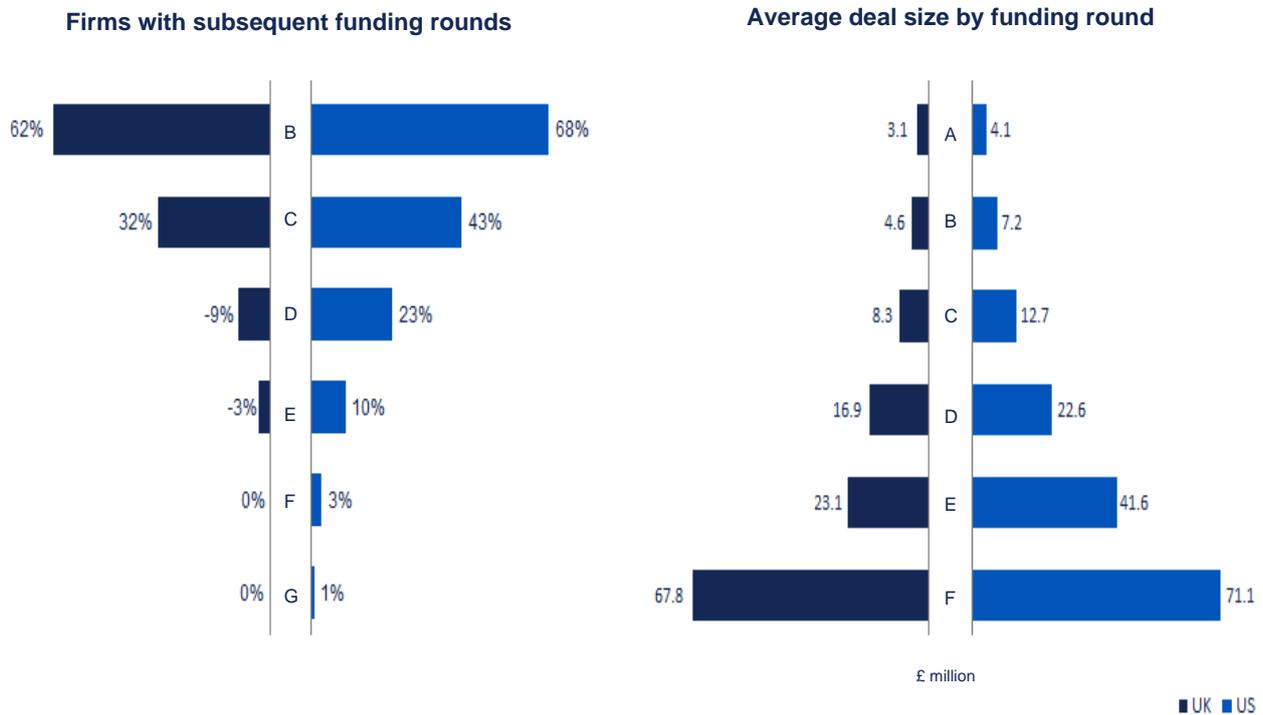
⁶⁴ It is important to note that the UK was the largest VC market in Europe in 2015.

⁶⁵ Investment per round is impacted by the fund size.

⁶⁶ British Business Bank (2017) Equity Tracker Report: https://www.british-business-bank.co.uk/wp-content/uploads/2020/09/239-Small-Business-Equity-Tracker-Report_2017WEB-tagged.pdf

⁶⁷ This is consistent across the main exit routes (IPO, trade sale and secondary sale).

Figure 3-2: Venture rounds and deal sizes – UK versus US (Cohort analysis of companies receiving Series A/ Seed funding in 2008-2010)



Source: British Business Bank Small Business Finance Reports 2016/17 and 2017/2018

In addition to the above, there were underlying **market failures** that contributed to the barriers in the UK entrepreneurial-VC ecosystem, as reported in the BPC Business Case:

- **Information failures** – Information failure (and risk aversion) occurs on the supply-side because VC investors do not understand the technology and/or proposition put forward by companies. This results in lower investment. Conversely, information failure exists on the demand side as companies may not fully understand the potential benefits of raising VC finance, the specific investors to approach or their likely probability of success, which ultimately means they do not apply (i.e., “discouraged demand”).
- **Co-ordination failures** – Institutional investors (e.g., pension funds and insurance companies) generally have minimum investment sizes. They make investments in £100m - £200m tranches and like to be a minority investor to spread their risk. Currently, most UK VC funds are too small to attract institutional investors. Therefore, a co-ordination failure exists where smaller funds are unable to access institutional capital, as this capital is invested in other asset classes.⁶⁸
- **Positive externalities** – Supporting innovative high growth potential businesses leads to wider innovation spillover effects and social returns, which are not taken into account by private sector

⁶⁸ Although we agree that this is a market issue that reduces the availability of VC funding, we question whether this can be described as a ‘co-ordination failure’ as depicted in the Business Case. Instead, we suggest it should be described as a failure to ‘scale investment’ due to a lack of private investment from an inability to connect the larger financing requirements of institutional investors with the current small size of UK VC funds.

investors.⁶⁹ This leads to sub-optimal investment. Also, knowledge spillovers from VC-financed firms are larger than the spillovers from corporate R&D.

Furthermore, the BPC Business Case argued that the lack of scale up companies and late stage VC for innovative firms (that competes with the US) meant that there was a **need to increase the level, diversity and accessibility of VC investments in the UK.**⁷⁰

In response to the barriers and failures in the investment market, the UK Government established BPC in 2018 with the overarching purpose to: “*enable long-term investment in innovative companies across the UK, led by ambitious entrepreneurs who want to build successful, world-class businesses*”.⁷¹

“Across all its activities, British Patient Capital invests on a commercial basis to deliver competitive returns for the UK taxpayer. By demonstrating that a patient capital approach can produce commercially attractive returns, we are encouraging other UK institutional investors to invest in the asset class, to both drive and benefit from the success of our high-growth companies”. [BPC]⁷²

The programme has two specific policy and commercial objectives:

- **Policy** – Ensuring that high growth and innovative companies can access the finance they need to grow; and doing this in a way that delivers value for money for the taxpayer
- **Commercial** – Generate a commercial rate of return across a portfolio of investments and to be commercially competitive on cost.

Specifically, BPC aims to **increase the supply of finance** to high growth and innovative UK firms by at least £7.5 billion over the course of 10 years, and **do this in a way that builds the private market** and patient capital ecosystem through:

- either crowding in private sector capital through public investment or developing the market sufficiently such that HMG intervention is no longer required (as illustrated below)
- establishing a vehicle that can be sold or floated subject to a value for money assessment at the time, once it has developed a suitable track record and is on course to deliver supply of finance to high growth and innovative UK companies.

BPC's objectives were specified at a high level focusing on key policy and commercial objectives. BPC also contributes to the Government's wider policy objectives, but it does not have objectives to address other market imbalances relating to spatial or EDI issues.

⁶⁹ This is certainly the case for green finance (see Owen et al. 2018 in Current Opinions on Environmental Sustainability).

⁷⁰ Not all scale up companies need patient (equity) capital to grow. However, external equity can be used for high growth firms with 'intangible assets' and a focus on technology commercialisation (including those without steady revenue streams to commercialise R&D). Other forms of finance such as traditional debt instruments may not be suitable for innovative high growth companies due to the requirement to service loan repayments.

⁷¹ BPC Business Case and BPC mission cited [here](#).

⁷² BPC, cited [here](#).

“As well as providing our own funding, we are building the UK patient capital ecosystem and working to encourage more institutional investors to make allocations to the venture and venture growth capital market by demonstrating that a long-term patient capital investment strategy can produce commercially attractive returns”. [BPC]

When BPC was established in 2018, 14 fund **investments were seeded from the earlier VC Catalyst (VCC)** programme. This represented c. £174 million of the total £786 million of BPC commitments in scope by Q3 2021 (see Section 4).

VCC was set up by the British Business Bank in 2013 to address specific market conditions at the time, that were restricting funds from reaching a first close. The programme had the overall objectives to: increase the supply of equity finance to innovative businesses within the UK during their early stages; sustain and build capacity of the early stage VC market; and to increase the economic performance of the beneficiary businesses, with particular focus on capital-intensive businesses. VCC was designed to invest in VC funds that would struggle to achieve a first close without further support, but were commercially viable.

Although the funds supported under the VCC programme seeded the BPC portfolio, it is important to highlight differences between the two programmes. For example, VCC aimed to help funds secure their first close whereas BPC aims to help VC funds to achieve optimal size and execute their planned strategy more effectively, often to a greater scale. As a result, VCC tended to target funds focused on earlier stage investments whereas BPC has greater focus on funds investing in later stage companies. This may have implications for the types of outcomes observed, timescales to impact, and additionality. Where possible differences between VCC supported funds and deal portfolio are identified compared to the design of BPC currently.

An early assessment of the VCC for British Business Bank (2017)⁷³ found that the rationale for VCC was well justified at the time it was set up, as private equity markets were slow to recover following the 2008 Global Financial Crisis. Evidence for financial additionality was presented, as the programme was found to be enabling funds to close sooner and at a larger scale than they otherwise would have done. The VCC had supported highly innovative firms who were actively engaged in R&D activities, with the potential to scale up rapidly at the time of the evaluation. Some changes were made to the VCC programme during its lifetime, such as raising the limits on the stake VCC can take in a VC fund from 33% to 50% as of 2017.

Theory of change

The evaluation tests the extent to which (and how) the benefits have been achieved as a result of the BPC programme. The following paragraphs describe, in theory, how BPC's activities are expected to lead to benefits. The logic model and ToC including underlying assumptions and reasons why ToC may breakdown are shown in Figure 3-3 and Figure 3-4.

The key **inputs** relate to the provision of £2.5 billion funding by the Bank over 10 years, committed at a rate of around £333m pa (+/- 25%) to fund managers until March 2021.⁷⁴ This is expected to **unlock £5 billion of private investment** into innovative UK-based firms that require access to long

⁷³ British Business Bank (2017) VC Catalyst – Early Assessment. Ipsos Mori and George Barrett.

⁷⁴ This was then expected to fall to £215m per annum thereafter. Since then there has been number of adjustments including the period at which the £330m would be deployed. The current Business Plan reflects the additional funding envelope allocated to BPC to keep investment at £330m per year until March 2023 to reflect market demand. It is then intended to reduce to £250m per year until the funding allocation is exhausted.

term funding. BPC is focused on **venture and venture growth funds** – investing in VC Limited Partnership (LP) funds, VC evergreen vehicles and VC co-investments. There are inputs from: the BPC team involved in investment and governance, wider central functions of the Bank, and resources from companies and other investors. BPC is delivered in a way that is sector agnostic and demand led, and finance is expected to be used to fund growth or innovation.

In terms of key **activities**: FMs approach BPC for investment and BPC undertakes due diligence of FMs to assess their commercial model and fit with the overall programme objectives. Following the Bank's selection of FMs, funding is allocated to FMs. FMs then identify and make equity investments into innovative companies. The companies draw down the equity enabling them to invest more in R&D and undertake scale up activities. FMs also provide non-financial support/advice to portfolio companies. This is important as it helps the money go further in commercialising innovations. In addition to investments made by the FMs, BPC also makes a small number of direct co-investments into firms.

The BPC team is comprised of professionals who provide management and governance oversight (including monitoring and reporting functions) and also offer support to fund managers. At the same time, British Business Bank provides functions to the wider market such as marketing and reporting on wider market trends. BPC also plays a central role in co-ordinating activities across FMs, providing market leadership activities, for instance by publishing information on market VC financial returns through its “catalyst and champion” role.⁷⁵

The inputs and activities described above are expected to translate into **key benefits** that can be broadly classified into the following four groups:

- **Supply of finance**
- **Company performance**
- **Financial returns**
- **Wider VC market.**

The activities undertaken by British Business Bank, BPC and FMs⁷⁶ lead to **outputs**, including: the amount of government funding committed to FMs, proportion/value of private sector investment leveraged into funds, number of FMs secured, number of companies invested in, and number and value of investments into companies. There are also wider market outputs such as events attended and delivered and VC publications (involving British Business Bank, BPC and FMs).

The VC finance from BPC into supported FMs is postulated to result in key **outcomes**, mainly: increased supply of patient capital to innovative scale up companies, a reduction in later stage VC funding gap compared to the US, and BPC supported funds reaching a larger scale and/or closing sooner than would be the case without BPC.

The investment is expected to lead to increased R&D⁷⁷ and other innovation outcomes e.g., IP applications, new/improved processes, new and/or improved products and services (some of which may involve securing further follow-on finance). The investment also enables companies to scale up

⁷⁵ British Business Bank UK Venture Capital Financial Returns (2021). See: <https://www.british-business-bank.co.uk/uk-venture-capital-financial-returns-2021/>

⁷⁶ BPC invests alongside private sector investors into funds which provide patient capital to UK companies. This aligns with two of BPC's three KPIs: BPC to commit £2.5bn of funding to patient capital investors over 10 years (KPI 1); funding unlocks £5.0bn investment into UK companies over 10 years (KPI 2).

⁷⁷ This is both new and existing R&D undertaken by companies.

their activities (e.g., production capacity, recruitment, marketing, sales), so that products and services can be taken into new markets (including international) and gain market traction over time.

At the company level, outcomes are expected to translate into **impacts** through improved business performance, for example on: employment, turnover, exports, and productivity (reflected in the GVA of the UK economy). The combination of increased R&D and scaling along with any additional external finance is also supposed to contribute to an uplift in company valuations – making progress towards exits (e.g., IPO, stock exchange listing and trade sales).⁷⁸

Relatedly, there are impacts in terms of financial returns through company exits with realised profits – providing a return to investors who have invested in the fund. Given investments are made on a commercial basis, with returns expected to be in line with or better than the market.⁷⁹ At the same time (and as mentioned above), funds are able to close more quickly, at a greater scale, with a greater UK focus, and engage with new investors as opposed to without BPC (see also finance additionality below).

The above is expected to lead to a demonstration effect in the wider finance market, influencing the attractiveness of this asset class to other institutional investors. It also influences VC attitudes, behaviours and investment strategies – leading to increased fundraising and attracting new patient capital providers into the UK market (more diversified investor pool).⁸⁰

These market outcomes are anticipated to result in an improved functioning of VC market (closing the gap with the US); strengthened UK innovation and enterprise eco-systems; UK retention of innovative, high growth firms; strengthened UK position as a global hub for VC and world class location for entrepreneurs and innovative firms.

Timescales to achieving these outcomes and impacts are likely to vary considerably across the underlying portfolio, depending on the stage of the technology/innovation, sector etc., (from 5 to over 10 years). In terms of returns at the fund level, BPC might see some early profits come through within 3-5 years, but that is considered unlikely as realisations typically come back to LPs after the initial capital has been returned. These timeframes are important to note as they will have implications for which outcomes can be realistically expected by the time of this evaluation.

A key assumption in the logic described is that BPC is instrumental in developing the new products, services, and processes. However, there are other factors which may contribute to these effects such as existing knowledge; company strategy; the role played by previous or complementary R&D activities; external factors such as growing markets and wider contextual conditions; and other available financial support for R&D in the innovation funding landscape. Further assumptions are presented in Figure 3-4.

It is therefore reasonable to assume that BPC is expected to result in “partial” finance additionality⁸¹ (i.e., fundraising secured in the absence of BPC), as follows:

- **Fund level** – Fundraising would not have been secured at all in the absence of BPC. Given BPC’s commercial focus in investing in funds with a track record, most fund investments are expected to deliver partial additionality, whereby funds are able to close sooner and at a greater/optimal size than would be achieved otherwise, or have a greater share of their activities focused on the UK market.

⁷⁸ An important market predictor/measure of market expectation of profit, particularly where turnover data not available.

⁷⁹ This is the third KPI for the BPC programme: rate of return in line with market benchmarks (KPI 3).

⁸⁰ This could be PE investors moving downstream or US investors moving to focus on UK market.

⁸¹ Fundraising would not have been secured at all in the absence of BPC.

- **Company** – Again given the commercial focus of BPC, and funds investing in scale up companies that have previously raised equity funding, pure finance additionality is likely to be low. However, BPC is likely to support partial additionality by enabling companies to raise more funding than they would have done otherwise, and raise funding sooner.

BPC is also expected to lead to outcome additionality, i.e. the increases in turnover, employment, and company valuations would not have happened otherwise, as quickly or at the scale, in the absence of BPC.

There are several reasons why the ToC may not occur, including:

- Sub-optimal process for selecting FMs, lowering quality of investments, with implications for long term returns
- Technical failure associated with the supported R&D
- Commercial case for finance cannot be supported, reducing investor confidence
- Market declines or does not exist for product/service
- Internal business-related and/or external factors inhibit growth, e.g. access to skills
- There is no net positive impact due to displacement, leakage of benefits from the UK
- Wider contextual factors lead to loss of investors' confidence in the UK and venture/ growth asset classes, preventing funds attracting sufficient private funding to close
- Investments fail to make financial return due to economic downturn, resulting in a fall in asset values.⁸²

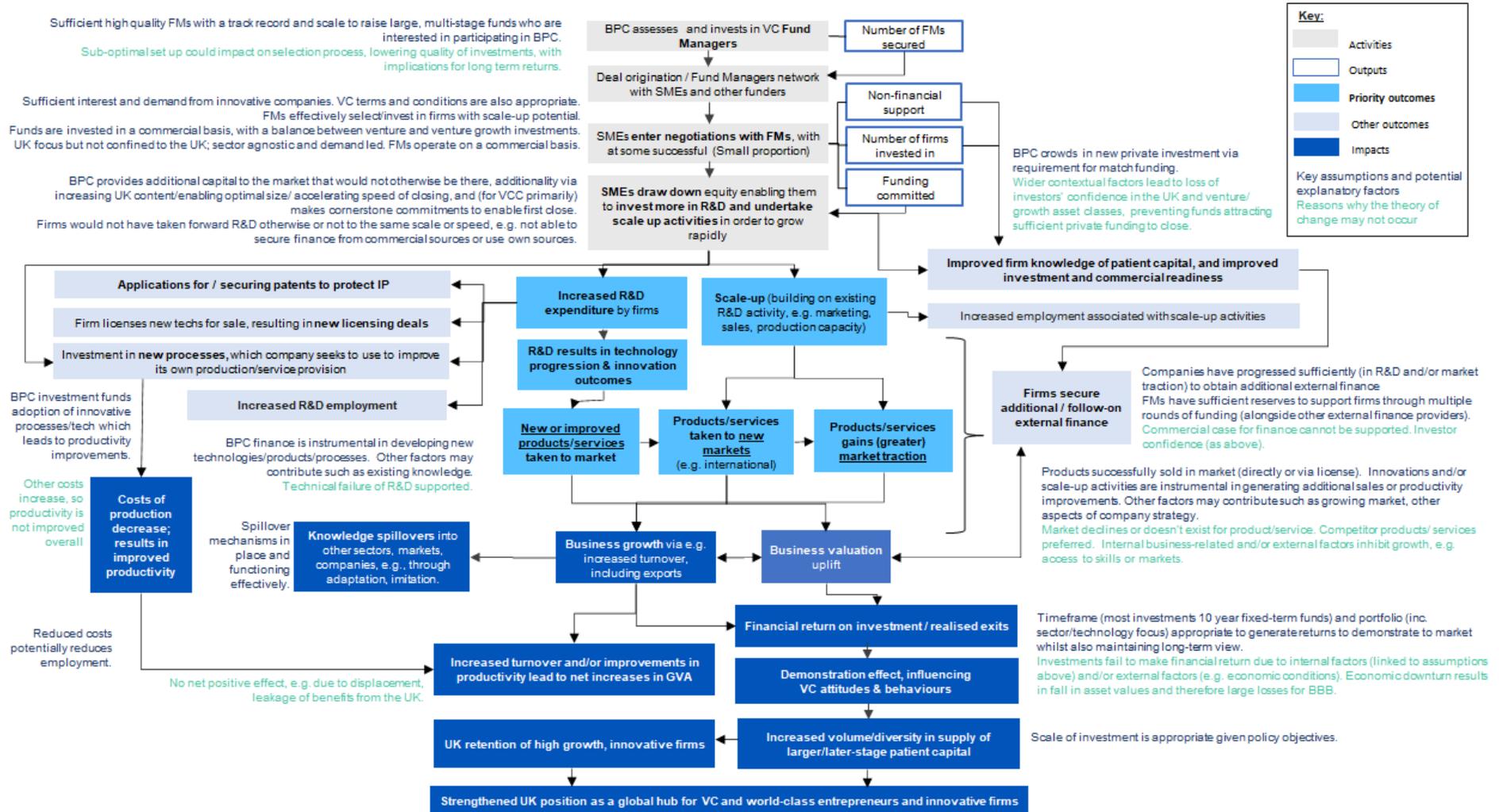
⁸² A general observation - the largest driver of fund performance historically has been vintage year. A fund set up three years ago (i.e., 2019), looking for exits next year (2023), is likely to face difficult exit conditions if the economic cycle has changed.

Figure 3-3: BPC logic model

Inputs	Activities	Outputs	Outcomes	Impacts	
<ul style="list-style-type: none"> £7.5bn invested over 10 years in innovative firms that need longer term funding, including: At least £2.5billion of funding by BPC over 10 years (investing c.£333m pa, +/- 25%)¹ BPC team - investment professionals and management/ governance team Wider BBB central functions Resources from firms and other investors 	<ul style="list-style-type: none"> Selection of venture and venture growth funds FMs² Allocation of funding to FMs & direct co-investment by BPC Building a diversified portfolio (by stage, sector and vintage) through investments made by FMs FM provision of non-financial support to portfolio firms FM and BPC monitoring and reporting BPC governance role across FMs BPC coordinated activity across FMs, e.g., annual knowledge sharing event Wider BPC industry-wide catalysing, championing and market leadership activities, e.g., diversity and ESG, sharing best practice 	<p>Supply of finance</p> <ul style="list-style-type: none"> Amount of funding committed (£) Private investment leveraged into funds – at least £5bn of private investment (% and value) 	<p>Supply of finance</p> <ul style="list-style-type: none"> <i>Increased supply of patient capital to innovative/scale up firms</i> Funds of greater scale Funds close more quickly Funds with greater UK focus 	<p>UK long term economic growth (GVA) through additional economic output</p>	
		<p>Business performance</p> <ul style="list-style-type: none"> Number of investee firms Type of investee firms (e.g. stage, sector) Type of non-financial business support <i>Number of firms using patient capital finance to fund growth and/or innovation</i> 	<p>Business performance</p> <ul style="list-style-type: none"> <i>Increased R&D spending by firms</i> <i>New or improved products or services</i> New or improved processes or practices Increased share of existing innovative products or services in market <i>Follow-on investment/ crowding in further private sector capital</i> <i>New / improved products taken to new markets (incl. international)</i> <i>Greater market traction of products and services</i> Progression to exits (e.g. IPO/stock exchange listing, trade sale) Improved investment and commercial readiness Improved firm knowledge of patient capital/investors 		<p>Business performance</p> <ul style="list-style-type: none"> <i>Increased growth in:</i> <ul style="list-style-type: none"> <i>employment (and quality)</i> <i>turnover</i> <i>exports</i> <i>productivity</i> <i>valuation</i> <i>profitability</i> <i>firm survival</i> <i>Net GVA effects</i> <i>Spillover effects</i>
		<p>Wider market impact</p> <ul style="list-style-type: none"> Number of events attended/delivered and publications Trusted and respected source of VC information amongst market and stakeholders 	<p>Wider market impact</p> <ul style="list-style-type: none"> <i>Positive demonstration effect to wider market – increased attractiveness to other investors</i> <i>Influence VC attitudes and investment strategies towards VC asset class – increased fundraising</i> Increased recognition of diversity and inclusion in VC investment New patient capital providers entering the UK market <i>Improved functioning of VC market</i> <i>UK retention of innovative, high growth firms</i> Strengthened UK innovation and enterprise ecosystems Strengthened UK position as a global hub for VC and world class location for entrepreneurs and innovative firms 		<p>Financial returns</p> <ul style="list-style-type: none"> <i>Financial return on investment/ exits with realised profits</i> Return on portfolio (IRR, TVPI, DPI)⁴
<p>Timescales:</p>	Year 1 ³	Year 1+	Supply of finance/business performance: Years 1-6+ (depending on stage of tech/firm/sector)	Years 10-15+ Financial returns/realised profit: Years 5+	

Source: SQW

Figure 3-4: BPC theory of change



Source: SQW

Wider perspectives on rationale

All FMs and stakeholders consulted agreed with the rationale for BPC in increasing the availability of patient capital as identified by the 2017 PCR. Fund Managers and stakeholders reported **a lack of later stage, larger-scale VC investors in the UK**. UK VCs were not large enough to make later stage investments and/or follow their investments, leading to a gap in the *volume* and *value* of deals, especially from Series B onwards. As a result, consultees had observed fewer UK firms proceeding to later stages (compared to the US), which corroborates data presented in Section 2. As a consequence, FMs agreed that **UK companies were undercapitalised and exited earlier than is optimal**, as illustrated by the quotes below:

“There have always been investors across different stages, but the issue is that there has been insufficient capital, probably across the board, so (i) firms that have managed to raise funds have raised less than they need; and (ii) some firms haven’t managed to raise funds at all.” [Fund Manager]

“[UK companies exiting earlier than optimal is] definitely the case if there is not the capacity to hold on to investments within funds – through for example, the inability to follow-on invest”. [Fund Manager]

The Fund Managers consulted identified fundraising challenges prior to their engagement with BPC, which aligns closely with the original rationale for BPC, as described earlier. In summary:

- For FMs looking to raise their first or second fund, the **lack of track record** hindered fundraising efforts (seven⁸³ out of 22 FMs, including those managing VCC and BPC funds) and/or their **lack of contacts or access to appropriate networks** to raise capital (three FMs,⁸⁴ notably those managing VCC funds⁸⁵). Fundraising for a first-time fund was described as “brutal”, and an ongoing challenge for second funds when first funds have not yet delivered tangible returns.
- **Establishing a fund of sufficient size** was also a challenge (eight FMs) and FMs encountered **difficulties in securing firm commitment to invest from a sufficient number of investors** (five FMs), in order to supply enough capital at the scale needed to make a change in the sector. One FM noted that they encountered insufficient Limited Partners (LPs) with the appropriate risk appetite and/or commitment available:

“As an early stage fund and still in early years, getting LP funding was slow and difficult without public backing”. [Fund Manager]

Reflections

The rationale for BPC is predicated on various (interrelated) market barriers and failures:

- Short-termism in the VC investment market

⁸³ Of the seven FMs, one is VCC, three BPC and three both VCC and BPC.

⁸⁴ The three FMs are made up of two VCC and one BPC.

⁸⁵ One in addition to the 22 above.

- Sub-optimal investment cycle over the long-run (see Figure 3-1)⁸⁶
- Constraints in the number of innovative UK companies scaling up
- Weaker performance of the UK VC market compared to the US
- Information failures associated with companies and investors
- Positive spillover effects not considered by private investors.

Investor short-termism means there is a preference for financial returns sooner and passing on investment opportunities that would be better off in the longer term.⁸⁷ This contributes to underinvestment in companies that need time to grow and commercialise their innovations (e.g., 10-15 years in some sectors). The knock-on effect is fewer companies scaling up, less jobs, turnover, innovation, productivity etc., to sustain long-term economic growth.

What marks patient capital out from other investment is that it addresses a deeper rooted shortfall in long horizon investing. Visionary frontier science, disruptive technologies and deep tech solutions take many years, deep pockets, and carry high risk. Unsurprisingly, private investors and institutional investors require considerable inducement to enter such markets. A long term investment horizon may involve a combination of both early stage and later stage investors rather than a single investor holding the company from early stage to late stage. This may be described as a patient capital ecosystem.

The rationale for BPC is that it attracts/leverages greater amounts of private investment into UK VC funds. The ideal model is therefore to generate sufficiently large-scale funds and also attract sufficiently high calibre fund managers⁸⁸ to back successful companies scaling up, and that the funds are of sufficient time duration (patient). This approach will then lead to demonstration of success (potentially over a long period of time) and encourage more private investment (second funds etc.).

British Business Bank evidence highlights the gap between the UK and US VC markets: lower proportions of UK VC investment to GDP, smaller average fund size, earlier exits by UK VC investors, less VC investment by funding round (post Series B). The comparison is important given that the US is the most developed VC market and it allows a better understanding of the difference or gap to be closed. However, it may not be always appropriate to benchmark the UK to the US. VC activity is concentrated in the US in a small number of geographic locations, and Silicon Valley retains its dominant position. Mallaby (2022)⁸⁹ shows that the US West Coast model favours companies able to maximise the “power law” of returns, through network effects (utility for users grows with the increase in other users), which favour a small number of dominant players (e.g.,

⁸⁶ This leads to smaller UK VC funds and deals, fewer scale up companies, lower fund financial returns, institutional investors.

⁸⁷ In this situation, the aims of traditional investors do not necessarily align with the growth and innovation ambitions of some companies. Haldane (2010) argues that short-termism in finance threatens “Gresham’s law” in which impatient money could drive out patient money (Gresham’s Law states that “bad money drives out good”). See: <https://www.bankofengland.co.uk/-/media/boe/files/speech/2010/patience-and-finance-speech-by-andrew-haldane.pdf>

⁸⁸ Lerner, J. (2010) The future of public efforts to boost entrepreneurship and venture capital. *Small Business Economics*, vol. 35(3), pp. 255-264.

⁸⁹ Mallaby, S. (2022) *The Power Law – Venture Capital and the Art of Disruption*.

Alphabet, Apple, Meta). In contrast, the UK (and European) venture model is often to build businesses solving a real-world problem.⁹⁰

A cross-cutting issue is information failure amongst companies and investors. There is potentially insufficient information available to investors about the innovations to be funded (in comparison, companies know more and tend to over estimate their chances of success). To overcome this, investors face transaction costs to understand the company and its innovation. So, the full price of an opportunity to make an investment includes: search and information costs (lower for an existing portfolio company; trade secrets - inherent in VC deals; and “policing” – the governance rigour VC board directors bring, plus ensuring that the fund can enforce its anti-dilution rights. From the perspective of companies, they may not be well-informed about the potential rewards and strategies of long-term patient VC investment, in turn limiting demand for VC.

In our view, there is further scope to refine the rationale for BPC to ensure that the central argument is clearer going forward: **the functioning of the UK VC investment cycle (as described above) results in a scale up gap at venture growth stage, and to a lesser extent at venture.** The inclusion of venture funds in BPC’s overall investment strategy would benefit from further justification. As highlighted in Section 4, this is a legacy of the VCC programme being transferred into BPC, the nature of demand and the desire to develop a pipeline of fund propositions.

It is perhaps surprising at first sight that some BPC-backed funds are operating their investment strategies around the seed/early stage level.⁹¹ However, the justification could be that it helps develop the VC market as it both influences investee strategy at its most malleable stage and to get insider access to quality deal flows (including follow-on investor rights). It must not also be forgotten that the investment cycle is “lumpy” – there will be times when different stages in the cycle have bigger or smaller funding gaps – having a large fund to cover and adjust this – with a spread of investments across stages can be considered the ideal.⁹²

Finally, the feedback from FMs and wider stakeholders supports the overall rationale for BPC. This aligns with the other evaluation evidence presented in the remainder of this report.

⁹⁰ The counter argument would be who to benchmark against if not the US, as it is the most mature and successful VC market. Arundale (2020) points to the East-West divide in US VC practice and to the particularly open culture of VC sharing and scaling of investment in the West Coast. In short, the US has a different culture of investing, but one from which much can be learned. See: Arundale, K. (2020) *Venture Capital Performance: A comparative study of investment practices in Europe and the USA*. Routledge.

⁹¹ More widely, seed stage funding by VCs has increased and become an asset class. See, for example: <https://news.crunchbase.com/news/seed-funding-startups-top-vc-firms-a16z-nea-khosla/>

⁹² Cumming, D., Johan, S. (2019) *Government venture capital research: fake science and bad public policy*. *Venture Capital* 20(1): 121-131.

4 Profile of BPC portfolio

This section provides an overview of the BPC portfolio, including profiles of the financial commitments, BPC-backed funds and FMs, and the companies that have received BPC-backed investment. This has been informed by an analysis of monitoring data sourced from the British Business Bank, and Beauhurst and PitchBook data. More detailed analysis is provided in Annex C.

Key messages: BPC-backed funds

- By Q3 2021, BPC (including VCC) had committed £1bn from a budget of £2.5bn, across 52 funds and three co-investments. Investment was deployed slightly quicker than anticipated in the first two years of BPC's operations but is now broadly on track.
- This evaluation covers 38 BPC supported funds, plus three direct co-investments. By Q3 2021, BPC had made commitments of nearly £1bn to these funds in scope (this includes funding from BPC and assets under mandate from the Nuclear Liabilities Fund). This had levered nearly £5bn from private LP funds in gross terms.
- The average size of BPC funds is £173m, excluding VCC supported funds. This is broadly in line with the original assumptions set out in the BPC Business Case (this indicated an average fund size of around £200m). It also aligns with the £180m average fund size of US funds at the time of the PCR. The funds in scope range considerably in size, but 17 out of 24 BPC funds in scope are below £200m. There is also variation in the relative contribution of BPC commitments to the fund, with BPC accounting for up to 40% in many of the smaller-scale funds, but only 5-10% in some of the largest funds. The VCC supported funds are smaller, with an average size of £126m.
- BPC has supported both venture and venture growth funds (48% and 51% of BPC fund commitments respectively since 2018, excluding co-investments), in line with expectations. Recently, BPC has sought to shift the emphasis from venture to venture growth further, with the target of two thirds of funds invested in venture growth. Across the programme as a whole, commitments in 2020/21 were broadly in line with this new target. By comparison, the VCC funds placed greater emphasis on earlier stage venture funds than venture growth, at 64% to 36% of commitments, respectively. This is likely to reflect these early stage VC funds having the greatest difficulties reaching first close, aligned with the objectives of VCC.
- Financial performance is broadly in line with other VC funds with a similar vintage, but it is too early to meaningfully assess the funds' performance at this stage.

Key messages: BPC-backed firms

- The funds in scope had made 811 investments into 725 companies by Q3 2021. Just over half of the companies (and the amount invested) were UK-based companies, broadly in line with expectations.
- The average deal size by BPC-backed funds into UK-based companies is £4.8m (excluding VCC). This refers to BPC-backed funds only, i.e., BPC funding plus the contribution of other LPs to BPC-backed funds, but excludes investment from other FMs in the same funding round. The majority of these deals in UK-based companies have been below £10m in size (92% of deals or three-fifths of the total amount invested), i.e., below the anticipated average of £10-13m in the BPC Business Case and at the lower end of the market gap identified by the PCR of £5 million+.
- The majority of investments into UK-based companies were at the venture stage, reflecting the nature of funds backed by BPC above. Most companies are highly technology oriented and innovative, and heavily concentrated in London and the Greater South East.

BPC funds and commitments

Whole BPC programme

Between 2013 and Q3 2021, BPC committed £1bn across 52 funds and three co-investments.⁹³ Of this: £224m (21%) was committed to funds via the VCC programme between 2013 and 2018; and £853m (79%) was committed by BPC from 2018 onwards. When £263m from the Nuclear Liabilities Fund⁹⁴ and £7.8bn from private LP funds are included, **BPC-backed funds have a total commitment of over £9bn.**

As outlined in Section 3, BPC originally anticipated that funding would be committed at a rate of around £330m per annum, before tapering off. Since 2018, the overall rate at which BPC funds have been committed was slightly above expectations (of £330 million p.a.) in the first two years of BPC's operation, and is now broadly in line with expectations.

Funds in scope for the evaluation

There are 38 funds in scope for this evaluation, plus three direct co-investments (see section 1 for scope). The 38 funds in scope are managed by 22 FMs. For nine of these FMs, BPC has invested in more than one of their funds, demonstrating BPC's longer-term commitment to building capacity in this market.

The 38 funds in scope have received a BPC commitment of £786m, plus £191m from the Nuclear Liabilities Fund and £4.9bn from private LP funds^{Table 4-1}. This gives a **total commitment of nearly £6bn** across all BPC-backed funds in scope. The funds in scope therefore account for nearly two thirds of the total £9bn commitment of the whole programme.

Of the £786m of BPC commitment into funds in scope: £174m (22%) was committed to 14 funds via the VCC programme between 2013 and 2018; and £612m (78%) was committed to 24 funds by

⁹³ This includes seeded VCC investment.

⁹⁴ <https://www.nlf.uk.net/>

BPC from 2018 onwards. Over time, the VCC funds as a proportion of the total BPC portfolio will decline.

Table 4-1: Fund commitments to date

Evaluation scope	BPC Commitment		Nuclear Liabilities Fund Commitment		Other private Commitment		Total Commitment	
	£m	%	£m	%	£m	%	£m	%
In scope	£786m	9%	£191m	2%	£4,963m	54%	£5,940m	64%
Out of scope	£292m	3%	£72m	1%	£2,942m	32%	£3,306m	36%
Grand total	£1,077m	12%	£263m	3%	£7,906m	86%	£9,246m	100%

Source: SQW analysis of British Business Bank data

The average size of BPC funds in scope is £173m (i.e., BPC funds since 2018, excluding VCC funds). The funds range considerably in size from £45m to £619m, and the five largest BPC funds account for one third of total BPC funds committed (Table 4-2). Most funds are above the anticipated minimum fund size of £50m. That said, 17 out of 24 BPC funds are below the assumed average fund size of £200m set out in the BPC Business Case.⁹⁵ The VCC funds are smaller, with an average size of £126m.

Table 4-2: Fund size in scope

Fund size category	BPC Funds	VCC Funds	Total Funds	BPC Commitment	VCC Commitment	Total Commitment
< £50m	2 (5%)	2 (5%)	4 (11%)	£93m (2%)	£80m (1%)	£173m (3%)
£50m - £100m	8 (21%)	5 (13%)	13 (34%)	£609m (10%)	£326m (6%)	£936m (16%)
£100m - £150m	4 (11%)	2 (5%)	6 (16%)	£447m (8%)	£240m (4%)	£686m (12%)
£150m - £200m	3 (8%)	2 (5%)	5 (13%)	£515m (9%)	£341m (6%)	£856m (14%)
£200 - £250m	2 (5%)	1 (3%)	3 (8%)	£451m (8%)	£239m (4%)	£689m (12%)
> £250m	5 (13%)	2 (5%)	7 (18%)	£2,036m (34%)	£543m (9%)	£2,580m (44%)
Grand Total	24 (63%)	14 (37%)	38 (100%)	£4,151m (70%)	£1,769m (30%)	£5,920m (100%)

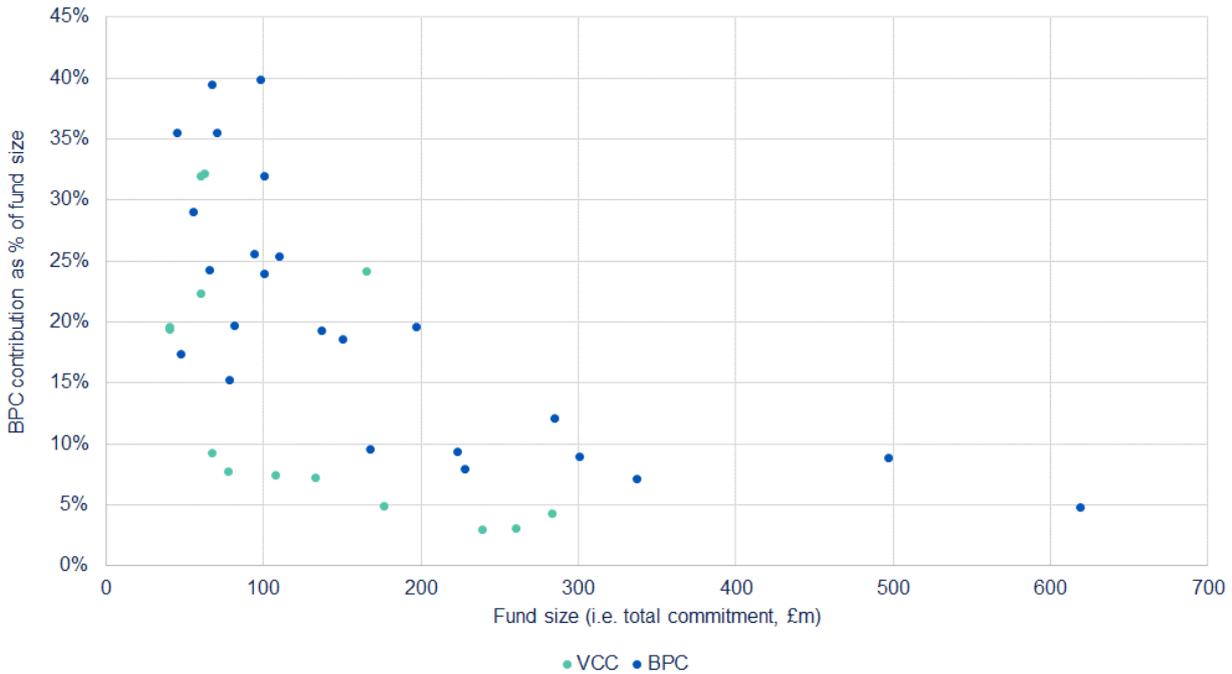
Note: Excludes three direct co-investments made by BPC (total commitment £20m)

Source: SQW analysis of British Business Bank data

⁹⁵ BPC had the ability to provide between £5m and £100m investment into a fund.

Figure 4.3 shows the distribution of BPC funds in scope in more detail, illustrating how the BPC funding accounts for a substantial share of total fund commitments in many of the smaller-scale funds (of up to 40% of total fund size), whereas its share is relatively small in the largest funds (c. 5-10%).

Figure 4-3: Distribution of BPC-backed funds in scope, by total fund size and BPC contribution



Note: Excludes three direct co-investments made by BPC (total commitment £20m)

Source: SQW analysis of British Business Bank data

Of the 24 BPC funds in scope (from 2018 onwards), 13 (54%) are venture funds and 11 (46%) are venture growth funds. In terms of the *value* of BPC commitment from 2018 to Q3 2021, **48% has been committed to venture funds and 52% to venture growth funds**. This is broadly in line with the anticipated even split between venture and venture growth funds. VCC had a greater focus on earlier stage investment, so if we include VCC funds in the portfolio, the emphasis shifts slightly towards venture funds (venture funds account for 53% of total commitment, and venture growth accounts for 47%).⁹⁶ Co-investments account for less than 1% of BPC commitment to date.

There was some concern amongst external stakeholders that BPC had been insufficiently involved in later stage investment to date, in part reflecting the legacy effects of subsuming VCC and its focus on venture funds. A minority thought that BPC’s path to sale has also skewed investment towards earlier stage. In more recent Annual Plans, BPC has revised its annual targets to one third of commitments in venture and two thirds in venture growth funds. Across the programme as a whole, commitments in 2020/21 were broadly in line with this new target.

⁹⁶ For VCC funds only, 64% of commitment was at venture stage and 36% at venture growth.

By Q3 2021, nearly £3.7bn of total commitment had been drawn from funds in scope, including £466m of the BPC commitment (see Table 4-4).

Table 4-4: Total commitment and commitment drawn (funds in scope)

	Sum of total commitment	% of total commitment	Sum of drawn commitment	% drawn/total
BPC - Co-Investment	£20m	0.3%	£20m	100%
BPC - Growth	£333m	5.6%	£188m	56.4%
BPC - Venture	£431m	7.3%	£258m	59.8%
BPC sub-total	£786m	13.2%	£466m	59.4%
Nuclear Liabilities Fund	£191m	3.2%	£112m	58.3%
Other Ltd Partners	£4,963m	83.6%	£3,077	62.0%
Grand Total	£5,940m	100%	£3,655m	61.5%

Source: SQW analysis of British Business Bank data

Table 4-5: presents a summary of the performance of BPC-backed funds in scope by Q3 2021. These figures may differ to other published BPC performance measures. By this point, **the funds had realised values of £478m and a distributed to paid-in ratio (DPI) of 0.13⁹⁷ and a total value to paid-in ratio (TVPI) of 1.94**, reflecting the long-term nature of BPC investments.

This is broadly in line with other VC funds with a similar vintage, showing BPC is progressing towards its commercial objectives. For example, the DPI is within the range identified in the British Business Bank's analysis of VC Capital Returns (2021).⁹⁸ This indicates:

- Median DPI⁹⁹ multiples was 0.2 for funds with a 2014-2015 vintage and 0.00 for funds with 2016-2017 or 2018-2019 vintages
- TVPI¹⁰⁰ multiples is slightly higher than reported medians across the UK as a whole: 1.7 for funds with a 2014-15 vintage, down to 1.01 for funds with a 2018-2019 vintage.¹⁰¹

⁹⁷ This refers to the pooled DPI of BPC-backed funds. The BPC component of these funds had a DPI of 0.07 by Q3 2021 (TVPI of 1.89).

⁹⁸ British Business Bank UK Venture Capital Financial Returns (2021). See: <https://www.british-business-bank.co.uk/uk-venture-capital-financial-returns-2021/>

⁹⁹ Distributions to Paid-In capital (DPI): The ratio of cumulative distributions to LPs divided by the amount of capital contributed by LPs.

¹⁰⁰ Total Value to Paid-In capital (TVPI): The sum of cumulative distributions to LPs and the net asset value of the investments, divided by the capital contributed by LPs.

¹⁰¹ Note, the BPC Annual Report and Accounts 2021 Report presents a TVPI of 1.51, which covers the whole BPC portfolio.

These results should, however, be interpreted with caution as it is too early to meaningfully assess the funds' performance at this stage. Costs/fees are frontloaded and it will inevitably take a number of years for investment to be drawn down and translate into value/returns, and this typically leads to an initial dip in performance rather than being an indication of the portfolio's potential (i.e. a "J-curve"). The majority of value is unrealised at this stage. Also, some caution is needed in terms of using this TVPI as an indicator of eventual (realised) DPI because the TVPI will include valuations of companies obtained from a relatively strong market period.

Qualitative feedback from FMs supports findings from the monitoring data analysis. Consultees indicated their fund(s) performance was in line with or exceeding their expectations for this stage in the life of the fund, with the exception of one where it was too early to comment. Outliers have played a significant role in overall returns for some FMs, as expected, but FMs also reported well-diversified portfolios in terms of performance. The ability to better capitalise portfolio companies was expected to generate stronger returns in general, with evidence of several companies reaching scale and raising follow-on funding rounds. This was also corroborated in the stakeholder feedback. Consultees suggested this was, in part, because of wider trends in the market, but also a reflection of the strong companies that BPC-backed funds have invested in (many of whom have ridden the wave/boomed during COVID-19, e.g., digitalisation). Given the BPC portfolio is highly diversified, internal stakeholders were confident that strong performance would continue.

Table 4-5: Aggregate performance metrics for total commitment, Q3 2021 (funds in scope)

Indicators ¹⁰²	Value
Commitment drawn to date	£3,655m
Paid-in capital (PIC)	61.5%
Realised values	£478m
Unrealised values	£6,598m
Distributed to paid-in ratio (DPI)	0.1
Residual value to paid-in ratio (RVPI)	1.8
Total value to paid-in ratio (TVPI)	1.9

Source: SQW analysis of British Business Bank data

¹⁰² PIC = commitment drawn/total commitment; DPI = Realised value/commitment drawn; RVPI = unrealised value/commitment drawn; TVPI = Realised+unrealised value/commitment drawn. TVPI = DPI + RVPI.

Characteristics of BPC funds and fund managers

The analysis below of BPC funds and FMs is based on 36 of the funds and 21 of the fund managers in scope which could be found on PitchBook.^{103,104,105} Their key characteristics are outlined below. Please turn to Annex C for further details.

- On average, these funds made 24 investments, but **the number of investments ranges widely** from one to 145 investments per fund.
- Most funds are focused on **Software and/or Information Technology**¹⁰⁶ (relevant to 12 of the 30 funds where data is available). The next most common industry is Business Products and Services (B2B, which was relevant for 6 funds). Other industries included Communications and Networking, Healthcare and Business/Productivity Software.
- **The FMs were founded across a range of years from 1993 to 2017**, nine were founded between 2000-2006, and nine were founded from 2007 onwards. This is to be expected, given that new entrant FMs are more likely to engage with the ECF programme.
- For the majority of FMs (18 of the 21), **the primary focus was on ‘Venture Capital’** investment, for the remainder this was “Growth/Expansion”.
- The **majority of the FMs were headquartered in the UK** (18 of the 21), most commonly in London (16 funds). The remaining three fund managers were headquartered in the United States, Ireland or the Netherlands (one FM each).
- There was a **wide range in the number of funds managed by each FM** (i.e., funds that were backed by BPC and those that were not), **the number of investments/exits, and fund size:**
 - The 21 FMs in scope had closed between two and 21 funds,¹⁰⁷ with an average of six funds per FM, suggesting the fund managers are relatively experienced.
 - On average, the FMs had a total of 57 investments in their active portfolio in addition to 53 exits, although this varied considerably across the fund managers.
 - Fund size ranged between \$23 million and \$620 million.

BPC company portfolio

The funds in scope had invested £3.5bn through 811 investments in 725 unique companies by Q3 2021 **Error! Reference source not found.** This investment includes BPC funding plus the Nuclear Liabilities Fund and commitments from other LPs to the BPC-backed funds.¹⁰⁸

¹⁰³ This includes three funds managed by Draper Esprit, a publicly listed evergreen venture fund which operates in a different structure to the typical LP/GP structure which the rest of the BPC portfolio follows. However, the overall mechanism of investing in high-growth private companies to achieve financial returns is the same.

¹⁰⁴ All data presented in relation to BPC funds and fund managers is as of October 2021.

¹⁰⁵ Data on fund performance was very partial, and therefore has not been included here.

¹⁰⁶ In terms of PitchBook industry classifications.

¹⁰⁷ Active since 2006.

¹⁰⁸ Note, the ‘gross invested’ figure at a fund level is different to ‘commitment drawn’ in the fund level analysis above due to FM fees.

Table 4-6: Scope of the analysis (all firms in the UK and overseas)

	Unique firms	No. of investments	No. of investments	No. of investments	Gross invested (% of gross invested)	Gross invested (% of gross invested)	Gross invested (% of gross invested)
	Total	VCC	BPC	Total	VCC	BPC	Total
BPC funds in scope	725	357	454	811	£1,420m (28%)	£2,124m (42%)	£3,544m (71%)
BPC funds out of scope	151	52	133	185	£411m (8%)	£1,073m (21%)	£1,483m (30%)
Grand total	876	409	587	996	£1,831m (36%)	£3,197m (64%)	£5,028m (100%)

Source: SQW analysis of British Business Bank data

Just over half of the 811 investments have been in UK-based companies, broadly in line with original expectations.¹⁰⁹ By Q3 2021, BPC-backed funds had invested £1.7bn via 452 investments into 389 UK-based companies. The remaining investments were made into companies based outside of the UK. Investments into overseas companies can be considered as a leakage, as they are not directly benefiting the UK ecosystem. This reflects the commercial focus of the BPC programme in supporting VC funds with the most potential, especially later stage VC funds which often reach beyond national boundaries for their investments as the smaller number of available companies to invest in at the later stage narrows. That said, BPC specifies a minimum UK content in relation to its funding.

Based on our analysis of monitoring data, we estimate that £1.4bn of the £1.7bn invested into UK companies by BPC-backed funds in scope has been levered from private sector LP investors.¹¹⁰ This compares to BPC's ambition to unlock £5 billion of private investment into innovative UK-based firms over 10 years.

The **average deal size for BPC-backed funds in scope is £4.8m** (excluding investments made by VCC funds).^{111,112} According to consultees, this reflected demand and the intention to build a pipeline of opportunities for follow-on investment. The average deal size is below the anticipated average of £10-13m set out in assumptions that underpinned the BPC Business Case.¹¹³ To date, approximately three fifths of BPC-backed investment into UK-based companies has been in deals of below £10m in size, as illustrated in Table 4-7. BPC's average deal size is also at the lower end of the gap identified in the 2017 Patient Capital Review of £5m+. That said, the size of BPC-backed investments are progressively larger in scale under BPC compared to VCC, and are likely to increase going forward as companies raise larger funding rounds.

¹⁰⁹ The original business case for BPC assumed that 50% of LP fund investments would be in overseas companies.

¹¹⁰ Firm level monitoring data only provides information on the *total* investment by BPC-backed funds in each company (i.e. not by source of investment). Following British Business Bank guidance, we have apportioned investment in each company to BPC, the Nuclear Liabilities Fund and other private LP investors based on their relative contribution to the respective BPC-backed fund overall.

¹¹¹ Note, this refers to the deal size from BPC-backed funds, which includes BPC funding and funding from other LPs who have contributed to the BPC-backed fund.

¹¹² The average deal size £3.6m for VCC and £4.3m for the programme overall.

¹¹³ £10m for evergreen funds (i.e., Molten Ventures) and £13m for LP funds. The exception was co-investments at £20m.

Table 4-7: BPC-backed fund investment into UK-based companies only, and deal size

Deal size category	No. of deals (% of total deals) VCC	No. of deals (% of total deals) BPC	No. of deals (% of total deals) Total	Gross invested (% of gross invested) VCC	Gross invested (% of gross invested) BPC	Gross invested (% of gross invested) Total
<£250k	26 (6%)	24 (5%)	50 (11%)	£4m (<1%)	£2m (<1%)	£6m (<1%)
£250k-£1m	58 (13%)	64 (14%)	122 (27%)	£33m (2%)	£39m (2%)	£72m (4%)
£1m-£2m	25 (6%)	55 (12%)	80 (18%)	£36m (2%)	£81m (5%)	£118m (7%)
£2m-£5m	36 (8%)	66 (15%)	102 (23%)	£121m (7%)	£214m (13%)	£334m (20%)
£5m-£10m	20 (4%)	39 (9%)	59 (13%)	£136m (8%)	£280m (17%)	£416m (25%)
£>10m	16 (4%)	23 (5%)	39 (9%)	£311m (19%)	£398m (24%)	£709m (43%)
Grand Total	181 (40%)	271 (60%)	452 (100%)	£641m (39%)	£1,013m (61%)	£1,654m (100%)

Source: SQW analysis of British Business Bank data

Further analysis of the monitoring data for BPC-backed investments (VCC and BPC investments since 2018) into UK-based companies shows:

- **The majority of investments into UK-based firms were at the venture stage (78%), with 21% at venture growth stage.**¹¹⁴ However, venture-growth investments overall make up just over half of the gross investment by Q3 2021 (52%), reflecting the larger average size of venture-growth stage investments. Prior to 2021, roughly an equal share of BPC funds went into venture stage and venture-growth stage investments per annum.
- **In 2021, the proportion of funds invested at the venture-growth stage increased considerably**, demonstrating BPC's shift towards later stage investments more recently. Co-investments started in 2020, but only make up a small proportion of the overall number and value of investments.
- **A minority of firms have received multiple investments either from the same or different BPC-backed funds (14%).** This includes companies who have received investment from more than one BPC-backed FM, as well as follow-on funding from subsequent funds managed by the same FM. There is also some evidence of firms progressing from venture to venture growth.

¹¹⁴ As defined by BPC in the monitoring data

Characteristics of BPC beneficiary firms

Key characteristics of UK-based companies who have received investment from BPC-backed funds (in scope, including VCC) are summarised below. Where possible, we have compared companies in receipt of BPC-backed investment to other companies in the UK in receipt of equity finance. Further detail is provided in Annex C.

- **The firms are highly technology oriented.** According to the monitoring data, just over half of firms are classified as in the “technology sector” (52% of firms). Other sectors included “industrials” (15%), healthcare (11%), consumer services (8%) and financials (8%). Beauhurst analysis corroborates this and suggests that BPC-backed firms have a very similar sectoral profile to all companies receiving equity. The most common sector is software-as-a-service notably relating to analytics, insights and tools, internet platform and mobile apps. In terms of emerging sectors artificial intelligence and FinTech are the most common sectors for both BPC-backed and wider equity-backed firms.
- **BPC-backed firms are heavily concentrated in London and the Greater South East**, and more so than equity-backed firms in general: monitoring data shows that 69% of firms in receipt of BPC-backed funds in scope were based in London, 11% in South-East England, and 10% in the East of England. Only 10% of companies were based elsewhere in the UK. As noted above, BPC did not have explicit regional objectives. The programme is commercially focused, and therefore led by the market. Its focus on increasing finance for existing later stage VC funds means the programme is likely to follow and build up areas of existing strengths, rather than developing new areas without a track record. This is reflected in the data on the spatial distribution of BPC-backed firms.
- **BPC-backed firms are more concentrated within the growth stage of evolution¹¹⁵ in comparison with the wider equity market.** According to Beauhurst analysis, 24% of BPC-backed firms are in their growth stage, compared to 9% across all equity-backed companies. At this stage, those businesses unlikely to survive past the seed or venture stage have died, and the company has entered a phase of growth that is both fast paced and more certain. Instead, the broader equity market has a large number of both seed stage companies, which are more volatile, and established companies, which have less need to secure equity investment.
- **Firms in receipt of BPC-backed investment are much more likely to appear on a high growth list or be spun out from an academic institution** compared to the wider market: 38% of BPC firms are on a high growth list compared to beneficiaries compared to 13% of all equity-backed companies; and 11% of BPC companies are academic spinouts compared to just 2% of all equity-backed companies.
- **BPC-backed companies are more likely to have male dominated founding teams than the wider equity market.**¹¹⁶ Within these businesses, 79% of founder groups are all male (c. 63% across all equity-backed companies), while just 6% were all female (c. 9%). However, 8% of BPC-backed companies had an equal split of men and women in their founding teams,

¹¹⁵ Growth stage is defined by Beauhurst as follows: *When a company has been operating for more than five years, and has grown to multiple offices, they're more likely to have reached the Growth stage of evolution. A growth stage company will also have regulatory approval and is likely bringing in significant revenue and investment, with a valuation in the millions. It will be continuing to expand its product range and international activities.*

¹¹⁶ A company will only be included where the gender balance of their entire team is known. If there is a founder whose gender is ‘unknown’, the whole company is excluded from the analysis.

compared to 7% of all equity-backed companies. These findings reflect the broader equity market and the later stage VC focus of the programme.¹¹⁷

- **BPC firms are more likely to be using equity for R&D:** For example, between 2018 and 2021, for BPC-backed firms, 45% of the value of investment was secured with the stated intention of supporting R&D, compared to 27% across all equity backed firms.
- **There was slightly higher growth in EBITDA¹¹⁸ for BPC-backed deals** between the financial statement filed prior to a fundraising taking place and after (20%) compared to all other equity deals (17%).
- **The average pre-money valuations for deals secured by BPC-backed firms** between 2018 and 2021 (and the VC Catalyst fund prior to this) are **higher** than the average valuation for all equity-backed companies.
- **The amount of Innovate UK grants secured by BPC-backed firms has continued to increase, and in 2021, these firms secured a disproportionate amount of Innovate UK grant funding:** for example, whilst Innovate UK funding awarded to all equity-backed companies peaked at £439m in 2020, before declining once again to £292m in 2021, the value of these grants secured by companies BPC-supported funds escaped this drop, rising by 14% instead.

Reflections

Across the programme as a whole, the rate at which BPC funding has been committed to funds is broadly in line with expectations, at £1bn by September 2021. Specifically, the funds in scope have received a BPC commitment of £786m and attracted £4.9bn from private LP funds. The financial performance of the portfolio appears to be performing well to date, and in line with the wider VC sector.

Since 2018, the portfolio of BPC-backed funds have been evenly balanced between venture and venture growth focused funds, as intended (although when VCC funds are included the balance shifts towards venture funds). This suggests BPC is helping to close the gap in finance at this later stage. Moreover, BPC is now shifting towards later stage venture growth, which was welcomed by the stakeholders consulted.

On average, BPC-backed fund sizes are close to the average of around £200m originally assumed in the Business Case. However, there is a wide range and the majority are smaller than this. The average deal size is also smaller than expected and at the bottom end of the market gap identified by the 2017 Patient Capital Review Industrial Panel (i.e., £5m+). The main reasons for this include demand and the intention to build a pipeline for future investment. It also does not take into account other investors in the funding round. Given BPC's intention to increase deal sizes at later stage in the UK, the deal size of BPC-backed investments should be tracked going forward. This will help to ensure that the investment in smaller deals significantly improves the pipeline of companies at venture growth stage.

By Q3 2021, just over half of BPC-backed investments had been in UK-based companies, as originally expected. We estimate that £1.4bn of this investment has been levered from private

¹¹⁷ For example, the British Business Bank's Small Business Equity Tracker report published in 2022 found that all-female founder teams made up 9% of all seed stage deals in 2021, but this decreases to 6% of all venture deals and just 2% of all growth deals. See [here](#).

¹¹⁸ Earnings Before Interest, Taxes, Depreciation and Amortisation.

sector LP investors (in gross terms). This suggests that BPC is making good progress towards its ambition to unlock £5 billion of private investment into innovative UK-based firms over 10 years.

The evidence suggests that FMs are using BPC supported finance to invest in companies that are highly technology oriented such as Artificial Intelligence and Fintech (despite being sector agnostic, but reflecting demand) and innovative, as intended. The majority of companies are geographically concentrated in London and the Greater South East.

5 Process evaluation

Key messages

- The evidence suggests that the design of BPC is broadly appropriate given its objectives, particularly in terms of: having both venture and venture growth funds, spanning across the finance ladder; its scale and the ability to support large funds, offer large ticket sizes and follow-on, which is particularly critical for scale up; and creating a separate commercial entity. It is also well aligned with other public sector finance programmes that are available.
- However, there was some debate relating to three aspects of BPC: (i) BPC's commercial and policy objectives, associated priorities, and how potential trade-offs between the two are managed, (ii) the portfolio of funds supported, and the balance between larger/well established FMs and supporting newer players to become established and grow; and (iii) how it will drive change in behaviours across the wider market, particularly towards longer-term, patient investment.
- Overall, BPC's management and governance structures and processes are deemed appropriate and robust. BPC's due diligence are perceived to be extremely thorough, which has played an important role in crowding in other investment. BPC has also raised the profile of Equality, Diversity and Inclusion (EDI) issues amongst FMs. Feedback on the non-financial support that BPC provides to FMs was also very positive, especially for less experienced FMs. That said, BPC should consider if processes could be streamlined, accelerated and more transparent looking forward. It would also be helpful to have greater clarity/communication of BPC's investment strategy (especially in relation to BPC's policy objectives).
- BPC is starting to play a wider market role, through its "unifying effect" and "setting standards" amongst BPC-backed funds, hosting events to facilitate networking across the sector, and sharing information on financial returns.
- The BPC-backed FMs also bring expertise and support to the beneficiary companies. This, along with other advantages such as access to networks and strong reputations, attracted companies to the funds.

This section presents qualitative feedback on the design and implementation of BPC to date, including BPC's delivery, management and governance, drawing primarily on evidence from the FM and stakeholder consultations.¹¹⁹ We also refer to findings from the survey and case studies with beneficiary firms where appropriate. The focus of this section is on BPC since it was established in 2018. The previous VC Catalyst Early Assessment Report covers the process evaluation of the VC Catalyst programme.

BPC design

Overall, FMs and stakeholders provided positive feedback on the design of BPC taking into account its purpose to increase the supply of patient venture capital for scale up businesses and the market context in which BPC has operated.

¹¹⁹ British Business Bank, BPC, Government and external stakeholders.

For most FMs, BPC has been an important source of capital and (for a minority) acted as a cornerstone investor. There were several reasons for why FMs sought investment from BPC. First, the scale of BPC and the size of tickets it is able to write was deemed important (cited by 16 FMs). This provided FMs with sufficient funding to reach their target fund size. For example, one early stage FM noted that BPC has helped them to develop and establish substantive early stage seed funds and enabled them to follow-on fund their investments, offering opportunities to maintain UK investment. The second reason for seeking investment from BPC was the **perceived reputation of BPC funding (14 FMs) which encouraged other investors to come on board** (see Section 8 for further discussion on crowding in effects). Other attractive aspects of BPC finance included the pari passu model,¹²⁰ the emphasis on scale up, and the longer timescales for returns.

Several FM consultees also noted that BPC has stepped into the gap in funding resulting from Brexit and the withdrawal of EIF investment from the UK market. One FM argued this would have hit many VC funds hard, but BPC stepped in at the time which was “really critical and well executed”.

“They are filling a vital gap in the market – they are pivotal.” [Fund Manager]

“BPC plays a core role in terms of nurturing new, young VC and seed VC market in the UK”. [Fund Manager]

Stakeholder feedback was also broadly positive in terms of BPC’s design. The creation of a separate commercial entity was considered appropriate, enabling BPC to build its own brand and raise awareness of BPC in the marketplace. Consultees thought this helped to get investors on board and to recruit professional investment managers. The overall scale of BPC, at £2.5bn, was perceived to be “reasonable” in order to send a signal to the market that the ecosystem needs developing, recognising that BPC does not want to flood the market or crowd out other investment. However, a minority of consultees recognised that it was “a drop in the ocean” given the size of the overall funding gap it is seeking to influence.

In terms of the structure within BPC, the inclusion of both venture and venture growth funds was thought to be appropriate by stakeholders, enabling BPC-backed funds to reach across the “continuum” of financing and follow-on, which was critical for scale up. This was also useful given the “blurring” of the traditional financing ladder, enabling BPC-backed funds to get in early on the “best opportunities” and build a pipeline. That said, as noted in Section 4, investment has been weighted towards earlier stage venture (when VCC investments are included in the portfolio) and there was some concern amongst consultees that BPC had been insufficiently involved in later stage investment given observed market gaps.

Linked to the point above, BPC’s ability to provide between £5m and £100m with a minimum fund size of £50m was deemed appropriate for earlier stage investments and has allowed BPC to attract appropriate fund managers, but some consultees considered the maximum funding amount of £100m to be too low for later/venture growth stages. Most consultees agreed that the pari passu approach makes sense, and was important in terms of its “signalling” to the wider LP market.

BPC’s move towards direct co-investment was generally viewed positively by most consultees – provided BPC acts as a “normal” shareholder, i.e., quickly and commercially motivated.¹²¹ They argued it provides an opportunity to raise UK content further and offer follow-on finance in companies that are interesting from a policy context, ensuring these are optimally funded. However, two FM consultees would like to see greater clarity on the investment strategy, how investment

¹²⁰ i.e. investment on an equal footing as other LPs.

¹²¹ Direct co-investment does move (slightly) against the prescribed VC as private expert led investor position (Lerner, 2010) and concerns of greater public intervention into investing decisions – so may be strategically sound, but needs to have transparency (who makes decision and why).

decisions are made, how potential conflicts of interest will be managed (for example, if a BPC-backed fund is already an investor in a co-investment opportunity), measures of success for these direct co-investments, and how “good” performance will be assessed. There were also some concerns about whether BPC will be sufficiently responsive with their co-investments. On the whole, consultees did not believe BPC’s design has inhibited investor interest. The only slight issue raised was BPC’s requirement for minimum UK content, but this was not a significant deterrent.

The aspect of BPC’s design that generated most debate amongst stakeholders was its dual objectives (i.e., commercial and policy focus). The way in which BPC has been designed and implemented has reflected its commercial focus. As one consultee put it, BPC was designed to “*prove the patient capital mission*”, and strong commercial performance and transparency on returns are key to achieving this. However, there were two main critiques from a minority of consultees:

- Three consultees¹²² raised issues relating to the lack of clarity on how BPC was designed to deliver policy objectives and how potential trade-offs between commercial and policy objectives would be managed in practice. These consultees suggested a “disconnect” between the dual objectives. There was a perception that commercial objectives had been prioritised over policy objectives, driven by the (relatively short-term) aim of selling BPC and therefore a need to build a commercially attractive portfolio.
- This has influenced which funds BPC has invested in: some consultees felt that the balance was too much towards well-established funds with a strong track record (in order to demonstrate returns, but a market into which investment flooded in 2021), and that BPC should be focusing on more of an ecosystem development role, establishing the market and helping less established players to grow.¹²³ As one external stakeholder argued, BPC’s stringent requirements on FMs to demonstrate their prior effectiveness make it more difficult for new players to secure BPC backing and then establish themselves in the market.
- Whilst BPC has added capital/capacity to the market, two consultees argued that the programme and its incentives have not been designed in a way that drives long-term behaviour change across the market in relation to *patient* capital. Given BPC’s intention to demonstrate “that a long-term patient capital investment strategy can produce commercially attractive returns”, we might expect BPC’s portfolio of funds to exhibit long-term patient capital investment strategies. However, consultees argued that patience was “not an obvious characteristic” for some BPC-backed funds. It is important to emphasise that this was not a comment on all funds – some are considered very patient (e.g., Molten Ventures) – but these consultees would have expected to see BPC backing funds that “*put a premium on the long-term*” and for patience to be the underlying theme running throughout. The objective of BPC sale is also perceived to have influenced the patience of investment. FM views on this are discussed further below.

¹²² Internal and external.

¹²³ Note, without duplicating ECF’s focus on new FMs.

BPC delivery

Application process, due diligence and contracting processes

There was consistent feedback across FMs and stakeholders that **BPC's due diligence processes were very rigorous and thorough**, and perceived to be a “*gold standard*”. This gave an important signal to other LPs to encourage them to invest in the BPC-backed funds, by setting standards and acting as a “*stamp of approval*”. For example:

“Due diligence is on par with the EIF which is also very rigorous and very professional – both of those would be the gold standard. Other investors are happy if [they] know BPC have been through something – [it is] perceived as very thorough.” [Fund Manager]

“The due diligence is far greater than other LPs. This is good because as a taxpayer you want your money well invested. It also sends the right signals to other investors. No other LP is as in-depth on due diligence”. [Fund Manager]

However, multiple FMs and stakeholders thought that the application, due diligence and contracting processes were “*bureaucratic*”, “*onerous*” and “*slow*”, and at times lacked transparency from an external perspective. However, most consultees acknowledged that detailed processes are important and necessary, especially given the need for public sector accountability.

“BPC are slow and protracted ... but I still think they are essential and valuable. Streamlining the process would be beneficial. Notwithstanding all of that – [we are] still very grateful to them, think it is the right thing to do. I think just sometimes they put people off who can't face it. Decision-making needs to be quicker, more pragmatic.” [Fund Manager]

“The lack of transparency and predictability around timings is a huge problem”. [Fund Manager]

Both FMs and stakeholders suggested **BPC processes could be streamlined, accelerated, more transparent and better communicated**. This was particularly the case for FMs that had already performed well in their initial BPC-backed funds and were seeking further BPC investment in follow-on funds, who suggested a streamlined application process might be more proportionate. It was argued that BPC needs to become “*more commercial and nimble*” in its processes and thinking. Some FMs and stakeholders raised whether staff turnover and/or capacity was an issue at BPC which had hindered the pace of processes above, especially as BPC has taken on new responsibilities.

Monitoring and reporting

There were mixed views from FMs on BPC's monitoring and reporting requirements. Several FMs reported that these worked well, with clear requirements, a thorough approach and appropriate levels of scrutiny. However, there were also FMs who found the process “*more onerous*” and said it required significant resource to fulfil.

Stakeholders noted that reporting has improved. It is generally deemed to be high quality and detailed, although there is an ongoing need to strengthen consistency across monitoring and reporting platforms.

Support provided by the BPC team to FMs

Feedback from FMs on the non-financial support that BPC provides to FMs was very positive. BPC was viewed to be professional and attentive to FMs, with high levels of relevant knowledge. BPC acts as a “*sounding board for best practice and ideas*” for less experienced FMs, and provides advice/templates through which FMs can demonstrate their performance to other investors. For example, one FM stated that:

“They make you think, they ask smart questions, make you see where you are strong and where you could be stronger with your effort. In all aspects of the business too: investment thesis, flow generation, investment processes, human resources, diversity and inclusion”. [Fund Manager]

This was corroborated by evidence from external stakeholders, who commented on the **strong relationships between BPC and FMs**. Consultees have observed how BPC is “*very close to funds*”, which gives them confidence that FMs are being managed effectively by BPC.

Support provided by BPC-backed FMs to beneficiary firms

According to beneficiary firms surveyed, the BPC-backed FMs had led the majority of the equity deals that involved BPC funding. The most **commonly identified advantage of having the BPC-backed FM in the funding round compared to other investors was the expertise and support the FM offered**, as illustrated below. Other key advantages identified compared to other equity investors included the reputation of the FM, access to their business networks, the alignment of the investor strategy with the company, quick decision-making and post-investment support. Two respondents found the “founder friendly” approach of FMs appealing. For example:

“[The FM was] able to move quickly, we like the people, they were introduced personally, they have an approach which means that the founding partners are themselves former entrepreneurs. They understand what it’s like”. [Survey respondent]

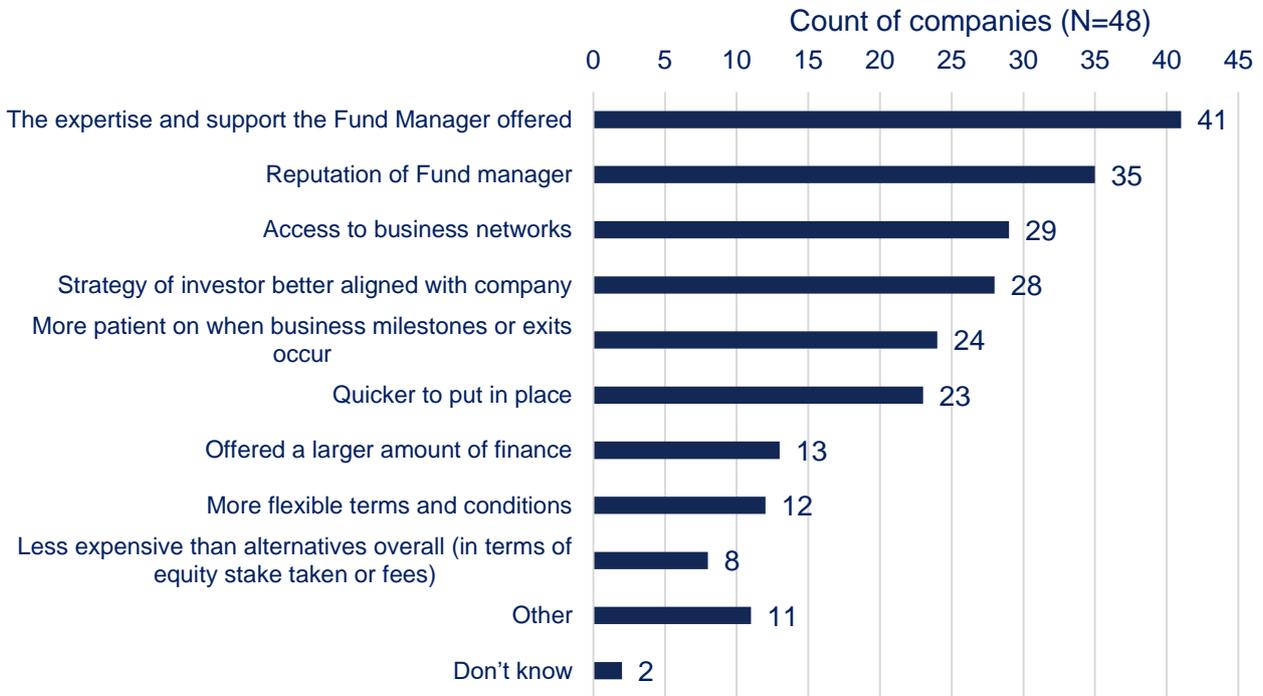
Half of beneficiaries surveyed stated that the BPC-backed FM was more patient on when business milestones or exits occur compared to other equity investors. This is positive, but should this be more common given the overall purpose of BPC? The case studies explored this in more detail and we can see the value of investor patience in terms of firm progression. For example: in the case of Ieso, an R&D firm operating in the digital health sector, the patience of the BPC-backed investor was keen as key to enabling the firm to progress at a suitable pace:

“It’s a lot harder to get traction, build adoption and be commercially successful in this particular space. Having investors behind you who appreciate that and are capable of aligning their funds to the overall timeline and challenges faced by the company is really important”. [Case study participant]

Another case study example was Globechain, where Kindred Capital made it clear from the beginning that they were willing to support the firm for its long-run growth ambitions (10 years +). By comparison, the consultee argued that other, less patient investors with a focus on earlier exits would not have had the same positive impact on the business.

Furthermore, just over one quarter of survey respondents stated that the BPC-backed FM offered a larger amount of finance compared to other equity investors. Increasing the size of equity deals is also an important imperative for BPC, and this issue is discussed further below.

Figure 5-1: Advantages of BPC-supported Fund Manager’s participation in funding round compared to other equity investors

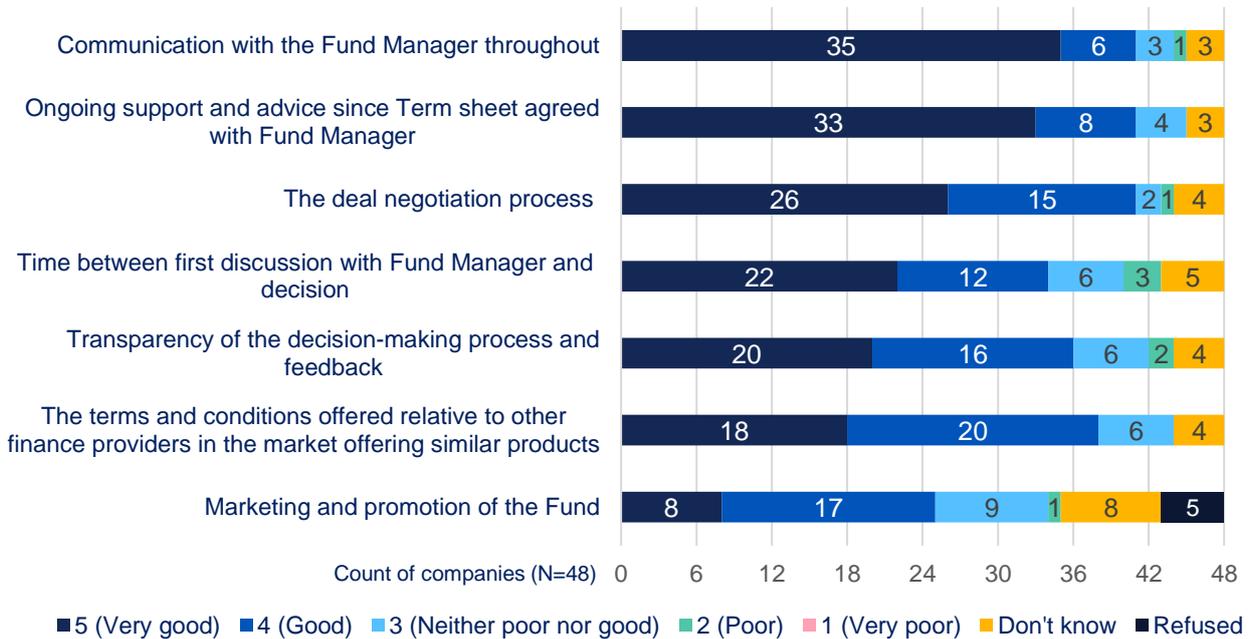


Source: Analysis of BPC Recipient Company Survey (2022)

All FMs described how they provide tailored, non-financial support to their portfolio companies. This includes, for example: operational support, such as recruitment, sales/marketing, developing customer relationships; strategic support, such as market positioning, strategy development and providing later stage funding connections; and tailored support (for example, in terms of investment readiness) and network connections. This was corroborated in the beneficiary survey. FMs are also involved in governance through board membership: 38 of the 48 (79%) beneficiary companies surveyed reported that the BPC-supported Fund Manager acts as a board member to their business.

Beneficiary feedback on the investment process and support received from the BPC-backed FM was positive, as illustrated below. Companies particularly valued ongoing support, advice and communications throughout, with 41 out of 48 (85%) respondents rating these aspects of the offer as “good” or “very good”.

Figure 5-2: Beneficiary survey feedback on elements of the investment process, rated on a scale of 1 to 5, where 1 is very poor and 5 is very good (n=48)



Source: Analysis of BPC Recipient Company Survey (2022)

The positive feedback on FM support was also evident across the case studies, and emphasised the value of the strategic and practical advice, and access to networks including access to top-level decision makers. For example, Atlantic Bridge’s “nurturing approach” (alongside its Series A and B investment) helped Secondmind to restructure the business to become a more product-centric company:

“Atlantic Bridge takes a mentorship approach to guiding their portfolio companies and has an appreciation for the hard-to-predict nature of finding product market fit with nascent emerging AI/ML software. It’s not just about numbers and growth absent this critical context, which is what I would have expected from a VC. With this unique approach, Atlantic Bridge helped us navigate a major transition and restructuring that led to more focus, a clearer path to productisation, and a healthier, more resilient business overall. I suspect that other VCs would have not had the stomach for the challenge and continued investment in the longer game, and written us off”. [Case study participant]

In the case of another firm, IQ Capital’s non-financial support (alongside the BPC-backed Series A investment) has made a important contribution to the firm’s progress, including the brand credibility, contribution at board level and introductions to a wider business network:

“The main factor was the halo effect that IQ have is their brand and credibility and contribution at the board level to operational governance. They do work hard. They provide for me as a CEO – they do a fairly regular CEO workshop and get guest speakers in and give you the opportunity to network”. [Case study participant]

BPC management and governance

The diagram below sets out BPC's current management and governance structures, including the decision-making bodies, their functions and members. It also outlines the investment decision-making process through which FMs are guided and decision-making authorities at each stage of the process. The investment process has been amended in recent months: an Investment Summary Report has been introduced at the initial filtering stage which is reviewed by all BPC Directors and the Managing Director (MD) of Funds, which is likely to be a helpful improvement to filter and accelerate the process; and the pitch meeting has been replaced with a Preliminary Investment Forum prior to full due diligence being undertaken. All steps are overseen by a BPC Director.

In our view, there are clear and well-defined management and governance structures and arrangements in place for implementing the BPC programme. The roles, responsibilities and reporting of the BPC Delivery and Strategic Leadership Teams – and the Investment Committee and Board – appear to be robust and suitable to the objectives of BPC. In particular, we highlight the following:¹²⁴

- Set-up of BPC as a subsidiary of the British Business Bank (reflecting private practice) and BPC using the Bank's central functions
- BPC governance arrangements mirroring those of the Bank's existing commercial subsidiary, British Business Investments
- BPC has introduced separate MDs for funds and direct co-investments
- Performance monitoring including through the Quarterly Shareholder Meeting, regular reporting of key Management Information data etc. However the focus appears to be on commercial performance rather than progress against policy objectives,
- A BPC Investment Committee with representatives from BPC and the Bank – alongside an updated investment process – to undertake finance, legal and risk assessments
- A separate investment process and Investment Committee is in place for fund and co-investment decision making
- BPC operating within the Risk Management and Governance Framework of the Bank, helping to identify and monitor risks – and risk governance based on the “three lines of defence” model (i.e., risk taking, risk oversight, and risk assurance).

¹²⁴ In the minority of cases where BPC invests directly (i.e., co-investment) a particular oversight and transparency is required given this is a different investment approach to committing capital to a private VC fund.

Figure 5-3: BPC management and governance structures, and investment process

Governance & Management Structures



Investment Process



Overall, FMs and stakeholders thought that the management and governance of BPC was positive. Consultees recognised that the BPC team was set up very quickly, and benefited from drawing on British Business Bank’s central functions (legal and finance) initially. BPC is now perceived to have a strong, highly qualified and professional team, including specialists who can support FMs (as noted above).

BPC has also sought to **raise the profile of equality, diversity and inclusion (EDI) issues**, particularly through the due diligence and monitoring processes, as well as participation on the Investing in Women board. However, there was limited awareness of this amongst external stakeholder consultees (which suggests more could be done to communicate this, particularly if BPC is to influence the wider market, beyond the BPC-backed funds).

In a short space of time, BPC’s responsibilities have expanded from investment in funds to co-investment, and taking on responsibility for Future Fund: Breakthrough and the Life Sciences Investment Fund. As noted above, there were some concerns as to whether BPC had sufficient capacity to continue to manage effectively, and also whether this was starting to “distract” from the core BPC remit.

A small number of non-BPC stakeholder consultees would also like to see a more **clear, transparent and well communicated strategy or delivery plan**, including how BPC intends to deliver against policy objectives going forward, manage tensions and increasing responsibilities, ensure additionality. Despite transparency on BPC’s headline financial performance, the investment approach (i.e., priorities and structure) that has underpinned BPC’s investments can appear somewhat “piecemeal” from an external perspective.

BPC’s wider market leadership, catalyst and champion role

Based on consultation evidence, the main mechanisms for BPC’s wider industry role appear to be through the following:

- **BPC’s own investment portfolio.** As one stakeholder consultee argued, BPC’s investment in many different funds could have a “*unifying effect*”. FM consultees supported this, particularly through BPC’s role in “*setting standards*” and co-ordinating the market through its investments. The FMs also cited examples where BPC has provided FMs with introductions to other investors, and in doing so, was helping to nurture new funds and connect early stage finance markets.

“For many funds, BPC’s cheque is the largest one so makes them important and because they are setting terms – and presumably the same terms for lots of different funds – they are de facto coordinating the market ... but not in any radical sense”. [Fund Manager]

- **BPC’s demonstration effect**, by generating returns and proving to investors that this is an asset class that can make a return. BPC has been very transparent in communicating its overall performance by publishing Annual Report and Accounts each year.

“BPC sets the right tone for the rest of the industry”. [Stakeholder]

“BPC is a market leader in best practice”. [Fund Manager]

- **BPC’s annual events, where it is co-ordinating and facilitating networking across the VC sector.** Specifically, the GP/LP Conference led by BPC was also valued by the FMs consulted. It reportedly provides valuable opportunities to network with other FMs, and discuss and raise awareness of key issues facing the market like EDI, levelling-up and climate change. Participation in these events has

also helped increase the visibility of BPC-backed FMs in the market. BPC also participates in other events (e.g., BVCA).

Most FMs thought that BPC plays a market leadership role in some form. In contrast, there were mixed views amongst stakeholders on the effectiveness of BPC's catalyst and champion role to date. In part, this was because **it is too early to fully assess wider market impacts at this stage**. Five stakeholders were aware of BPC activities in this space, noting that BPC is a small organisation with limited discretionary funding for this activity (for example, one consultee reported that BPC staff are "*generous with their time*"). However, an equal number of consultees were not aware of investment practices, standards or priorities that BPC has promoted, its educational role, or wider market shaping activities. The overall weight of argument suggested that **BPC could do more in this respect**, although there is a question about whether this role is sufficiently prominent/clear in BPC's objectives (and a lack of clarity on how BPC should deliver this). In this context, it would be useful for BPC to measure and document the activities it undertakes under its champion and catalyst function.

BPC alignment with wider finance provision

Consultees agreed that BPC was well aligned with wider public sector finance provision, and did not overlap with other British Business Bank programmes. BPC was perceived to come in slightly later than most other earlier stage finance available.¹²⁵ At later, venture growth/scale up stage, consultees argued there is very little in the market already, especially given the withdrawal of EIF.¹²⁶

In terms of British Business Bank's wider finance offer, consultees suggested there may be some overlap in the types of *firms* supported between ECF and BPC (both make investments up to Series A), especially in terms of the original VCC cohort, but there is differentiation in the types of *funds* that receive investment (by ECF investing in new funds/fund managers with limited track record, whereas BPC is investing in fund managers with some track record). Moreover, the two programmes were perceived to be complementary: there are two FMs who have progressed from the ECF programme to BPC as they have become more established (e.g., Dawn Capital). British Business Bank's Regional Angels and Regional Investment Funds are also designed to target an earlier stage than BPC.

A small number of stakeholders consulted would like to see a more explicit connection between earlier stage programmes and BPC, including co-ordination with UKRI/Innovate UK's pipeline at a company level and more frequent progression of funds/firms between British Business Bank products (e.g., ECF and Regional Angels to BPC).

¹²⁵ For example, UKRI/Innovate UK offers primarily grants at a very early/non-commercial stage, and firms targeted by Innovation Loans were not as high growth as BPC; SEIS and EIS is also earlier stage; Business Growth Fund (BGF) was perceived to target more mature firms than BPC. British Business Bank's ECF programme is designed to operate up to and including Series A; this is a subsidised programme where returns for Government are structured to be lower to attract investment into first time fund managers (it does not operate on a commercial *pari passu* basis, like BPC).

¹²⁶ BPC's objectives/target audience is perceived to be different to that of the UK Infrastructure Bank, where the focus is on larger-scale infrastructure investments.

Reflections

Given BPC's original rationale and high level objectives, the design of BPC is considered appropriate in so far as its scale, the combination of venture and venture growth funds, and operating as a separate commercial entity. As noted in section 4, consultees would like to see greater late stage investment given market needs, and BPC has already sought to shift the emphasis from venture to venture growth investment. In doing so, BPC may also need to reconsider the maximum funding available to meet the needs of the later stage market.

BPC's design has been particularly effective in enabling BPC to deliver against its commercial objectives. However, the first four years of operation has highlighted the need for greater clarity, transparency and communication about the balance between its commercial and policy objectives, associated priorities, and how the relationship between the two is managed in practice. Specifically, BPC might want to consider clarifying how BPC's rationale for intervention and role differs across the portfolio, and the implications for its objectives:

- less experienced FMs, where BPC is intervening to build momentum at an earlier point/playing more of a cornerstone role, helping FMs to become more established and helping to develop new patient capital players in the finance ecosystem.
- larger/more experienced FMs, where BPC's role tends to be more about funds reaching scale/optimum size and accelerating close.

These two main roles are important and inter-related, particularly as BPC seeks to create a more sustainable and integrated UK patient capital funding escalator. A portfolio approach also means there is scope to track funding gaps and (in theory) adjust BPC's interventions accordingly. In terms of design and implementation, BPC should also clarify the investment horizons of the BPC-backed funds. We return to this issue in later sections of the report.

Management and governance structures appear to be appropriate and received positive feedback. BPC's processes are very rigorous, and this has been important in crowding in private investment. The value of BPC's non-financial support should not be under-estimated, especially for less experienced FMs. Monitoring processes appear to be appropriate in terms of BPC's commercial objectives, but the monitoring of BPC's performance against policy objectives should be strengthened.

Looking forward, BPC should also consider (i) clarifying/better communicating its investment strategy, priorities and delivery plan, (ii) explore ways in which processes can be accelerated and potentially streamlined for follow-on investment, (iii) ensure sufficient capacity is available for "core" BPC investments (and these remain a priority) alongside new programme demands, and (iv) consider if/how BPC becomes autonomous from the British Business Bank in the future if privatisation is pursued.

BPC appears to be well aligned with and not duplicating wider public sector finance provision. ECF has helped to establish FMs who then progress on to BPC in a minority of cases, but the general view amongst consultees was that more could be done to connect earlier stage programmes and BPC (where appropriate). That should include better co-ordinating UKRI/Innovate UK's pipeline and BPC's commercial funds, to ensure at the seed-to-venture stage companies are investment ready and able to progress to private finance.

6 Impacts: Firm level

In this section, we present findings from the beneficiary company survey and case studies on the extent to which BPC-backed funding has enabled firms to secure follow-on finance and generated wider benefits for the firms involved. It is important to re-iterate that the findings presented here are based on a small sample of the BPC-funded population, and therefore should be considered illustrative of the benefits that BPC funding has delivered. Note, stakeholders consulted were not close enough to the companies to comment on firm-level impacts.

A total of 48 companies were interviewed out of 140 available contacts, giving a response rate of 34%.¹²⁷ The survey respondents accounted for only 12% of the total population of in-scope companies and 16% of total gross investment committed, but the sample was broadly representative of the population in terms of venture versus growth funds and year of first investment. The survey findings should be treated as supplementary evidence alongside other research undertaken for the evaluation, notably the econometric analysis which covers the population of beneficiaries.¹²⁸

In interpreting the findings, it is important to recognise that outcomes are as a result of BPC-backed funds and the associated fund managers, not solely BPC.

Key messages

- According to the survey evidence, firms are using BPC-backed finance to facilitate growth and innovation, in line with the purpose of the programme. This is translating into innovation outcomes, including increased R&D investment, new product/service development and commercialisation, increasing market sales of existing innovative products/services and the adoption of new/improved processes or practices within the firm. It has also impacted up (and/or will in future) performance in terms of employment, turnover, company valuations and productivity for the majority of firms.
- The majority of surveyed firms had secured additional or new equity funding rounds since obtaining the BPC-backed finance, and BPC played an important role in securing follow-on for most respondents.
- More broadly, the survey indicates that BPC-backed investment has made an important contribution to firms' ability to achieve growth ambitions, particularly in the short-term, and increased the likelihood that just over half of respondents will remain located in the UK for the foreseeable future.
- For two-thirds of surveyed beneficiaries business growth and wider outcomes would have taken longer to achieve, been smaller in scale and/or of lower quality without the BPC-backed investment (i.e., were partially additional), and one quarter claimed that business growth would not have happened at all (i.e., fully additional). Self-reported deadweight is very low for both business growth and wider outcomes. The majority of firms stated that the BPC-backed

¹²⁷ The margin of error with a sample of 48 out of 389 businesses is 13% at a ratio of 0.5. This implies that if 50% of surveyed businesses responded "yes" to a question, British Business Bank can have 95% confidence that the true population average is within 13 percentage points of 50%. This margin decreases if the response rate moves away from a ratio of 0.5. For example, at 90% the margin of error is only 8%.

¹²⁸ Due to small sample numbers, it has not been possible to compare the results from firms in receipt of VCC and BPC funding from 2018 onwards.

investment was the most critical or an important contributory factor in improving their performance.

- Early evidence suggests that exits to date are more likely to be overseas and take place more quickly and at earlier stages of evolution compared to all high-growth equity-backed companies. Whilst it is too early to assess exits for a long-term programme of this nature, this should be monitored closely moving forward.

Use of BPC-backed finance

As part of the survey, beneficiaries were asked how they had used the BPC-backed finance, which helps to understand whether FMs are investing in appropriate propositions and firms are using the finance as intended in line with the Theory of Change and are therefore likely to generate the intended impacts. The results suggest **firms are using BPC-backed finance to facilitate growth and innovation, in line with the purpose of the programme.**

For example, over half of respondents used the finance to build their team through recruitment and investing in individuals (26 of the 48, 54%) and two fifths of respondents have used the finance to develop and commercialise their product, including through investment in R&D (19 of 48 firms, 40%). More broadly, firms reported using the finance for general business growth and development, geographical expansion, including in the UK and overseas, and improving business operations more generally (e.g., digital/IT infrastructure investments and marketing). One quarter of respondents used the finance for working capital, e.g., to pay employee salaries and for ongoing operational costs, reflecting the early stage of their business venture.

Follow-on finance

The beneficiary survey suggests that supported firms were able to secure follow-on finance and that BPC-backed finance played an important role in this subsequent fundraising. **The majority of surveyed firms had secured additional or new equity funding rounds since the BPC-backed finance** (37 out of 47, or 81%¹²⁹). In about three quarters of these cases, follow-on finance had come from other VC funds (29/47, or 62%). Angel funding/groups was also common (18/47, or 38%), likely to reflect the early stage of firms interviewed. However, relatively few had secured corporate venture finance or private equity. For the 37 firms who were willing to quantify, the average value of follow-on finance secured (in total) was just over £16m since the initial BPC-backed deal, which was substantially greater than an average value of BPC-backed investment for these firms of just over £6m but may have been invested across more than one deal.

Three fifths of firms who had secured follow-on equity finance stated this was “entirely” or “to a large extent” due to the BPC-backed finance and support from the FM (23/36, or 64%¹³⁰). Only three reported that the BPC-backed fund had played no role in supporting them in raising additional equity finance. The case studies highlight how it is the both the BPC-backed finance *and* wider role of the FM that has played (or is expected to play) a key role in securing follow-on finance. For example:

- Globechain are looking at securing a second, significantly larger, round of equity funding in the near future. The BPC-backed FM has directly helped in this process by providing

¹²⁹ One recipient company refused to provide a response to this question.

¹³⁰ Ibid¹²⁹.

introductions and insights into the investment market based drawing on the experiences of their portfolio of investments.

- In the case of SOC.OS, the BPC-backed FM encouraged and supported the firm to raise follow-on funding more quickly:

“Hoxton had good ideas to accelerate fundraising plans. We were going to do it about four or five months later, but they said in December 2021 to set up for fundraising sooner than we had planned.” ... “Clever stuff throughout our journey that was strategically important, if we hadn’t gone out for fundraising, we probably wouldn’t have had such a growth”. [Case study participant]

These findings suggests that BPC is playing an important role in enabling businesses to raise scale up capital.

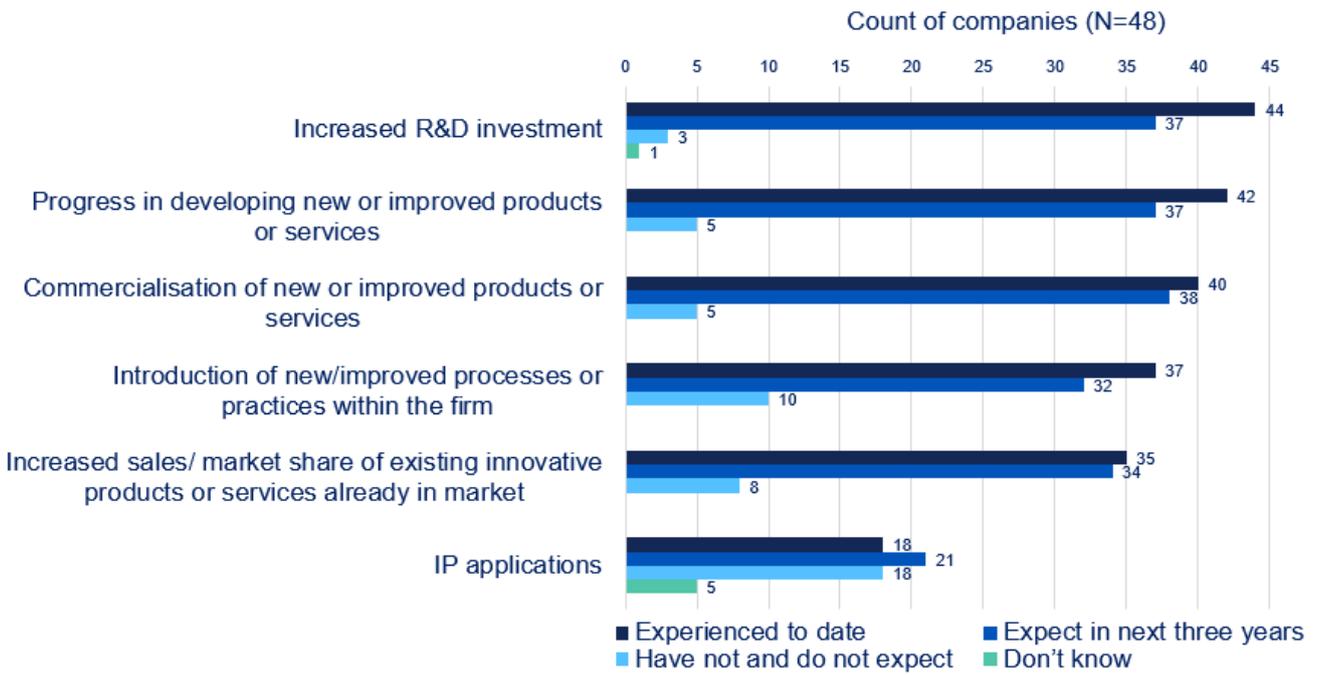
Innovation outcomes

The beneficiary survey found evidence of innovation-related outcomes achieved and/or expected as a result of BPC-backed investment from supported FMs (in order of highest): increased R&D investment; progress in developing new or improved products or services; commercialisation of new or improved products or services; introduction of new/improved processes or practices within the firm; increased sales/ market share of existing innovative products or services already in market; and IP applications. The results are presented in the graphic below.

Interestingly, the products or services introduced are new to the market (rather than new to the company). This suggests (not seen before) innovations are being successfully commercialised. More broadly, almost all respondents (46/48, or 96%) thought that their business had become more “commercially ready” i.e., more willing or prepared to expand products, services or processes due to the BPC-backed funds.

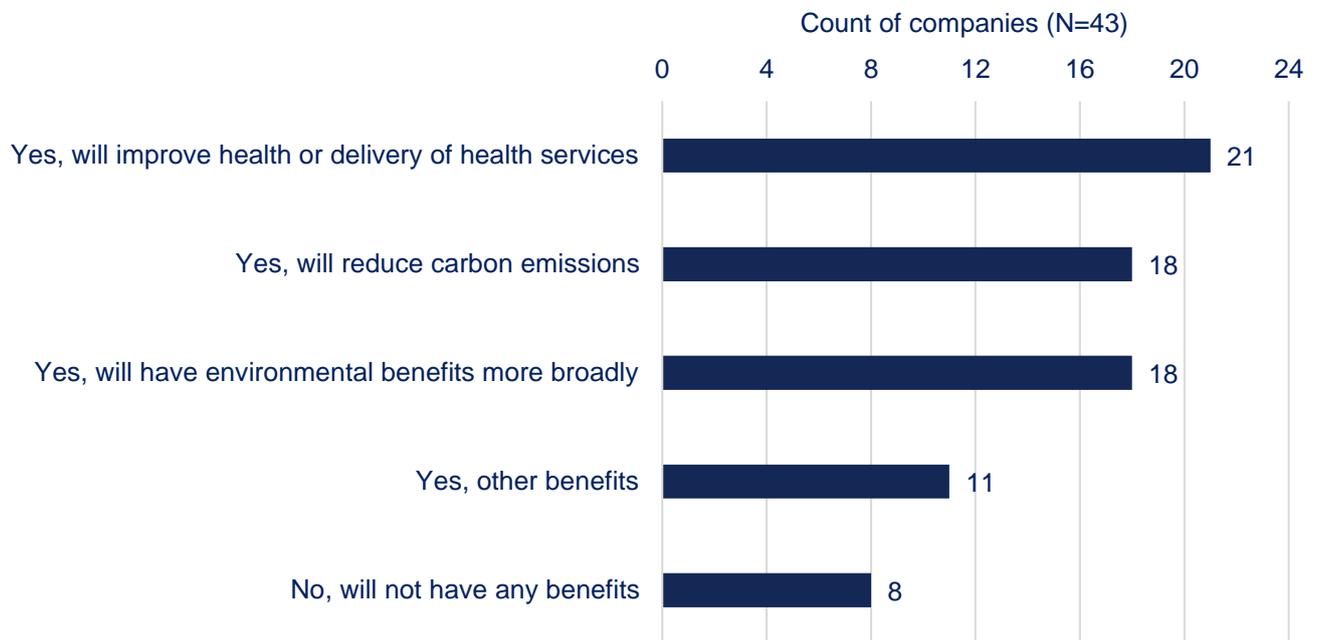
Moreover, the adoption of these new products and services is expected to **contribute towards wider social and environmental benefits**. Almost half of respondents (21/43, or 49%) who have introduced new products/services expected their adoption will improve health or the delivery of health services, and two fifths (18/43, or 42%) expected products/services to help reduce carbon emissions.

Figure 6-1: Beneficiary survey findings: innovation outcomes achieved and/or expected



Source: Analysis of BPC Recipient Company Survey (2022)

Figure 6-2: Beneficiary survey findings: social and environmental benefits associated with the adoption of new or improved products or services



Source: Analysis of BPC Recipient Company Survey (2022)

Company performance

According to the survey results, the majority of companies have and/or expected to achieve improved company performance in terms of employment, turnover,¹³¹ company valuations and productivity,¹³² as a result of the investment from BPC supported funds. BPC-backed finance is also helping to avoid business closure. Impacts on profitability are expected to flow through in future, reflecting the stage at which most businesses are currently at. That said, companies who received investment earlier were more likely to have observed an increase in profitability than companies who received investment more recently.

Figure 6-3: Beneficiary survey findings: performance outcomes achieved and/or expected



Source: Analysis of BPC Recipient Company Survey (2022)

The results suggest that BPC (alongside other LP funding) is enabling companies to progress against key innovation outcomes leading to impacts on company performance, as set out in the logic model and theory of change in Section 3. This is encouraging given the early stage in the life of the BPC programme.

Future ambitions

More generally, the survey results suggest that BPC funds are playing an important role in helping companies to achieve their growth ambitions, and anchoring these firms in the UK. For example:

- Around three quarters of respondents stated that equity investment from the BPC-backed fund will support them in achieving their short-term growth ambitions either “entirely” or “to a “large extent” (35/47, or 74%) in the next year.

¹³¹ This includes increased turnover via exports, although for turnover date around half of company respondents, none or little (<20%) of their turnover was generated via exports.

¹³² Self-defined by respondents.

- Half of respondents thought that the BPC-backed investment will support their growth ambitions either “entirely” or “to a “large extent” (23/47, or 50%) in the medium to long-term. Over one quarter felt that the investment will support medium/long-term ambitions “to a moderate extent” (13/47, or 28%).
- Over half of respondents (27/47, or 57%) indicated that the BPC-backed investment has increased the likelihood that their firm will remain located in the UK for the foreseeable future.

Outcome additionality and contribution of BPC-backed funds

The majority of companies (32 of 48, 67%) surveyed reported partial additionality on business growth and wider outcomes, as a result of the investment from BPC supported funds. Put another way, the investment would have taken longer to achieve, been smaller in scale and/or of lower quality. Furthermore, one quarter of respondents claimed that business growth would not have happened at all, and one fifth would not have observed any wider outcomes, in the absence of the BPC-backed finance. Self-reported deadweight is very low for both business growth and wider outcomes.

Table 6-1: Beneficiary survey findings – Outcome additionality

	In the absence of BPC-backed investment, would you have achieved the same outcomes anyway?	Business growth (employment and/or turnover)	Wider Outcomes
Full additionality	None of these growth/outcomes would have happened	12 (25%)	10 (21%)
Partial additionality	The growth / outcomes would have happened anyway, but they would have taken longer to achieve	24 (50%)	23 (48%)
Partial additionality	The growth / outcomes would have happened anyway, but on a smaller scale	14 (29%)	16 (33%)
Partial additionality	The growth/outcomes would have happened anyway, but they would have been of lower quality	6 (13%)	2 (4%)
Deadweight	The growth / outcomes would have happened anyway, over the same time period and at the same scale, without Fund investment	4 (8%)	5 (10%)
Total		N=48	N=48

Source: Analysis of BPC Recipient Company Survey (2022)

To test the influence of BPC-backed finance on firm performance further, survey respondents were also asked about other factors that may have contributed to the outcomes above. These mainly included knowledge within the business, recruitment, other support/advice, market demand and external sector or economic conditions, and technology developments.

However, the majority of firms stated that the BPC-backed investment was the most critical or an important contributory factor in improving their performance. BPC-backed investment was “the critical contributory factor” for 11 respondents (24%), and an “important contributory factor alongside others” for 34 respondents (74%), as illustrated in Table 6-2.

This finding was corroborated in the stakeholder interviews, where there was an even balance between BPC being the most critical or an important contributory factor (alongside others, such as technological drivers, regulation, economic conditions, market demand) in achieving the outcomes observed. None of the consultees felt that BPC had no influence on outcomes observed or was not necessary.

Table 6-2: Beneficiary survey findings – What other factors (beyond the financial investment) may have contributed to the benefits described?

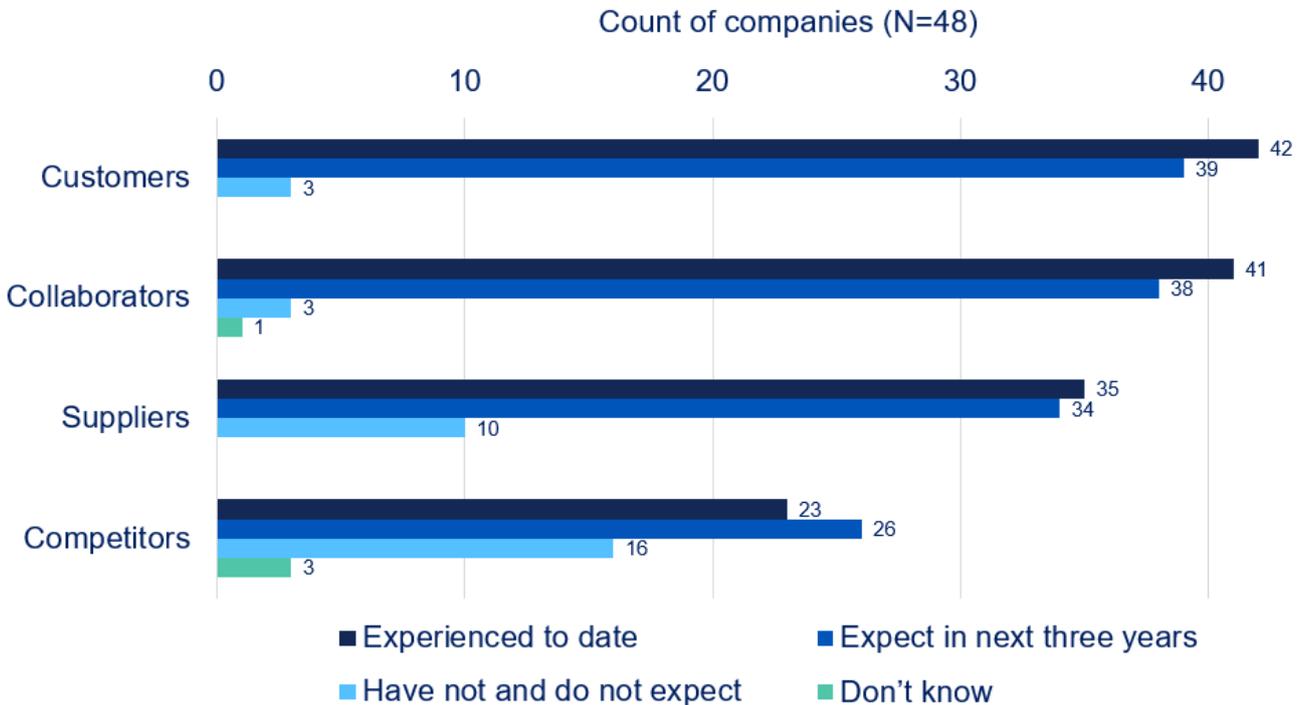
	Number of recipient companies
The FM investment was the critical contributory factor	11 (24%)
The FM investment was an important contributory factor alongside others	34 (74%)
The FM investment contributed to outcomes, but was not necessary	1 (2%)

Source: Analysis of BPC Recipient Company Survey (2022); FM refers to Fund Manager

Wider benefits

As part of the survey, companies were also asked about their views on wider, knock-on benefits arising for other market participants (to date and in the next three years) as a result of their own growth. As illustrated below, the majority of respondents believe that their growth has generated benefits for customers, collaborators, and suppliers in particular.

Figure 6-4: To what extent has your growth benefitted other market participants or will benefit in the next three years?



Source: Analysis of BPC Recipient Company Survey (2022)

The case studies illustrated how BPC-backed investment had led to wider benefits. For example, in one case study (who wished to remain anonymous) the investment helped the firm to increase investment in R&D, and develop new practices and processes. This has enabled the firm to increase its turnover (doubling sales bookings year on year) which, in turn, has benefitted customers, suppliers and collaborators:

“As you grow and generate value and spend money businesses grow ecosystems around them. We use a local marketing company, we use web-based services ... There are a lot of beneficiaries in the supply chain even for us in IP”. [Case study participant]

Exits

Firm level exits

Exits are an important aspect of BPC’s impact and demonstration effect. However, it is too early to assess BPC’s performance in terms of exits, especially given its intended long-term horizon. In the sub-section that follows, therefore, we focus on a high level, qualitative assessment of exits to date. In doing so, we highlight that exits that occur early in the life of the programme may not be typical of exits that occur later in the life of a fund, therefore this analysis should be treated as indicative.¹³³

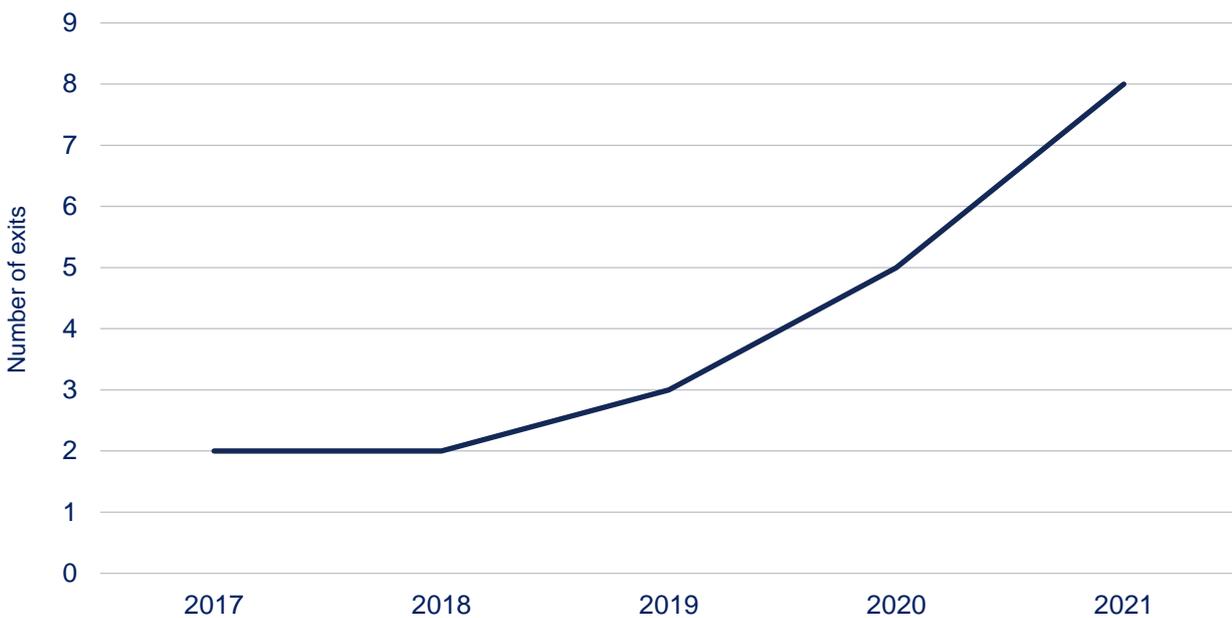
According to BPC’s monitoring data, there have been **19 full and three partial exits from the BPC-backed funds in scope by Q3 2021** (exits from investments in UK-based firms only). These represent £136m of BPC-backed investment, or 8.2% of gross invested. It is worth noting that most

¹³³ The analysis is based on Beauhurst data which focuses on company exits rather than fund exits.

full exits are from post 2018 BPC-backed funds (15 out of 19 full exits), and the remaining full exits and all three partial exits are from the earlier VCC-backed funds.

Beauhurst has undertaken an analysis of 21 of these exits,¹³⁴ which took place between 2017 and 2021. These were all acquisitions. None of these businesses have undertaken an IPO, although it typically takes longer for companies to be in a position to IPO. **The number of exits has continued to grow** between 2018 and 2021, with eight beneficiaries exiting in 2021, as illustrated in Figure 6-5. In contrast with all private market exits, these figures have risen annually without interruption, with the macroeconomic turbulence during 2019 and 2020 failing to yield an impact.

Figure 6-5: Number of exits by BPC beneficiaries (2017-2021)



Source: Beauhurst (2022)

However, the analysis also suggests that:

- **BPC-backed companies are less likely to exit to a domestic acquirer**, with just 29% of transactions between 2018 and 2022 involving another UK company. In comparison, for all high-growth equity-backed companies, between 2018 and 2022, 50% of exits took place to a UK domestic acquirer. The most frequent location for BPC companies to exit was the US, where 47% of acquiring companies were headquartered. For all high-growth companies, 39% of exits took place in the US.
- **BPC-backed companies have exited faster than all high-growth companies.** The average age at exit for BPC-backed companies is around nine years, which is about a third faster than the overall average for equity-backed high-growth companies. This may reflect the impact of outlier companies, early in the life of the BPC portfolio, so that the average age will increase over time. This may also reflect BPC supported funds investing in companies with the highest prospects, so that they are more likely to exit than the wider population of equity backed

¹³⁴ One exit had not yet occurred at the time of analysis.

businesses in the UK (as illustrated by two of the case studies where the BPC-backed investment had accelerated growth).

- **BPC-backed companies are more likely to have exited at less mature stages of evolution.** Within the BPC beneficiary cohort, the most frequent stage of evolution at the time of exit was growth (43%), followed by venture (29%) and established (43%). Seed stage exits amongst these companies, in line with the broader high-growth ecosystem, were the least common – with these businesses representing only 10% of the transactions taking place.

Investor exits

The survey also asked beneficiaries whether investment from the BPC-backed fund had made any difference to when they expect to have an exit event for their investors. Nearly three fifths of respondents (28/48, or 58%) did not think that the BPC-backed investment would make a difference to when they expect to have an exit event for their investors. Of the remainder, most expected the investment from the BPC-backed fund to result in a quicker exit (17/48, or 35%). This may be a result of achieving growth outcomes sooner, but may also reflect sub-optimal investment horizons. Similarly, as noted in Section 5, only half of survey respondents indicated that BPC-backed FMs were more patient on when business milestones or exits occur compared to other equity investors.

However, we also found that over half of respondents expected the exit route for their VC investors to be an IPO on the public market (27/48, or 56%), which is usually reserved for a small subset of VC backed companies. As noted above, IPOs typically takes longer to achieve than trade sales. Most others expected a trade sale (15/48, or 31%).

Reflections

Firms in receipt of BPC-backed investment are using the finance for innovation and growth, further supporting the argument that FMs are investing BPC finance in line with expectations. There is evidence that this is leading to both innovation outcomes and improved firm performance. Moreover, the finance is playing an important role in helping innovative firms in the UK to survive, secure follow-on investment, achieve their growth ambitions and anchoring them in the UK.

Without BPC-backed investment, there is consistent evidence that firm-level growth would have been compromised in the majority of cases or not achieved at all, and that BPC-backed investment has been more important than other drivers in achieving the outcomes observed.

Evidence on exit outcomes should be monitored closely moving forward, given BPC's focus on patient capital and enabling firms to grow/exit in the UK. We recognise that early evidence on exits should be treated with caution - there will inevitably be some early exits in a programme of this nature which may not be typical of exits that occur over the full life of the programme. We cannot yet assess the longer term impact on exits compared to expectations (i.e., later exits at a more mature stage of evolution and UK retention). However, exit outcomes should be monitored closely going forward to ensure FM behaviours align with the long-term patient capital investment strategy of BPC.

7 Impacts: Fund and market level

Key messages

- BPC has influenced the investment strategies of nearly two thirds of FMs supported, primarily in terms of the UK content of funds and prioritising EDI issues, but also in other ways such as professionalising FM activities. There are cases where BPC has not influenced the FMs supported because they already prioritised UK content and/or patient investments. However, there was mixed feedback on the extent to which BPC has influenced investment horizons of some BPC-backed funds.
- BPC has played an important role in crowding in other LP investment, through its credibility, validation, endorsement and own follow-on investments. This has given other LPs greater confidence to invest.
- It is too early to fully assess BPC's impact on the wider finance market. Early evidence suggests BPC is taking some appropriate steps to raise awareness in the market and demonstrate its own financial performance, but the scale of the challenge is substantial and long-term. There is no evidence as yet to suggest that BPC has influenced the attitudes or behaviours of institutional investors towards VC as an asset class.

This section considers impacts on FMs in receipt of BPC funding and the wider equity market, drawing on qualitative feedback from consultations with FMs and stakeholders.

BPC influence on Fund Managers

In addition to the finance provided by BPC, the evaluation assessed the extent to which BPC has influenced the attitudes and behaviours of the FMs involved and the way in which investments are made.

Nearly two thirds of FM consultees felt that BPC had influenced their investment strategies of funds supported (14 out of 22). This was the case for VCC and BPC (2018 onwards) funds. The most commonly cited influence was on the **UK content of funds** (10 FMs), as illustrated by the quotes below. This was corroborated by the stakeholder consultations, who argued that UK content was the main way in which BPC was perceived to have influenced the FMs involved.

This was directly linked to BPC's criteria in relation to UK content.¹³⁵ BPC was seen to be more demanding than other LPs on this, both in terms of its criteria but also holding FMs to account through monitoring. That said, whilst UK content is over twice BPC's commitment into funds overall, nearly half of the BPC supported companies are located overseas, which can be considered as leakage. In addition, the international nature of funds supported by BPC, could partly explain the early findings in relation to overseas exits, due to greater access to overseas networks. BPC should monitor closely whether UK content translates into UK exits/retention over the longer-term.

“[We] typically invest across Europe with no particular country bias but BPC's mandate has definitely resulted in more UK investments”. [Fund Manager]

¹³⁵ BPC will only commit to funds that make a credible commitment to deploy at least twice the value of BPC's commitment into UK companies (or half of the fund, if lower).

“BPC is encouraging retention of UK investment in UK firms, that would otherwise be fully invested abroad, but at sub optimal UK investor exits”. [Fund Manager]

There is some evidence to suggest that BPC is **raising the profile of EDI**. This was noted by both FM and stakeholder consultees, for example: 12 FMs reported that BPC has influenced their consideration of, or approach to, EDI in their wider investments. Several FMs suggested that BPC’s focus on EDI in the due diligence and monitoring has raised the importance they place on EDI issues internally and encouraged them to monitor EDI metrics and make commitments to the Investing in Women code. One FM has established a D&I taskforce in their organisation, arguing that BPC was “*absolutely instrumental in developing that*”. However, FMs also recognised that EDI was on the LP agenda more broadly, and there was little evidence to suggest that BPC had influenced the wider market in this respect as yet.

“The focus on diversity and inclusion came through in [BPC’s] early due diligence questionnaire. I wouldn’t say it actually changed anything as we were already making progress. What [BPC] influenced was the importance of it, for those of us that are trying to move this up the agenda it was good to have a powerful LP highlighting it, it has made it a higher profile issue”. [Fund Manager]

BPC has also encouraged one FM to place greater emphasis on ESG and responsible investment, and a second FM to increase their investment outside of the “Golden Triangle” by providing data on market opportunities across the UK.

From the perspective of stakeholders, BPC was perceived to have **strengthened the professionalism of some FMs** through the rigorous due diligence process, and **made the market more efficient**, by enabling larger funds to be raised. Stakeholders thought that BPC’s large ticket size, strong bargaining power and relationships with FMs had been helpful in influencing FMs in these ways.

There were, however, **mixed views amongst both FMs and stakeholders on the extent to which BPC can or has influenced the investment horizons of BPC-backed funds**. Only two FMs said that BPC had influenced their attitudes towards later stage, large-scale and patient investment. Two FMs were less clear on if/how BPC encourages VCs to deploy capital in a more patient way (compared to what might have happened otherwise), and three stakeholders questioned whether BPC has substantially influenced the attitudes and behaviours of FMs involved in relation to patience.

Unpicking this feedback further, it is evident that BPC has invested in some funds that were already patient and therefore had limited scope to influence their approach, as illustrated below.

“Without BPC funding, [the Fund] would be just as patient, albeit with less money – there is nothing about the structure or philosophy of BPC that requires a change of mindset towards patient capital”. [Fund Manager]

We understand from the British Business Bank, BPC is investing on a commercial basis and does not have the explicitly stated objective of increasing the patience of individual investors. Notwithstanding this, both FMs and stakeholders questioned the extent to which some BPC-backed funds do have longer-term investment horizons and whether BPC could realistically influence these without adverse implications for BPC’s other objectives (e.g., crowding in other private finance). This aligns with beneficiary survey feedback and Beauhurst’s analysis of initial exits to date in Section 6.

“At the end of the day we have a standard [x]-year involvement structure and BPC’s investment doesn’t particularly change that. [X] years is reasonably patient but not as patient as some other investors. The main issue here is that BPC have to fall in line with what other investors want – they couldn’t mandate that a fund has to be 15 years because they couldn’t get other investors to sign up for that.” [Fund Manager]

“The issue is around what BPC could do to encourage the money to become more patient. How could they align the programme with what the businesses really need, e.g., investment over 5-7 years rather than 3-5 years. What can they do structurally within funds to help achieve that?”. [Fund Manager]

Just over one third of FMs indicated that BPC did not have an impact on their fund’s investment strategy (8 out of 22). As noted above, this was either because BPC was already well aligned with their strategy (e.g., UK focus, patient capital) and/or because FMs thought investments should reflect the interests of all LPs and the need to ensure that “*no single investor can impose restrictions on this*”. **Similarly, a minority of stakeholders did not believe BPC had substantially influenced the attitudes and behaviours of FMs** (with the exception of UK content). For example, one consultee argued that, whilst BPC has the ability to influence FMs to a greater extent, that lever is “*seldom used*” – this was thought to be driven by BPC’s focus on commercial objectives, and therefore its reluctance to impose any restrictions that might compromise that.

The extent to which BPC has influenced FMs’ investment strategies appears to depend on how well-established/large a fund is, the point at which BPC joins the fund raising process, and what share of the total fund BPC represents (which varies substantially, as illustrated in Section 4).

Crowding in other private investment

The majority of FMs and stakeholders agreed that BPC has played an important role in crowding in other LP commitments. This was the case for both VCC and BPC funds backed from 2018 onwards. In the view of one stakeholder, BPC is providing “*sticky money*” to attract LPs. Whilst most FMs acknowledged that funding from other private LPs was not wholly contingent on receiving BPC investment, BPC involvement has given funds greater credibility, validation and endorsement, which in turn has given other LPs confidence in investing. Again, BPC’s reputation, position as a commercial entity, and thorough due diligence processes have played an important role here, especially where BPC investment was early in the fundraising process. Crowding-in was also evident from the beneficiary firm perspective, where half of respondents in the survey (22/43 or 51%) believed that investment from other equity investors in the BPC-backed deal was dependent upon participation of the BPC-backed FM. This was explored further in the case studies, where companies described how the BPC-backed investment and early signalling of FMs’ plan to follow the money in the next funding cycle played an important role in attracting co-investment. The strong reputation and associated “cachet” of BPC-backed FMs was seen as a strong signal to the market about the prospects of beneficiary companies. These findings also align with the econometric analysis of funds in Section 9.

“It is a great cornerstone to say BPC are in the fund ... they do a proper dive into fund terms and conditions; it helps smaller LPs to know that the government is doing a proper scrub”. [Fund Manager]

“Gives huge validation and credence to other, smaller investors looking to come in”. [Fund Manager]

There is also emerging evidence to show the value of BPC in raising follow-on funds, both directly via BPC’s ability to re-invest – and do so at scale – and indirectly, with BPC follow-on providing an important signal to other LPs. However, it is not yet clear whether BPC is helping to crowd-in finance from wider institutional investors.

“New investors often look for references from previous investors. It was very important to be able to say that BPC came into [a follow-on] fund with larger investment because it signalled reliability”.

There was, however, frustration amongst a small number of FMs that decision-making in relation to BPC’s follow-on investment into subsequent funds can take a long time, which is hindering wider fundraising. As one FM argued, “*if the first investor can’t put their hand up to say they are in for the next fund – that’s a problem*”.

FM consultation feedback suggests that BPC is not having an adverse effect on other LP investments i.e., there was no evidence to suggest that private sector LPs had withdrawn their commitments upon learning of BPC’s involvement. There was also no evidence to indicate that BPC is displacing investment activity, although it was acknowledged that where investments were driven by commercial return, there may be some displacement.

More broadly, we observe from Beauhurst data that funding rounds that involve BPC-backed funds are larger than fundraising rounds without BPC-backed funding across the wider high-growth market. However, we are not able to determine the extent to which this is attributable to BPC. Furthermore, fundraising rounds that include BPC-backed investments have made a growing contribution to the UK equity market over time. An analysis of Beauhurst data shows how fundraising rounds involving a BPC backed fund account for an increasingly large share of all equity investments into UK companies that has taken place between 2013 and 2021. Between 2018 and 2021 (i.e., once BPC was established) 9.5% of all fundraising taking place in the UK involved BPC-backed funds.¹³⁶

BPC influence on the wider VC market

In this sub-section we consider BPC’s influence on the wider VC market, i.e., beyond the supported FMs and their portfolio companies.

Most FMs thought that BPC is *starting to influence* the attitudes and behaviours of other private sector LPs and potential investors (including institutional investors) in the wider UK finance market towards later stage, large-scale and patient investment, and will play an important role in future. The main mechanism for this was expected to be through raising awareness (e.g., via publications and data), by “*acting as a sounding board for the broader industry*”, and by demonstrating success of its own investment to the wider market, thereby increasing the attractiveness of the VC asset class to other investors. The scale of BPC investment was also perceived to be critical to this success.

A minority of FMs argued that BPC had strengthened the UK innovation and enterprise ecosystem (for example, one FM noted that “*the ecosystem wouldn’t be thriving the way that it is*” without BPC), and demonstrably helped to retain innovative, high growth firms in the UK.

¹³⁶ Note, this differs from figures in the British Business Bank’s Equity Tracker which relates to SMEs only.

Views from stakeholder consultees were more mixed. A minority of consultees suggested it was starting to catalyse changes in investor attitudes towards VC as an asset class, by virtue of its visibility, scale and associated signalling to the market. However, they provided limited evidence to corroborate this. Consultees also noted significant changes in the wider market since BPC was introduced – in the view of one consultee, “*BPC has been part of it but not significant*”. Other consultees found it hard to tell if BPC was having a wider impact on the market. That said, consultees recognised it was too early to fully assess BPC’s impact on the wider market, and identified the scale of the challenge and the complexity of barriers to other investors (especially institutional investors) coming into this asset class. It was acknowledged that BPC cannot address all of those issues.

Reflections

This section has assessed the extent to which BPC has influenced the attitudes and behaviours of FMs involved, above and beyond the quantum of finance provided. The messages are broadly consistent across the FMs, stakeholders and beneficiaries: BPC has successfully influenced the investment strategies of two thirds of FMs supported, primarily in terms of the UK content of funds and the extent to which EDI is prioritised, and in other ways such as professionalising less established FMs; but some FMs are operating on investment horizons that are shorter than might be expected given the focus on patient capital.

The extent to which BPC has been able to influence FMs appears to depend on a number of factors, including how closely aligned existing investment strategies are to BPC objectives, how established the FM is, the contribution of BPC relative to other investors, and a reluctance to set terms that might deter other investors or compromise financial returns.

BPC has played an important role in crowding in other private sector investment, with BPC’s reputation and robust due diligence processes providing credibility and validation that gives other LPs confidence to investment (although it should not hinder the pace at which FMs are able to close funds).

These findings align with feedback in Section 5 and raise a broader question about how BPC is designed to encourage a more patient capital approach in the finance market and what is meant by patient capital. As set out in Section 3, BPC is designed to “demonstrate that a long-term patient capital investment strategy can produce commercially attractive returns”.¹³⁷ We recognise BPC’s ability to invest over successive rounds is key to building a patient capital ecosystem, including building funds that are able to progress from venture rounds up to venture growth, as will be the programme’s ability to demonstrate positive financial returns from investment in this asset class compared to other asset classes with shorter investment horizons like Private Equity. We also acknowledge that shifting attitudes and behaviours takes time. However, whilst BPC was not explicitly designed to influence the investment horizons of its portfolio funds, we would argue that a key aspect of that demonstration effect depends on the patience of the funds that BPC has backed. BPC should be more explicit about the mechanisms, incentives and processes through which this will be achieved both in terms of BPC’s own fund commitments and influencing the wider market.

At this stage, it is too early to fully assess BPC’s impact on the wider finance market. Early evidence suggests BPC is taking some appropriate steps to raise awareness of later stage, larger scale and patient investment, but the scale of the challenge is substantial and long-term.

¹³⁷ <https://www.britishpatientcapital.co.uk/what-we-do/>

It is not clear to what extent BPC has influenced the attitudes or behaviours of institutional investors towards this asset class.^{138,139} BPC is currently only four years into a ten(+) year programme and it is too early to assess financial returns. That said, leveraging funds is a central objective for BPC, and so its ability to influence how institutional investors such as pension funds interact with private equity markets is key. A small increase in pension fund participation in UK VC, for example, would have a transformative impact on the capital available. This should be assessed in later evaluations of BPC.

¹³⁸ Whilst not a stated delivery objective of the programme, influencing institutional investors is part of BPC's overarching mission, as set out on the BPC website (and see page 30 above).

¹³⁹ Note, monitoring data on the source of wider fund commitments is not available. BPC may wish to consider how this data could be collected moving forward to better evidence its performance against leverage objectives.

8 Finance additionality

Key messages

Fund level

- At the fund level, there is strong evidence to suggest that BPC is delivering partial finance additionality for the majority of FMs, i.e., funds are larger in scale, more able to achieve their optimum size, and close more quickly than would otherwise have been the case without BPC. There is also evidence to suggest that around half of FMs supported have been able to engage with new LPs and increase their UK content due to BPC.
- There is also evidence of full finance additionality - albeit to a lesser extent - whereby funds would not have been able to obtain LP commitments from elsewhere at all in the absence of BPC. This was most common where BPC was an anchor investor or where FMs were particularly exposed to the loss of EIF support.
- BPC has adopted a portfolio approach, given its commercial and policy objectives, and so the “case” for intervention in terms of finance additionality varies across the FMs supported. As a result, the portfolio includes funds where additionality was lower but returns higher and vice-versa. There was some debate amongst consultees as to whether the balance was optimal from a policy perspective (and notably BPC’s objectives relating to building momentum in newer FMs and strengthening the finance ecosystem).

Firm level

- At the firm level, there is strong evidence of partial finance additionality, i.e., BPC-backed investment has enabled companies to access finance more quickly and at a greater scale than would otherwise have been the case. There is also some evidence of full finance additionality, i.e., firms would not have secured finance at all. Both types of finance additionality mean firms are better capitalised, which is critical in terms of scale up.

In this section, we assess finance additionality from two perspectives: the fund level and the firm level. This draws on qualitative evidence from the fund manager and stakeholder consultations, findings from the beneficiary company survey¹⁴⁰ and case studies, and analysis of secondary data from Beauhurst and PitchBook.

Finance additionality at the fund level

As context for our assessment of finance additionality at the fund level, it is important to reiterate that BPC operates as a fully commercial fund that targets *existing* FMs who are seeking to build momentum and scale. The role of BPC and the point at which BPC intervenes to help build this momentum varies across the portfolio, but it is not intended to support entirely new funds with no prior experience of raising private capital. In light of this, BPC is more likely to enable funds to close more quickly or at a larger/optimal scale than would otherwise be the case (i.e., additionality is more

¹⁴⁰ Due to small numbers, it has not been possible to compare the results from firms in receipt of VCC and BPC funding from 2018 onwards.

likely to be partial). This was BPC's original intention and its performance is assessed in this context.

Finance additionality

The FM consultations show **strong evidence of partial finance additionality**, particularly in terms of increasing the scale and/or accelerated the close of funds. Specifically:

- **BPC increases the scale of funding:** over three quarters of FMs (17/22) indicated that they would have secured less investment without BPC. In addition to these 17 FMs, two FMs with multiple funds indicated they would have secured less in some funds.
- **BPC allows funds to achieve their optimal fund size for their strategy:** 14 (of 18) FMs stated that this was the case.
- **BPC closes funds more quickly:** around two thirds of FMs (12/18) reported that they were able to close more quickly than would have been possible in the absence of BPC. Six FMs argued that BPC had *not* enabled them to close more quickly, in part because of the length of time undertaken by BPC for due diligence/contracting processes.

“BPC focus on later stage capital, bringing in sensible commercial and thorough due diligence for cornerstone investing – signalling to the market and ensuring early closes and sufficient fund scale”. [Fund Manager]

- **BPC has enabled FMs to engage with new LPs:** just over half of FMs indicated that BPC's involvement had allowed them to secure commitments from new LPs. This was attributed to BPC's role in increasing the size (and therefore attractiveness) of the fund and confidence that BPC's involvement gave other investors.
- **BPC has had moderate influence on UK content**, as discussed in Section 7. Ten (of 22) FMs reporting that BPC's involvement had allowed them to have a greater UK focus than in the absence of BPC. The remainder stated that it had not, but this was largely due to them already having UK focus, and therefore BPC had little influence on this.

“As we have BPC on our LP roster, we make conscious decisions about geography and that would probably be less of a consideration without BPC.”

“Because BPC are in the fund, we know that we have to focus on UK”.

There was evidence of partial additionality in terms of the scale, reaching optimum size and accelerating close in both VCC and BPC funds backed from 2018 onwards. However, BPC's influence on UK content is evident from 2018 onwards. It is also important to highlight that where there was partial additionality, FMs stated that they would have been able to secure other LP finance (albeit at a smaller scale or later date in most cases) because they were well-established FMs, or that BPC came into the fund later on or was not the cornerstone investor.

There is also limited evidence of full finance additionality: Just over one third of FMs consulted (8 of the 22) reported that they would not have been able to obtain LP commitments from elsewhere for their fund at all. Full additionality was most common where BPC was acting as an anchor investor or where a FM was particularly exposed due to the loss of EIF support. Full additionality is evident in most VCC funds and a minority of BPC funds backed from 2018 onwards, which reflects the different policy objectives of each programme.

Stakeholder feedback broadly aligned with the findings above, with the emphasis on partial additionality at the fund level, some examples of full additionality, and a small degree of deadweight. **The majority of stakeholders believed that BPC has enabled funds to close more quickly and/or at a greater scale** than would otherwise have been the case, even where FMs would have got funding anyway. According to consultees, BPC has a “*signalling*” and “*confidence inspiring*” effect on other investors, and provides the “*seal of approval*” needed by other LPs (notably via its rigorous due diligence process).

Stakeholders also argued that BPC has **encouraged funds to have a greater UK focus**. This includes, for example, helping to anchor European funds - which might receive backing from the EIF - in the UK. Few stakeholders had observed FMs engaging with new investors as a result of BPC.

Stakeholder feedback highlights how the additionality “case” varies across BPC-backed funds. BPC assesses additionality on a case-by-case basis, through discussion with the FM and an assessment of their track record and LP base etc. A portfolio approach has been adopted, recognising that for some funds the case is more strategic (e.g., to increase UK content) and others it is catalytic (e.g., to accelerate a fund’s close). In adopting this approach, BPC acknowledges that the portfolio includes funds where additionality was lower but potential returns higher, and vice-versa. However, some non-BPC stakeholders questioned whether the balance was optimal from a policy perspective, suggested that greater investment in less established FMs would strengthen BPC’s performance in terms of additionality. Again, this highlights the perceived challenge in balancing financial returns from a commercial perspective and finance additionality from a policy perspective.

As part of the evaluation, Beauhurst has also analysed finance additionality at the fund level by looking at what the market would have looked like without BPC’s investment. The analysis clearly shows that, when BPC-backed funds are removed from the market (in full or even just in part), this has knock-on impacts on the wider market. For example, the funds’ deals with other companies could stall, co-investors could invest less, and subsequent fundraisings by the FMs could be compromised. **Considering the finance additionality in a more rounded way from the perspective of the whole market highlights how the value of BPC is likely to be far greater than its direct investment.**

Finance additionality at the firm level

The evaluation has also considered finance additionality from the perspective of the companies in receipt of BPC-backed investment, assessing the extent to which they would have been able to secure finance in the absence of the BPC-backed fund.

Evidence from FMs and firms was broadly consistent in their view on partial additionality: **BPC-backed funding has helped to accelerate access to and/or increase the scale of investment for nearly half of firms.**

- Almost half of the FMs interviewed reported that their funded portfolio firms would definitely/probably have been able to obtain VC finance from elsewhere, if they had not funded the firms (10/22).¹⁴¹ This largely reflected their views on the availability of VC finance in the market, and the fully commercial approach adopted by BPC-backed FMs in seeking the most promising investments for financial returns. However, all of these FMs argued that their investment has had an impact on the scale and speed of fundraising. As a

¹⁴¹ We note that half of FMs does not necessarily equate to half of the firms.

consequence, FMs thought firms are better capitalised and have been able to scale up more quickly, and in turn, this has enabled them to raise more follow-on.

- Similarly, in the beneficiary survey, nearly half of respondents reported that they would not have accessed finance as quickly and/or to the same scale (23 out of 48, or 48%) without the BPC-backed fund (see Table 8-1). The role of BPC-backed funds in increasing the scale of finance appears to be important (25% of respondents). This aligns with the rationale of BPC to ensure firms are adequately capitalised, although we might expect more companies to comment on the scale of BPC-backed funds given the programme’s objectives.

Table 8-1: Beneficiary company survey results on finance additionality (n=48): If you had not been able to raise the equity funding from [BPC-backed FM] in [Vintage year], to what extent do you think you would have been able to obtain similar equity finance from elsewhere?

Type of additionality		Number (%) of respondents
Full additionality	Probably/definitely would not have secured	5 (10%)
Partial additionality	Would have taken longer	11 (23%)
Partial additionality	Would have been less	4 (8%)
Partial additionality	Would have taken longer and been less	8 (17%)
Deadweight	Would have secured finance anyway – in same time and scale	20 (42%)
	Total	48

Source: Analysis of BPC Recipient Company Survey (2022)

There is also evidence of full additionality and deadweight:

- 42% of beneficiaries surveyed said they would have accessed finance elsewhere in the same time frame and at the same scale, representing deadweight (20/48, see Table 8-1). However, this is likely to be somewhat optimistic. Conversely, FMs expected very few of their portfolio firms would have secured finance anyway.
- Only 10% of beneficiaries surveyed thought they would not have secured any finance at all (i.e., full additionality); whereas almost one third of FMs (7/22¹⁴²) argued their portfolio companies would have failed to obtain VC finance elsewhere. For FMs, the emphasis here was on firms not securing UK-based finance.

“No, probably not – at least not within the UK investment markets for later stage growth investing, US/overseas investors are more likely, but this potentially offers a suboptimal investment exit for the UK VC”. [Fund Manager]

The case studies provide further insight on finance additionality and how – even if firms believe they could have accessed finance elsewhere – the BPC-backed finance has increased the scale of finance secured and/or added value in terms of wider benefits associated with the BPC-backed FMs. For example, whilst ChAI may have been able to raise funding from elsewhere, there would have been compromises associated with “lower calibre funds” in terms of their ability to lever co-

¹⁴² The remaining five FMs consulted thought that there would be a mixture in their portfolio of some firms who probably would have secured VC finance elsewhere and some who would not have done so.

investment from. In the case of SOC-.OS, without investment from Hoxton, the firm would have secured less finance and not had access to Hoxton's added value (e.g., advice and support, and access to wider business networks), which would have had implications for the firm's growth to date:

“We probably would have raised £1.5m from them [the other investor] and we would not have been effective in executing against strategy. It would have been harder to make our growth a success”. [Case study participant]

Stakeholder consultees were not close enough to portfolio companies to comment on finance additionality at the firm level.

Reflections

BPC has brought about finance additionality at both the fund and firm level.

At the fund level, BPC has enabled funds to increase in scale and/or close more quickly, and retain UK content of funds. This aligns with the econometric analysis in Section 9 which shows some evidence that funds close bigger and faster. The qualitative evidence in this section demonstrates how the scale and nature of additionality varies across the portfolio of funds that have been supported by BPC, and BPC has sought to achieve a balance in order to deliver against its commercial and policy goals.

The evidence indicates that finance additionality can be greater where BPC is intervening in less established FMs, but there is also evidence of additionality in more established funds that are able to reach optimum size to deliver their investment strategy. Looking forward, greater clarity and communication of BPC's approach to balancing different types of finance additionality across the portfolio would be helpful to reassure external stakeholders.

At the firm level, BPC-backed funds have generated partial additionality, i.e., companies have accessed finance more quickly and/or (to a lesser extent) at a greater scale due to the BPC-backed investment. There is also evidence of full additionality, albeit for a smaller proportion of respondents, i.e., companies would not have secured finance at all in the absence of BPC. Given BPC operates as a fully commercial programme – and in the context of a very buoyant market over the 2018-2021 period – the emphasis on partial finance additionality is to be expected. Moreover, the ability of firms to access larger amounts of finance, and do so more quickly, is really critical for business scale up, particularly for the more intensive, high capital level sectors with long investment horizons such as deep tech .

Consultees argued that due to the BPC-backed investment, firms are better capitalised and have been able to scale up more quickly, and as a result, been able to raise more follow-on. This broadly aligns with findings in sections 7 and 8. As one stakeholder put it, BPC provides the scale of funding needed to produce globally competitive firms. That said, given the emphasis of BPC in increasing deal sizes at later stages of investment, we might expect more than two fifths of beneficiaries to report that BPC-backed investment has enabled them to secure more finance than would otherwise have been the case.

9 Econometric analysis of impacts

Key messages

Fund level:

- **On average, a one percent increase in BPC-backed investment into a particular UK region and sector was linked with a 0.4 percent increase in non-BPC VC investment into the same region-sector pair.** In other words, UK regions and sectors with BPC involvement also experienced higher levels of non-BPC investment. This relationship is statistically significant (but not necessarily causal).
- **BPC contributed to the UK remaining internationally competitive in terms of the number of VC funds and total volume of VC investment,** when compared to a range of other “VC active” countries, including: Canada, USA, France, Germany, Israel, Netherlands, Spain, Switzerland, Japan and China.
- **BPC-backed funds are on average larger than non-BPC funds,** especially when controlling for the time it takes them to close (around £50m to £80m greater).

Company level:

- The results from the econometric analysis suggest that **BPC-backed investment has had a positive statistically significant impact on employment, turnover and valuations of beneficiary companies.**
- We estimate the impact of BPC-backed fundings on employment of beneficiaries to date to be between **c. 4,600 – c. 5,000 net additional jobs** (equivalent to 14-15 additional jobs per company, c. 55% growth compared to pre-BPC levels).
- **The net impact on turnover of beneficiaries was estimated to be £4.7m – £5.4m per year, while the average uplift in valuations was £60m per company** (including outliers). However, we highlight that in percentage terms both turnover and valuations grew at the same rate as those of comparison firms that secured VC or other forms of equity investment.
- **We found no statistically significant relationship between BPC-backed funding and productivity or rates of business survival.** This does not imply these effects did not occur. For example, the most appropriate comparison group for analysis of business survival (companies that sought VC funding but did not get it) could not be observed.

This section presents the econometric analysis of key impact measures at the fund and company levels. The analysis was underpinned by data from multiple sources, including: monitoring data, Beauhurst database, PitchBook, and administrative data on employment and turnover from the Inter-Departmental Business Register (IDBR). Further details on the econometric methodology and analysis can be found in Annex B.

Fund level analysis

To analyse the effects of BPC at the fund level:

- **First, we investigated the variation in the volume of VC investment and number of VC deals between UK regions and sectors of the economy** to see if there was any evidence that BPC “crowded in” additional private investment.
- **Second, we carried out *exploratory* analysis of the trends in the number of VC funds and total amount of VC investment in the UK following a “synthetic control” approach** developed by Abadie et al. (2010).¹⁴³
- **Third, we compared the average sizes of BPC-backed and non-BPC funds.**¹⁴⁴

The analysis of fund-level impacts used PitchBook data covering the period from 2013 to 2020. The following sections present the results from this analysis and outline key assumptions behind them.

Analysis of the number of VC deals in UK regions and sectors of the economy

In analysing the regional data, we investigated the hypothesis that **if BPC indeed stimulates the market and “crowds in” additional private VC investment though other non-BPC backed funds, then we should be able to find a statistically significant relationship between the number and volume of deals with BPC involvement and without it.**

To test this hypothesis we considered data on VC investment in 12 UK regions (the nine regions of England and three devolved nations)¹⁴⁵ and five broad sectors of the economy (Energy, Financial Services, Healthcare, Information and communications technology (ICT), Materials and resources) since 2013. This gave us 60 region-sector pairs to analyse: e.g., VC investment into Financial Services in London and the South East would be considered as deals in two different sector-region pairs.

Our statistical model related the number of non-BPC backed deals (and total volume of non-BPC VC investment) in each of the region-sector pairs to the number of BPC-backed deals (and BPC commitments) in the same region and sector.¹⁴⁶ It is important to note that such a model could overestimate the effect. This is because BPC-backed investment is likely to flow into the same sectors and regions as investment by the rest of the market. In other words, it is possible that the market would have invested into a particular region (and/or sector) even in absence of BPC because that sector is more “attractive” and has many promising companies.

To mitigate this potential bias, **our model controlled for time trends specific to each region-sector pair and economy-wide shocks affecting all regions and sectors in a given year.** In addition, the model excluded London. As demonstrated in Section 4, London is an outlier within the UK in terms of VC activity. In the sample used for econometric analysis it accounted for 41% of all UK VC deals since 2013 (and 54% of BPC-backed deals, as shown in Annex Table B-3). Arguably,

¹⁴³ Abadie, A., Diamond, A. and Hainmueller, J. (2010). Synthetic control methods for comparative case studies: Estimating the effect of California’s tobacco control program. *Journal of the American Statistical Association*, 105(490), pp.493-505.

¹⁴⁴ The econometric analysis was carried out in R (Core Team 2021): <https://www.r-project.org/>

¹⁴⁵ We considered the International Territorial Level (ITL) 1 regions. A more granular regional breakdown would result in too few non-zero observations per region for this analysis to be meaningful.

¹⁴⁶ Investment volumes were expressed as natural logarithms to allow us to interpret the estimates as percentage effects.

it would still appeal to investors even in absence of BPC.¹⁴⁷ The exact model specification used for regional analysis is presented in Annex B.

The results suggest a positive relationship¹⁴⁸ between BPC-backed and the wider market activity. Since 2018, on average, a one percent increase in BPC-backed investment into a sector of the economy in a given region was linked to a 0.4% increase in non-BPC VC investment into the same sector and region. The estimate of the effect is reduced to 0.3% when the period from 2013 is considered (i.e., including pre-BPC VC Catalyst investment). In terms of the number of deals, since 2013 every BPC-backed deal was associated with one more non-BPC deal in the same region-sector pair.

However, we emphasise that these estimates should be interpreted with caution. The sample sizes available for this analysis were small and despite taking steps to mitigate potential bias discussed above it was impossible to confirm that the bias was eliminated completely. Therefore we cannot claim with certainty that BPC-backed deals were crowding in non-BPC investments (i.e., the causal link remained unconfirmed). Further detail on obtained estimates, including confidence intervals can be found in Annex B.

Analysis of UK trends in the number of VC funds and VC investment

The *exploratory* analysis of UK trends in the number of VC funds and total VC investment involved constructing a “synthetic” version of the UK – a weighted combination of other countries that mimicked the trends observed in the UK prior to the introduction of BPC. This “synthetic” UK provided a benchmark, and any divergence in the trends between the real and synthetic UKs since 2018 could be interpreted as BPC’s impact. There are three important caveats to this analysis:

- First, since other “VC active” countries also have public investment banks (e.g., Bpifrance in France) and may have similar schemes to BPC, the results should be interpreted as effects relative to actions taken by “competitor” economies.
- Second, such analysis benefits from a long time series of pre-intervention observations that can be used to match the trends between real and synthetic UKs. At the same time, having a larger set of comparator countries also improves the quality of the synthetic benchmark that can be constructed. However, going further back in time, the number of countries for which PitchBook provides information on VC deals becomes more limited. To be more specific, when we considered the trends starting from 2007, allowing ten years before the introduction of BPC, there were 15 countries that could be used to construct a benchmark for the UK. When the analysis was expanded to cover the period from 1997 onwards, increasing the pre-intervention “window” to 25 years, the number of comparison countries reduced to six: Canada, France, Germany, Israel, Switzerland and the US.¹⁴⁹

¹⁴⁷ A similar approach to avoiding overestimating the impact of investment into UK regions was used in a number of previous evaluations, including the [Interim Evaluation of Enterprise Capital Funds \(2021\)](#). In our case, excluding London lowered obtained estimates of the effect four times. On the one hand, it confirmed the presence of the bias. On the other hand, it indicated that our approach to addressing it was at least partially successful.

¹⁴⁸ Which is statistically significant.

¹⁴⁹ The cut-off criteria for the pre-PBC ‘window’ were as follows: a) at least 20 years of data; b) increasing the number of years until we would have to reduce the number of comparison countries; c) for robustness purposes, consider a shorter pre-BPC time period of at least ten years with a larger number of comparison countries.

- Third, both the number of VC funds and especially the total volume of VC investment are volatile measures. This negatively affected our ability to construct a synthetic benchmark that would match UK’s pre-BPC trends perfectly.

We took several steps to improve robustness of our analysis. Specifically: a) we focussed this analysis on the effect of BPC since 2018¹⁵⁰; b) we considered both a 25-year and a 10-year pre-BPC “window” to check how sensitive the results were to changes in the length of pre-intervention period and the number of considered comparator economies; c) we introduced additional variables to our statistical model that was used to construct the “synthetic” UK – this was done in an attempt to improve the fit between the synthetic series and data observed in the real world. These additional variables included:

- Share of the finance sector in the economy
- GDP per capita
- World Bank’s Ease of doing business index¹⁵¹
- Digital adoption index¹⁵²
- Human capital index.¹⁵³

The above variables were selected because the Global Innovation Index report (2020)¹⁵⁴ suggests that they are linked to the level of VC market development.

We found no evidence of divergence between the trends observed in the UK and the synthetic comparisons we constructed for both measures (the number of VC funds and total VC investment). Figure 9-1 demonstrates this for the trends in the number of VC funds over the 1997 – 2020 period with all other outputs and further detail on the analysis presented in Annex B. **Considering the scale of BPC, we take this to be an indication that the intervention may have helped the UK to remain competitive on the international VC market,** as it is possible that in the absence of BPC a “negative gap” between the UK and comparable economies would have opened up.

It is also worth noting that competitor countries are also investing in their respective private finance markets, as illustrated in Annex F: International programmes through a range of funds to provide reach and scale in the market as well as direct co-investment over an extended period of time. KfW Capital in Germany appears most closely aligned with the BPC core programme and remit, with a coverage of early to late stage investment for innovative firms in need of growth capital and a mix of funds with a proven track record and first-time funds. However, there are a number of other Government-backed early to late stage VC funds designed to support innovative firms to grow, such as Bpifrance (which includes mandated programmes based on economic and political priorities), BDC Capital in Canada (which has policy and financial KPIs, and explicitly states it is a patient investor), and Vaekstfonden in Denmark (which is also seeking a positive financial returns alongside social returns on investment, and is explicitly patient).

¹⁵⁰ This allowed us to consider a longer pre-intervention “window”.

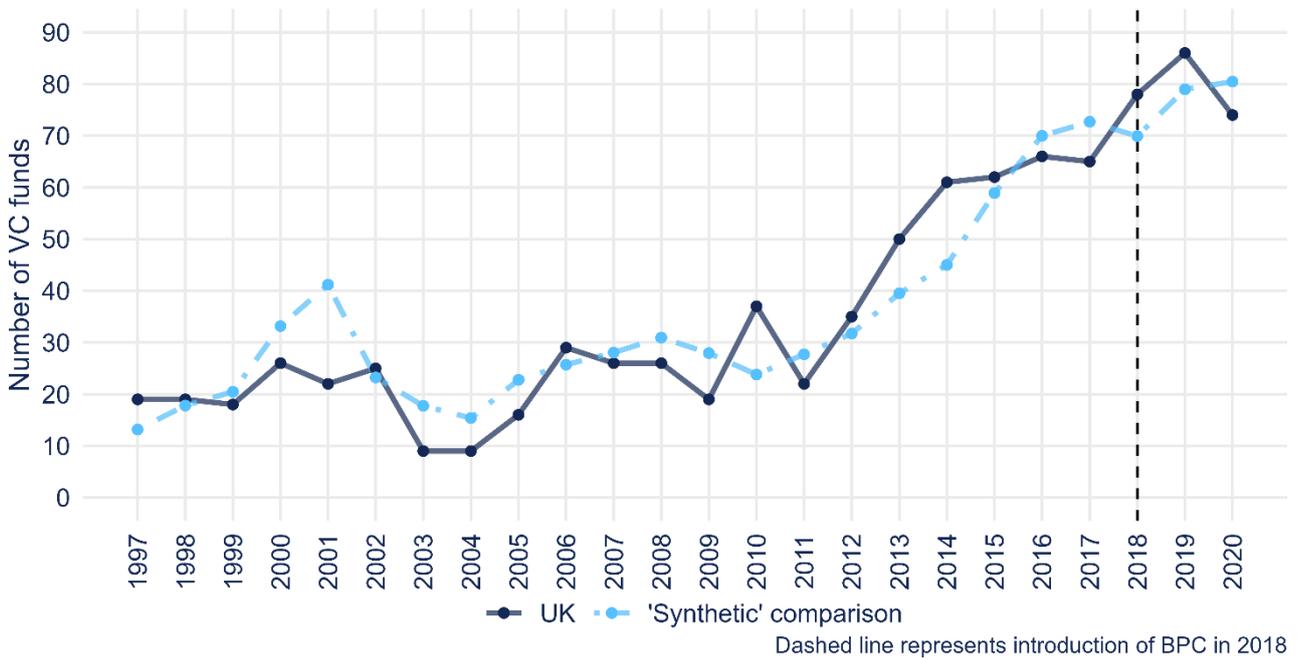
¹⁵¹ [Business Enabling Environment \(worldbank.org\)](https://www.worldbank.org/en/indicators/WE)

¹⁵² [Digital Adoption Index \(worldbank.org\)](https://www.worldbank.org/en/indicators/DA)

¹⁵³ [Human Capital \(worldbank.org\)](https://www.worldbank.org/en/indicators/HCI)

¹⁵⁴ Dutta, S., Lanvin, B. and Wunsch-Vincent, S. eds. (2020). *Global innovation index 2020*. Johnson Cornell University.

Figure 9-1: Trends in the number of VC funds observed in the UK vs synthetic comparison, 1997 – 2020



Source: SQW analysis, PitchBook data

Comparison of the average sizes of funds

Using the PitchBook data we compared the average sizes of BPC-backed and non-BPC VC funds controlling for vintage, fund type (early vs late stage investment) and, where possible, the time it took the fund to close. **The results suggest that BPC-backed funds are larger** – the average difference is c. £55m and increases to c. £80m when we control for the time taken to close.¹⁵⁵ These differences are statistically significant and confirm the findings from consultations with fund managers that BPC-backed funds are bigger and close faster. However, we highlight that the magnitude of estimated differences should not be overstated – only 21 (c.40%) of the BPC-backed funds in scope were covered by the PitchBook data, and only 15 of them had data on the time it took the fund to close. In addition, it was not possible to robustly identify the total number of LPs in each fund. Therefore, we could not confirm that BPC-backing encourages a greater level of commitments from individual LPs. We also note that this analysis may be subject to selection bias, if BPC-backed funds are “selected” according to any formal or informal criteria.

Company level analysis

This sub-section sets out our approach to estimating net impacts of BPC-backed funding on beneficiary companies, outlines the key underlying assumptions behind the methods and presents key findings. Further detail including specifications of statistical models used for this analysis, supporting graphs and tables and estimation outputs are presented in Annex B.

¹⁵⁵ This analysis refers to BPC’s contribution to the BPC-backed funds as an additional investor.

Approach

To estimate the effects of BPC-backed funding on beneficiary companies, **we followed a difference-in-differences (DiD) approach**. This allowed us to obtain **estimates of net impacts of BPC** by comparing the changes in key outcome measures observed among the beneficiaries after securing BPC-backed funding to a set of counterfactual scenarios i.e., to the growth trajectories of businesses in **three complementary comparison groups**:

- Group A, companies that secured non-BPC VC investment
- Group B, companies that secured other forms of equity funding (non-VC)
- Group C, companies that did not secure any form of equity funding.

The DiD analysis focussed on the following indicators: employment, turnover, productivity (turnover per employee), and company valuations. When triangulating the findings, we put a larger weight on Group A. After reviewing the findings from the beneficiary survey and the evidence collected during consultations with fund managers, this group was deemed to provide the most “like-for-like” comparison. Nevertheless, Groups B and C provide important context to estimates obtained relative to Group A.

Table 9-1: Number of companies in focus of econometric analysis

Group	Number of companies
BPC	331 ¹⁵⁶
Group A: VC equity	521
Group B: other types of equity	558
Group C: alternative forms of finance (e.g. loans)	5,589
Total	6,999

Source: SQW

DiD attributes to an intervention only those changes over time that are observed among beneficiaries and *exceed* the changes present among the comparator businesses. However, there are two important points to note about this method:

- **The principal assumption underpinning DiD is that in the absence of BPC the beneficiaries would have followed the same trajectory as businesses in the comparison group** (this assumption is referred to as the “parallel trends” assumption). As it is unknown what source of finance beneficiaries would have been able to secure in the absence of BPC-backed funding, it is important to test the sensitivity of findings to the choice of comparison groups.
- **Likewise, it is important to assess the validity of this assumption before interpreting the results**. If the parallel trend assumption is violated, the method may under- or over-estimate the impact by wrongly attributing pre-existing trends to BPC-backed funding (e.g., if before securing the BPC-backed investment beneficiaries were growing faster than comparator companies, the effect would be overestimated).

¹⁵⁶ The list of BPC beneficiary companies selected for econometric analysis included companies that secured a BPC-backed investment from funds in scope of this evaluation as agreed with the British Business Bank in December 2021. The number of considered companies was therefore less than the total number of UK-based beneficiaries.

When assessing impacts of any intervention, researchers tend to be concerned that beneficiaries may be systematically different from unsupported companies (this issue is known as selection bias). **BPC's delivery model minimises the risk of selection bias**, since most of the funding is distributed through external fund managers via investment funds rather than BPC considering applications from companies directly (apart from BPC co-investment which is a very small part of the overall programme). Therefore, we did not expect the beneficiaries to differ from comparison companies any more than they would from each other or any more than comparator companies would vary within their groups.

However, to ensure robustness of our results, we also analysed subsamples of beneficiaries and comparator companies with the most similar observable characteristics (such as company age, size, target market, pre-investment size and productivity, etc.). **These subsamples were identified using a statistical matching technique – Propensity Score Matching (PSM) –** we refer to them as “matched” samples.

Before carrying out the impact analysis we undertook a graphical analysis of trends in employment and turnover prior to securing the funding. This analysis suggested that selected comparison groups broadly satisfied the parallel trend assumption (both the full and matched samples) **and would be valid counterfactuals.**

In addition to the DiD analysis of business performance and valuations we also investigated whether BPC-backed investment was linked to higher rates of business survival. Due to the binary nature of this outcome measure (businesses were either active at the time of the analysis or not), we estimated the relationship using a limited-dependent variable model (logit) rather than following a DiD approach (see Annex B for further details).

Data sources

Our analysis of company-level impacts was underpinned by data from Beauhurst and IDBR. Information on beneficiaries and comparator companies from Beauhurst was linked to administrative records on business performance (employment and turnover) from IDBR. This provided us with a “panel” dataset that tracked the companies as far back as the 2011/12 financial year.¹⁵⁷ The latest available data was from 2020/21 financial year. **The data-linking between IDBR and Beauhurst was highly successful – only 27 out of 6,999 companies were not linked to the latest available release of IDBR (99.5% match rate).** A total of 2,760 companies (40%) were missing data from 2011/12 financial year. This was to be expected considering the average age of BPC companies in the sample was seven years.

Turnover figures were expressed in real terms (i.e., accounting for inflation) using HM Treasury GDP deflator. 2020/2021 FY was taken as the base year. In other words, all values were expressed in 2020 £s.

Results

The results of econometric analysis suggest that **BPC has had a positive statistically significant impact on employment, turnover and valuations of beneficiary companies.** We estimate the total impact of BPC-backed investment on employment of beneficiaries to date to be between **c. 4,600 – c. 5,000 net additional jobs** (this is equivalent to c. 14 - 15 additional jobs per company). The net impact on turnover of beneficiaries is estimated to be between £4.7m and £5.4m per year.

¹⁵⁷ The data from both sources was aligned to financial years using available information on the date of IDBR extracts, and dates of financial statements recorded in Beauhurst.

The aggregated figures (including a conversion to GVA) are presented in section 0. The range of estimates reflects the variation in observed outcomes relative to different possible counterfactual scenarios.¹⁵⁸

However, we note that the effect on turnover is statistically significant only in absolute terms. The average turnover growth rate observed among beneficiaries relative to their pre-BPC turnover was in line with the growth rates observed among comparison companies from Groups A and B. This can be partly explained by the fact the BPC-backed investment tends to go into companies that are larger on average (see Annex Figures B-11 and B-12). Considering that part of the rationale for BPC was to support companies that have the potential to grow but could face a lack of finance supply, **it is a positive finding that there is no difference¹⁵⁹ in the relative growth rates of turnover between BPC-backed companies and non-BPC businesses that secured other VC.**

Table 9-2 below presents our estimates of net impacts of BPC-backed investment on beneficiaries' employment and turnover.¹⁶⁰

Table 9-2: Estimates for BPC impact on employment and turnover of beneficiaries

	Average pre-BPC level	Net effect of BPC	Total impact on beneficiaries in scope
Employment	25	14 - 15 per firm	4,600– 5,000
			See section 10
Real turnover (2020 £s)	£3.4m	£4.7m - £5.4m per year	(Economic assessment)

Source: SQW

Unlike employment and turnover, where we had access to annual data, **valuations data are not updated regularly and is only revised when a company raises a new equity round.** Therefore, when analysing the impacts of BPC-backed funding on valuations **we focused on the difference between the most recent pre- and post-investment values** we had available from Beauhurst.¹⁶¹ Similarly to the effect of BPC-backed funding on turnover, **we found evidence of statistically significant impacts on valuations in absolute terms, but not on their growth relative to the pre-BPC levels.** This is likely to be explained by the fact that BPC-backed investments tend to reach companies with higher initial valuations, as shown in Table 9-3.

¹⁵⁸ These estimates are based on a comparison against Group A using full and matched samples. The results relative to Groups B and C are broadly in line with these findings and suggest positive statistically significant impacts. See Annex B for estimates of impacts relative to all three comparison groups.

¹⁵⁹ From a statistical point of view.

¹⁶⁰ Note that the estimates include three outliers. When they are excluded, the estimate for the effect on turnover is reduced to £1.8m per year. "Net" in this context refers to the impacts above what is observed in the comparison groups.

¹⁶¹ We note that a substantially lower proportion of BPC beneficiaries had an updated post-investment valuation compared to companies in Groups A and B. This is due to the fact that many BPC investments were too recent for companies to take actions that would trigger an update in their valuation (e.g., start actively searching for further funding).

Table 9-3: Average valuations of BPC beneficiaries and comparator companies

	Mean pre-investment valuation	St. dev.	Mean post-investment valuation	St. dev.	Number of observations
BPC	£20.2m	51.9	£89.7m	453.7	154
Group A	£4.4m	4.3	£13.3m	8.3	422
Group B	£5.2m	5.6	£13.4m	11.8	415

Source: SQW analysis of Beauhurst data

We note that the **variation in valuations among the beneficiaries, especially in the years after securing a BPC-backed investment, is substantially larger than in the comparison groups.** This is due to the influence of “unicorns” that attracted BPC-backed fundings. Investing into future unicorns is one the main goals of VC. However, a small number of such companies may obscure the effects that BPC-backed funding has had on an average non-unicorn company. Therefore, for transparency, we present estimates of net impacts on company valuations with and without the outliers (Table 9-4).

Table 9-4: Estimated effect of BPC on company valuations of beneficiaries

	Including outliers	Excluding outliers
Net average impact on valuations of BPC beneficiaries	£60m	£13m

Source: SQW analysis, Beauhurst data

At this stage we could not confirm any statistically significant effect on productivity or business survival. However, business in the three comparison groups may not provide the most appropriate counterfactual for analysis of business survival. Since it is possible that some beneficiaries would have failed to secure the necessary finance in absence of BPC, it would have been interesting to compare the business survival rates between beneficiaries and companies that wanted but failed to secure VC funding. However, we did not observe this group of businesses.

Reflections

The econometric analysis of company-level impacts used a robust quasi-experimental methodology and involved conducting numerous robustness checks, including: a) considering three alternative comparison groups; b) considering sub-samples of each of the comparison groups that contained companies with the most similar observed characteristics to those of beneficiaries; c) introducing additional control variables to our statistical models to account for potential differences in observable characteristics; d) controlling for economy-wide events such as Brexit and COVID-19.

The results proved to be consistent across all model specifications, with some variation observed in: the estimates for the impact on turnover, which reflects the differences in typical growth paths across comparison groups; and estimates of the effect on valuations arising from the influence of outliers.

We, therefore, conclude that overall BPC-backed funding has had a positive impact on beneficiary companies and achieved its objective to support businesses with growth potential. In addition, econometric analysis at the fund level supports a positive association between BPC-backed investment and increased levels of non-BPC VC activity.

10 Economic evaluation

Key messages

- The value for money was assessed over a ten-year horizon for BPC commitments made by 2021. This means the analysis covered the period from 2013/14 FY until 2030/31FY and included both realised and expected benefits and costs.
- The present value of benefits for the 331 beneficiaries in scope was estimated to be £5.1bn (with the 95% confidence interval for this estimate covering the range between £4.8bn and £5.5bn).
- The present value of economic costs was estimated as £1.6bn (£1.4bn – £1.8bn 95% confidence interval), of which c. £500m were costs to date and c. £1.1bn were anticipated in the future.
- Our analysis suggests that BPC has a **BCR of 3.2** (with the 95% confidence interval between 2.8 and 3.7). This indicates that BPC is good value for money.

The value for money (VfM) assessment was underpinned by the findings from the econometric analysis of net impacts of BPC on beneficiary companies and the data on costs of operating the programme which were provided by British Business Bank. The core element of the analysis was **Monte Carlo modelling** of outcomes at the company level.¹⁶² This technique ensured a systematic and transparent treatment of uncertainties associated with VC investment – inevitably some companies within the portfolio will perform better, generating more additional turnover over a longer period of time, while some will perform less well.

In addition, the VfM model accounted for uncertainties in the amount of time that will pass before each of the BPC-backed funds breaks even (i.e., reaches a point where returns received by the fund are equal to, or exceed, drawn down commitments).¹⁶³

Approach to Value for Money assessment

Monte Carlo modelling the economic benefits and costs associated with BPC involved five key steps.

- **Step 1: Modelling the impacts for BPC beneficiaries.** For each beneficiary, a value for net additional uplift in turnover per year was drawn from a distribution with a mean and standard deviation obtained from econometric analysis. The turnover uplift was converted to net GVA using sector-specific conversion ratios and multiplied by the number of years over which the beneficiary would generate the additional GVA. This calculation took into account the business survival rate observed among BPC beneficiaries.
- **Step 2: Aggregating the benefits to the programme level.** The net additional GVA generated by each beneficiary were combined to provide an estimate of the present value of

¹⁶² The Monte Carlo simulations were carried out using the SimDesign package: <https://cran.r-project.org/web/packages/SimDesign/index.html>

¹⁶³ Further uncertainty is associated with possible inaccuracies and noise in the data used to capture benefits and impacts.

total GVA attributable to BPC (applying appropriate discounting). This step accounted for displacement¹⁶⁴ and BPC's profile by investment year i.e., we recognised that some companies received their funding earlier and for them fewer years had to be discounted to arrive at the present value of expected benefits.

- **Step 3: Calculating the economic costs of BPC and obtaining a benefit-cost ratio (BCR).** The analysis of costs involved combining the information on: a) the value of BPC commitments; b) opportunity costs (taking into account the uncertainty and variation in time profiles of expected returns); c) private and public administration costs (including fund management fees, staff costs, purchase of goods and services); finance additionality. All anticipated future costs were discounted to obtain the present value of BPC derived economic costs. The BCR was calculated as the ratio of present value of BPC derived economic benefits taken from step 2 to the present value of costs.¹⁶⁵
- **Step 4: Repeating steps 1 to 3, 5,000 times.** The main output from this step was a *distribution* of possible BCRs that suggested a *range* of possible values and their relative likelihoods. The latter provided an additional insight into the results compared to a more standard sensitivity analysis that would separately consider several values of an uncertain parameter (e.g., plus/minus 20%¹⁶⁶ to the estimate for uplift in turnover) without explicitly exploring how likely those are.

Figure 10-1 and Figure 10-2 summarise the approach to VfM, while the following subsection sets out specific assumptions behind each of the steps described above.¹⁶⁷

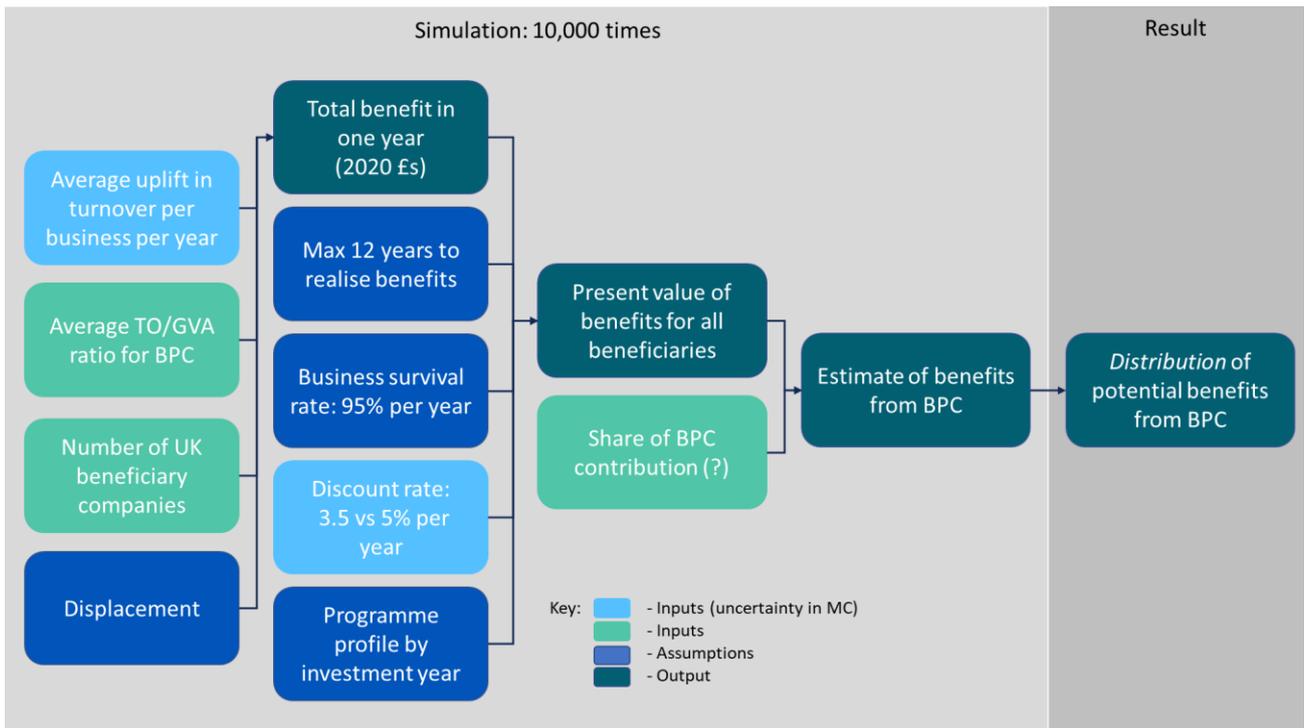
¹⁶⁴ Displacement occurs when an increase in economic activity of beneficiaries displaces economic activity of unsupported companies in the UK.

¹⁶⁵ This approach is sometimes referred to as calculating a "gross" BCR. To avoid any confusion with gross vs net benefits, we will not use this terminology.

¹⁶⁶ As per British Business Bank's economic appraisals guidance.

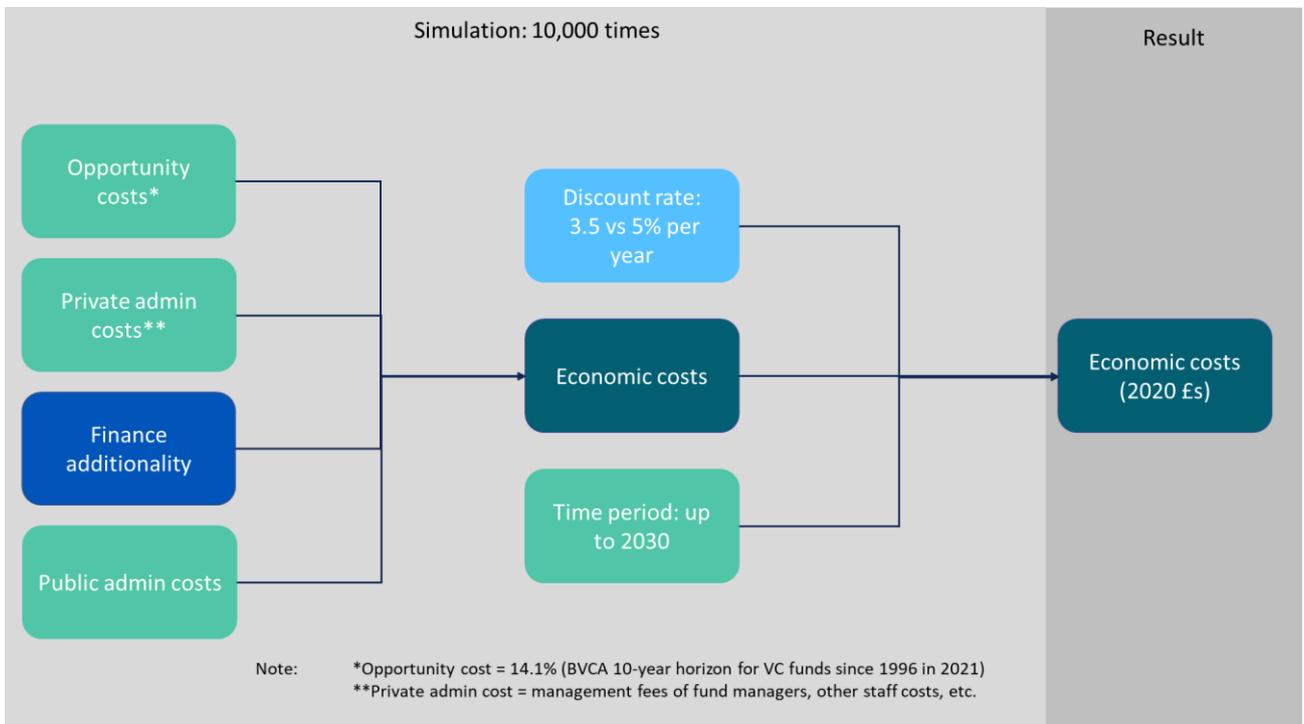
¹⁶⁷ The flow chart distinguishes between inputs and assumptions: Inputs are pieces of information coming directly from monitoring data or underpinned by robust evidence such as ONS statistics or results of econometric analysis. Assumptions are further inputs into the model based on other evidence (e.g., survey findings) or selected to align the approach with common practice (e.g., using the Treasury discount rate and the time horizon specified in the BPC business case).

Figure 10-1: Monte Carlo VfM model flow chart – benefits



Source: SQW

Figure 10-2: Monte Carlo VfM model flow chart – costs



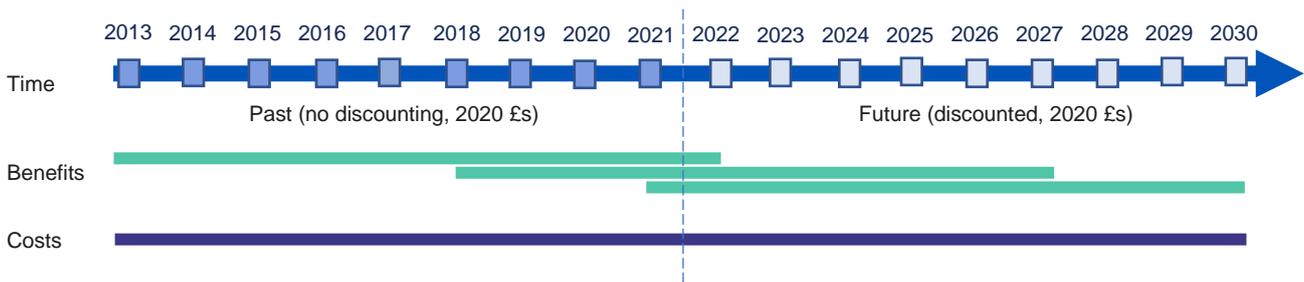
Source: SQW

Scope of the value for money assessment

The VfM analysis was carried out over a ten-year horizon for BPC commitments made by 2021. In other words, it covered the period from 2013/14 FY (including VCC funds and deals) until 2030/31FY and included both realised and expected benefits and costs. The benefits were considered only for the 331 companies that were agreed with British Business Bank to be in scope for the econometric analysis. Figure 10-3 illustrates the “timeline” of the VfM model:

- Green lines represent the ten-year periods over which the benefits were considered for companies that received BPC-backed investment in different years. Each beneficiary was assumed to generate GVA attributable to BPC for at least one year.¹⁶⁸ The exact number of years of benefits was different for each beneficiary (and in each replication during the Monte Carlo simulations), and was determined by the assumed business survival rate of 95% (see Table 10-3 for further detail on this assumption).
- The blue line represents the whole period over which the incurred and expected costs were modelled.
- The analysis took 2021/22 FY as “the present”, i.e., all years from 2022/23 onward were discounted using the Treasury discount rate of 3.5%.¹⁶⁹

Figure 10-3: VfM “timeline”



Source: SQW; Note: 2013 stands for 2013/14 FY, 2015 for 2015/16 etc.

Net impacts on turnover and GVA of beneficiaries

The estimated net impacts on turnover were provided by the econometric analysis described in the previous section. Specifically, **the average uplift in net turnover per year was assumed to come from a normal distribution with the mean £4.8m and standard deviation of £2.1m.**¹⁷⁰ The “bell” shape of the distribution meant that during simulations many beneficiaries were assigned an uplift close to the mean, however some companies were assumed to generate substantially higher or considerably lower turnover.

The turnover uplift was converted into net GVA using sector-specific GVA to turnover ratios. These were calculated as the average ratios for SIC2007 sections over the last ten years using results

¹⁶⁸ This assumption is based on the results of econometric modelling that show a statistically significant uplift in turnover in the year of funding.

¹⁶⁹ To ensure consistency with the econometric analysis all calculations were carried out with real values of costs and benefits expressed in 2020 £s (using GDP deflators published by the Treasury).

¹⁷⁰ For the VfM analysis we selected the estimates obtained relative to comparison Group A as the most ‘like for like’ comparison.

from the Annual Business Survey (ABS).¹⁷¹ **The average GVA to turnover ratio observed among BPC beneficiaries was 50%**, reflecting the large share of companies from innovative and knowledge intensive sectors (such as ICT). To ensure our Monte Carlo model accurately reproduced this average during simulations, we split all beneficiaries into three broad groups:

- **High GVA sectors:** SIC2007 sections L - Real estate activities; M - Professional, scientific and technical activities; Q - Human health and social work activities. This group contained 15% of BPC beneficiaries and the average GVA to turnover ratio for this group was 63%.
- **Medium-high GVA:** SIC2007 sections J - Information and communication; N - Administrative and support service activities; S - Other service activities. This group had the average GVA to turnover ratio of 53% and accounted for 65% of beneficiaries.
- **Other sectors:** all other SIC2007 sections. 20% of beneficiaries fell into this category with the average GVA to turnover ratio of 35%.

During the simulations, each beneficiary was assigned one of three possible values for the GVA to turnover ratio – the average ratios observed in the three groups.

Displacement and finance additionality

Displacement occurs when economic activity generated by an intervention displaces other UK economic activity by unsupported economic agents (in this case companies). Finance additionality accounts for the fact that in the absence of BPC some beneficiaries could have secured the funding elsewhere. Both these factors are hard to estimate reliably, but are important to consider when evaluating value for money.

Our assumptions regarding these two parameters were based on the findings from the beneficiary survey. As we discussed in section 8, 42% of beneficiaries indicated that in absence of BPC they would have secured alternative funding – in the same time and scale. Including a dose of caution (considering the survey's margin of error), **we assumed finance additionality to be 50%**. This figure is consistent with the assumptions from the BPC business case and is lower (as in “the funding was less additional”) than was found for a range of other government VC funds reflecting the commercial nature of the funding (see Owen *et. al*, 2019).¹⁷²

Regarding displacement, the beneficiary survey asked for the perceived degree of competition faced by the beneficiaries and competitors' location. The results suggest that only c. 33% of the competition is UK-based. Using further assumptions on potential level of displacement relative to how competitive the market is,¹⁷³ we arrived at **the overall displacement figure of 15%**. This estimate suggests low displacement from BPC activities and is consistent with BPC-backed funds investing into companies involved in new-to-market innovations with limited competition from other UK-based businesses.

¹⁷¹ [Annual Business Survey - Office for National Statistics \(ons.gov.uk\)](#). The ABS does not cover financial services (section K). Since c. 25 beneficiaries were in that sector, ABS was complemented with additional information from ONS publications on GVA by region and industry ([Regional gross value added \(balanced\) by industry: all ITL regions - Office for National Statistics](#)) and average turnover by industry ([Average turnover by industry - Office for National Statistics \(ons.gov.uk\)](#)).

¹⁷² Owen, R., North, D. and Mac an Bhaird, C. (2019). The role of government venture capital funds: Recent lessons from the UK experience. *Strategic Change*, 28(1), pp.69-82.

¹⁷³ No competition = 0; weak competition = 0.2; moderate competition = 0.4; intense competition = 0.6; very intense competition = 1.

Costs

The data on costs of operating the programme were provided by British Business Bank. These were:

- BPC commitments to funds in scope (including the Nuclear Liabilities Fund), and time profiles of drawdowns and returns observed to date
- incurred and expected fund management fees (both private and public)
- historical administration costs: staff costs (including associated legal, financial, IT, risk management, corporate services, communications, and senior management costs), purchase of goods and services.

Further assumptions were necessary to arrive at the present value of total economic costs for the 2013/14 – 2030/31 period. Specifically:

- The drawdowns and returns were modelled for each fund assuming an average time profile underpinned by the monitoring data and allowing for a variation of +/-5 percentage points within each year. Table 10-1 presents the average time profiles used in the model.
- The expected final TVPI for each fund were assumed to come from a normal distribution with mean 1.9 and standard deviation of one. This assumption was underpinned by the analysis of returns realised to date.
- Opportunity costs in each year of funds’ life were applied to the amount of drawn commitments net of returns. This approach was chosen because once a fund breaks even the resources can be used elsewhere in the economy and should not be subject to opportunity costs. The opportunity costs for private commitments were set to 14.1% (BVCA 10-year horizon for VC funds since 1996 in 2021).¹⁷⁴ Public opportunity costs represented the government cost of borrowing, we used 1.5% (the average yield on UK’s 10 year Government Bonds since 2013).
- Over the 2022/23 – 2030/31 period the administration costs (staff, purchase of goods and services) were assumed to grow at a rate of 3% per year. This assumption was underpinned by our analysis of historical trends in relevant BPC costs.¹⁷⁵

Table 10-1: Average time profiles of drawdowns and returns over the lifetime of a fund

Year	1	2	3	4	5	6	7	8	9	10
Draw-downs	11%	18%	16%	16%	14%	10%	7%	4%	3%	1%
Returns	0%	0%	0%	0%	3%	8%	18%	19%	20%	18%

Source: SQW, British Business Bank. Note: On average, 14% of returns were assumed to be realised outside the modelling period (in years 11 and 12 of fund life).

¹⁷⁴ [BVCA-Performance-Measurement-Survey-2020.pdf](#)

¹⁷⁵ Prior to 2018 no IT or building costs were allocated to the programme. This changed in 2018 with the inception of BPC resulting in a substantial increase in costs from £200k in 2017/18 to £7.9m in 2018/19. We assumed that no further structural changes to the team or the way costs are allocated will take place.

The following formula was used to calculate economic costs (applying appropriate discounting to any costs expected in the future):¹⁷⁶

$$\text{Economic costs} = (\text{OppC}_{pr} + \text{FundC}_{pr}) \cdot \text{FinAdd} + (\text{OppC}_{pub} + \text{FundC}_{pub} + \text{AdminC}),$$

where,

- *OppC* stands for opportunity costs; subscripts *pr* and *pub* indicate private and public costs respectively
- *FundC* stands for fund management costs
- *FinAdd* stands for finance additionality applied to private opportunity costs and private fund management costs since a part of the private investment would have happened in absence of BPC
- *AdminC* are British Business Bank's administration costs associated with BPC (staff, purchase of goods and services etc).

The present value of economic costs was estimated to be c. £1.6bn of which c. £500m were costs to date and c. £1bn were anticipated future costs.¹⁷⁷ The opportunity costs (c. £814m) accounted for 51% of the total, with over 75% of them (c. £620m) expected to be incurred between 2022/23 and 2030/31 FY. Table 10-2 breaks down the estimated costs by broad categories and indicates what part of the costs has already been incurred and what is expected in the future.

Table 10-2: Summary of estimated economic costs (2021 prices, present value)

Cost	2013/14 - 2021/22	2022/23 - 2030/31	Total
Opportunity cost of capital	£194m	£620m	£814m
Administrative costs	£54m	£143m	£197m
Management fees	£260m	£316m	£576m
Total	£508m	£1,079m	£1,587m

Source: SQW

Table 10-3 summarises the input values and assumptions used in the VfM Monte Carlo model and provides justification for the model parameters not discussed above.

¹⁷⁶ Consistent with British Business Bank guidance on economic appraisals.

¹⁷⁷ The 95% confidence interval for this estimate covered the range between £1.4bn. and £1.8bn.

Table 10-3: Inputs and assumptions behind the VfM Monte Carlo model

Model Parameter	Value	Comments/Source
BPC commitments (inc. time profiles)		<ul style="list-style-type: none"> Provided by British Business Bank, monitoring data
BPC-backed funds' TVPI	Mean = 1.9 St. dev. = 1.04 Normal distribution	<ul style="list-style-type: none"> Underpinned by analysis of monitoring data
Business survival rate	95% per year	<ul style="list-style-type: none"> The survival rate observed among beneficiaries and comparison groups in IDBR since 2012 Equivalent to 63% of beneficiaries realising benefits for full 10 years; the average number of years to generate GVA attributable to BPC is 8 Source: the Green Book
Discount rate	3.5%	
Displacement	15%	<ul style="list-style-type: none"> Underpinned by findings from the beneficiary survey, specifically in relation to: degree of competition and location of competitors
Finance additionality	50%	<ul style="list-style-type: none"> Underpinned by the result of beneficiary survey Consistent with BPC business case
Growth rate of operational and staff costs	3% per year	<ul style="list-style-type: none"> Underpinned by historical data on BPC costs and expectations about the future of BPC team
Net turnover uplift per year	Mean = £4.76m St. dev. = £2.10m Normal distribution	<ul style="list-style-type: none"> Underpinned by econometric analysis of net impacts Uplift relative to comparison Group A – companies that secured non-BPC VC investment
Number of beneficiaries	331	<ul style="list-style-type: none"> The number of beneficiaries in scope agreed for econometric analysis of net impacts
Opportunity costs	Private: 14.1% Public: 1.5%	<ul style="list-style-type: none"> BVCA 10-year horizon for VC funds since 1996 in 2021 Government cost of borrowing, average 10-year UK government bonds yield since 2013
Private and public admin. costs		<ul style="list-style-type: none"> Provided by British Business Bank
Sector composition of BPC	SIC2007 L, M, Q: 15% SIC2007 J, N, S: 65% Other: 20%	<ul style="list-style-type: none"> The proportion of BPC beneficiaries in three broad sector groups based on the average GVA to turnover ratios¹⁷⁸ in those sectors Source: monitoring data
Sector-specific GVA to turnover ratios	50% for BPC overall 63% for SIC L, M, Q 53% for SIC J, N, S 35% for other	<ul style="list-style-type: none"> Sources: Annual Business Survey;¹⁷⁹ monitoring data GVA to turnover ratio applied at the company level The maximum number of years for a beneficiary company to generate additional turnover
Time scale	10 years	<ul style="list-style-type: none"> Consistent with BPC business case.

Source: SQW

¹⁷⁸ Annual Business Survey - Office for National Statistics (ons.gov.uk)

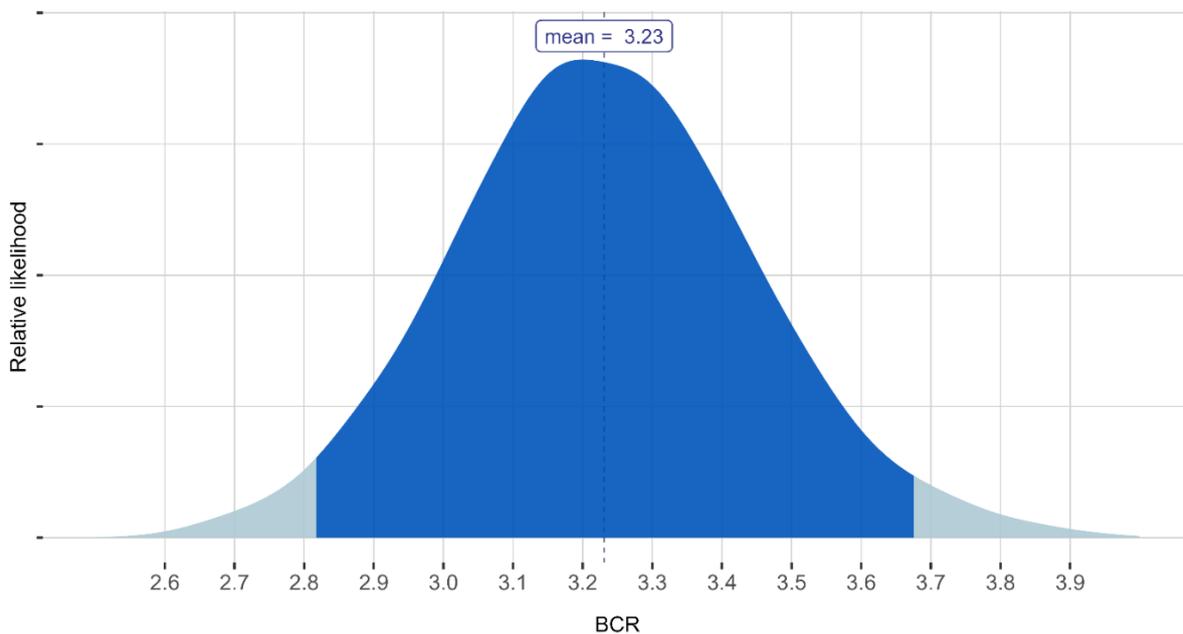
¹⁷⁹ Ibid 178.

Results

The 5,000 simulations of our VfM model revealed that **the present value of benefits for the 331 beneficiaries in scope was £5.1bn** (the 95% confidence interval for this estimate covering the range between £4.8bn and £5.5bn). The average contribution of one company was estimated to be £15.5m of additional GVA with some generating as much as £40m and others as little as £1.25m. These figures were compared against the cost estimates through the lens of Benefit Cost Ratios (BCRs).

Figure 10-4 presents the main output from the Monte Carlo model – a distribution of BCRs obtained via simulations – while Table 10-4 summarises key characteristics of the distribution.

Figure 10-4: The distribution of BCRs obtained through Monte Carlo simulations



Note: Dark area represents the 95% confidence interval

Source: SQW

Table 10-4: Key characteristics of the BCRs distribution

Indicator	Value
Mean value	3.2
95% Confidence Interval	2.8 – 3.7
Most common value (Mode)	3.2
Minimum value	2.5
Maximum value	4.0

Source: SQW

Reflections

We conclude that the BCR of BPC over a 10-year horizon is between 2.8 and 3.7, with the most likely value of 3.2. This indicates that BPC offers value for money: for every £1 of economic cost of operating the programme, BPC generates £3.2 in additional GVA.

These estimates are conservative as the net benefits for beneficiaries considered in the model were based on the lower estimate from the econometric analysis and the analysis covered only a subset of UK-based beneficiaries (as agreed with the British Business Bank).¹⁸⁰

¹⁸⁰ As a further sensitivity test we carried out the analysis using a higher estimate for the BPCs impacts, the results were in line with reported findings.

11 Conclusions

The UK Government's Patient Capital Review in 2017, led by HM Treasury, found that a lack of access to long-term finance prevented some innovation focused UK companies from scaling up. This contributed to an overall funding gap of around £4 billion, with the problem being most acute for companies requiring more than £5 million in equity investment.

As part of the response to the issues identified in the PCR, the British Business Bank established BPC as a commercial subsidiary in 2018. This committed £2.5 billion of public money into VC funds that focus on venture and venture growth. The funding was expected to unlock an additional £5 billion of private capital to support UK companies with high growth potential. BPC investments are primarily structured as fixed-term LP fund models, reflective of the wider VC market. BPC is also able to invest in evergreen structures and undertake a small number of direct investments into companies.

This interim evaluation report, coming nearly four years since the launch of BPC, is a timely early assessment of the extent to which the programme has been successful in achieving its policy and commercial objectives – and is likely to offer value for money.

The evidence from the process, impact and economic evaluation was brought together and assessed against the programme logic, focusing on key benefits relating to the: supply of finance, company performance, financial returns, and the wider VC market.

In presenting our conclusions, we highlight the following:

- The evaluation included both the BPC-backed funds and their underlying portfolio companies based in the UK. BPC supports 52 funds investing in c. 730 companies, of which c. 400 are UK-based.
- The evaluation scope covered 38 BPC-backed funds across 22 fund managers, with 389 UK-based companies in receipt of BPC investment.
- Of the 38 funds, 24 were backed by BPC between 2018 and early 2021, and 14 funds from the VC Catalyst. The latter was subsumed into BPC when it was created in 2018.
- Given the nature of VC LP model i.e., BPC invests alongside other private investors into a VC fund, the company level impacts and additionality cannot be isolated for BPC funding alone. At the fund level, finance additionality is explored specifically to examine BPC's impact.
- Thus, the findings from the survey of beneficiaries and the econometric analysis relate to BPC-backed funds and should be interpreted in this way.

Finally, BPC is a relatively unique Government VC programme with its focus on commercial and policy objectives to increase the supply of later stage VC. This makes applying lessons from the evaluation findings (e.g., to programmes targeting the early stage VC market) more difficult.

Market context

Our review of market data highlights the growth in VC investment in the UK and globally between 2017 and 2021. This is both in the number and value of deals across seed, early and late VC stages. There has also been a narrowing of the gap in the volume of later stage deals compared to early stage. The FM and stakeholder consultation evidence aligns with the overall findings from the review of market data.

The UK is the largest VC market in Europe with a record £28 billion invested in 2021. Between 2017 and 2021, the number and value of UK VC investment deals increased by 57% and 256%, respectively. This growth in UK VC reflects global trends in VC activity. In the UK, the number of VC deals increased across all investment stages, and later stage deals closed the gap with early stage, especially since 2018.

Between 2017 and 2021, LP commitments in UK VC funds increased from £2.5 billion to £4.5 billion, and the average fund size increased from £126 million to £172 million. In 2021, overseas investors represented around 29% of deals, mainly in later stage rounds. Since 2013, exits have continued to rise across the whole UK high-growth ecosystem. At the “top end”, the UK has created more new unicorn companies than France and Germany, but is well behind the US (since 2017); there are 42 unicorns headquartered in the UK (a further 17 have exited).

The consultation evidence from FMs and stakeholders generally aligned with the market data. However, there was some divergence of views amongst stakeholders on the availability of UK VC investment at different stages. Early stage VC investment had improved, but there was still a gap in later stages (Series B+). In contrast, a shift was being observed towards later stage (and larger deals), with less early stage investment (up to Series B).

It was also not clear from the FM and stakeholder feedback to what extent the role of UK-based institutional investors (e.g., pension funds) in the VC market had shifted significantly. All stakeholders agreed there were insufficient UK investors at later stage and perceived that there was a “long way to go to close the gap”. The loss of EIF has also created more pressure in this space. Most consultees suggested that UK companies were still exiting earlier than is optimal.

Rationale for BPC

We conclude that the rationale for establishing BPC was and still is valid to address the later stage funding gap in VC investment. However, there is scope to refine this to ensure that the central argument is clearer going forward: the sub-optimal functioning of the UK VC investment cycle (as described below) results in a scale up gap at the venture growth stage, and to a lesser extent at venture.

The feedback from FMs, wider stakeholders and the beneficiary survey evidence supports the overall rationale for BPC. All FMs and stakeholders reported a lack of later stage, larger-scale VC investors in the UK. VCs were simply not large enough to make later stage investments and/or follow their investments, leading to a gap in the volume and value of deals, especially from Series B onwards.

Central to the rationale for BPC is the concept (and practice) of funding being available to businesses at all stages of their development. This contributes to underinvestment in companies that need time to grow and commercialise their innovations (e.g., 10-15 years in some sectors). The knock-on effect of lack of later stage capital is less companies scaling up, fewer jobs, smaller turnover, less innovation etc., to sustain long-term economic growth.

A possible solution is patient capital. This is identified as being different from other investment in that it addresses a deeper rooted shortfall in long horizon investing. Frontier science, disruptive technologies and deep tech solutions take many years, deep pockets, and carry high risk. It is therefore not surprising that private investors (including institutional investors) require considerable inducement to enter such markets.

In this situation, the rationale for BPC is that it attracts/leverages private investment – and private VC LPs with the skills to lead investments. It is expected to generate sufficiently large-scale funds and also attract sufficiently high calibre LPs. This approach will then lead to demonstration of success (potentially over a long period of time) and encourage more private investment (second funds etc.).

The PCR, BPC Business Case and subsequent British Business Bank evidence articulate the rationale for BPC in terms of the following:

- Sub-optimal VC investment cycle: low VC fund financial returns leads to a lack of demand from institutional and other investors to VC as an asset class. This contributes to smaller VC fund sizes and deals, lower investment in companies, less scale up of companies, fewer exits and unattractive financial returns (and the cycle continues). The problem is most acute for companies requiring more than £5 million in equity investment.
- The short-termism in the VC investment market; weaker performance of the UK VC market compared to the US, in particular later stage and in deep tech sectors; information failures amongst companies and investors; and positive spillovers.
- The gap between the UK and US VC markets: UK having a lower VC investment to GDP percentage, smaller average fund size, earlier exits, less VC investment by funding round (post Series B). The comparison is important given that the US is the most developed and successful VC market and allows a better understanding of the difference or gap to be closed. However, in our view, it may not be always appropriate to benchmark the UK to the US (and so need to be careful when making the case for BPC).

Process evaluation

Design and delivery

The design of BPC is broadly appropriate and relevant given its rationale and high level objectives (especially commercial). Key attributes of BPC’s design that have enabled progress include: having both venture and venture growth funds; its scale and the ability to support large funds, offering large ticket sizes and follow-on, which is particularly critical for scale up; and creating a separate commercial entity (subsidiary of British Business Bank).

However, the first four years of operation has highlighted the need for greater clarity, transparency and communication about the balance between commercial and policy objectives, associated priorities, and how the relationship between the two is managed in practice (this is the classic “double-bottom line” issue).

The pace at which BPC funding has been committed is now broadly in line with original expectations (on an aggregate level). In its first two years, BPC committed funds slightly quicker than anticipated, but is now broadly on track. However, the size of BPC-backed funds and deals are smaller than expected and there has been a slight skew towards venture rather than venture growth funds.

This evaluation has focused on 38 out of the 52 BPC-backed funds, which account for £786m of the total £1bn BPC commitment to date. The average size of BPC-backed funds is broadly in line with the original assumptions in the BPC Business Case. The average deal size is nearly £5m compared to the market gap identified by the PCR Industrial Panel of £5m+. BPC has made almost equal commitments into venture and venture growth funds (48% and 51% of commitments respectively, excluding co-investments).

BPC making early investments is a legacy of VC Catalyst, a response to market demand and the need to build a pipeline of prospects for later stage investment. However, the evidence from our primary research and review of monitoring and market data, suggests BPC could do more in venture growth – increasing the current average deal size from £5m. Initial evidence suggests these funded companies are raising larger follow on funding rounds.

The question is, can the investment size shift enough? The early signs are encouraging – BPC has sought to shift the emphasis from investing in funds focusing on venture to venture growth. This is reflected in its' revised annual targets to have one third of commitments in venture and two thirds in venture growth funds. Across the BPC programme as a whole, commitments in 2020/21 were broadly in line with this new target. Going forward, BPC may need to reconsider the maximum funding available to meet the needs of the later stage market.

Overall, the delivery of BPC has generally been effective and broadly in line with the programme rationale and objectives. The processes are recognised as being important and necessary, given the need for public sector accountability. Likewise, monitoring processes appear to be appropriate in terms of BPC's commercial objectives, but the monitoring of BPC's performance against policy objectives should be strengthened.

BPC due diligence is very rigorous, thorough and considered important for crowding in other private investment. Similarly, BPC's support to FMs is professional, attentive and demonstrates high levels of knowledge. The non-financial support provided by FMs to beneficiary companies is extensive, tailored and valued – FMs are board members on 38 of the 48 (79%) surveyed companies.

Management and governance

There are clear, well-defined and rigorous management and governance structures and processes in place for implementing the BPC programme. The roles, responsibilities and reporting of the decision-making bodies and members, appear to be robust and suitable to the objectives of BPC.

In particular, we highlight the following: set-up of BPC as a subsidiary of the British Business Bank (reflecting private practice) and BPC using the Bank's central functions including operating under the risk management and governance framework of the Bank; BPC governance arrangements mirroring those of the Bank's existing commercial subsidiary i.e., British Business Investments; BPC introducing separate Managing Directors for funds and direct co-investments; and a BPC Investment Committee with representatives from BPC and the Bank, alongside an updated investment process to undertake finance, legal and risk assessments.

Looking forward, BPC should consider that the design, delivery and governance: clarify/better communicate its investment strategy, priorities and delivery plan; explore ways in which processes can be accelerated and potentially streamlined for follow-on investment; and ensure sufficient capacity is available for "core" BPC investments (and these remain a priority) alongside new programme demands.

Impact evaluation

Impact on firms

The evidence from the beneficiary survey indicates that BPC-backed investment has been successful in ensuring that innovative companies have access to VC they need to grow. This finance is partially additional i.e., companies have been able to access finance faster and/or at a larger scale than would otherwise have been the case.

Both the survey and econometric analysis found that investment is leading to additional innovation outcomes (e.g., increasing investment in R&D and increasing sales of innovative products) and improved company performance (increased employment, turnover and valuations). More broadly, qualitative evidence suggests the BPC-backed finance is helping companies to remain in the UK for the foreseeable future.

The BPC-backed funds in scope have targeted their investments in UK-based companies appropriately in terms of a focus on highly technology oriented and innovative companies, in line with BPC objectives. The sectoral profile of BPC investments to date is similar to the wider market (including R&D intensive sectors, where the funding gap continues to be most acute) reflecting BPC not having a sector specific focus.

In terms of the BPC-backed finance, there is evidence of partial additionality, where companies have been able to access finance more quickly and/or (to a lesser extent) at a larger scale than would otherwise be the case. The FM and company feedback was consistent on this: almost half of FMs interviewed and beneficiaries surveyed reported that finance would not have been accessed as quickly and/or to the same scale without the BPC-backed fund. Full additionality is also evident, albeit for a smaller share of respondents. This is unsurprising, given that BPC and the FMs involved operate on a fully commercial basis. Deadweight appears to be minimal which is encouraging given market trends and buoyant VC market during BPC's lifetime to date. These findings suggest that companies are better capitalised as a result of BPC-backed finance, and accessing finance quickly and at scale is critical in terms of scale up.

The survey evidence shows how companies are using BPC-backed finance to facilitate growth and innovation, and this is leading to both innovation outcomes and improved company performance. The survey also suggests most companies had secured follow-on finance – leading to further finance for these growing and innovative companies - and the BPC-backed investment has played an important role in securing this. More broadly, qualitative evidence suggests the BPC-backed finance is helping these innovative companies to survive, achieve their growth ambitions and remain in the UK for the foreseeable future.

There is strong evidence to suggest that company level outcomes are additional. Without BPC-backed investment, two thirds of survey respondents argued that company-level growth would have taken longer to achieve, been smaller in scale and/or of lower quality, and one quarter claimed that it would not have been achieved at all in the absence of the BPC-backed finance. Self-reported deadweight was very low for both business growth and wider outcomes.

Both survey respondents and stakeholders acknowledged that other factors have contributed to the outcomes observed, such as market demand, regulatory drivers, economic conditions and technology developments. However, BPC-backed investment was “the critical contributory factor” for one quarter of respondents and deemed an “important contributory factor alongside others” for the remaining three quarters. This was corroborated in the stakeholder interviews, with a more even balance between BPC being the most critical or an important contributory factor.

These findings on the impact of BPC-backed finance on company performance were corroborated by the econometric analysis, which shows that BPC-backed investment had a positive and statistically significant impact on employment, turnover and valuations of beneficiary companies. For example:

- In terms of employment, on average beneficiary companies grew by 55% due to BPC-backed funding. This is equivalent to c. 4,600 – c. 5, 000 net additional jobs across beneficiaries in scope of the evaluation.
- Following BPC-backed investment beneficiary companies demonstrated a net uplift in turnover between £4.7m and £5.4m per year.
- The valuations of beneficiary companies were found to be on average £60m higher (including outliers) than they would have been in absence of BPC-backed funding.¹⁸¹
- The productivity growth and rate of business survival observed among the beneficiaries was in line with that of companies securing alternative VC funding, suggesting the BPC-backed funds invested into companies with high potential.

Impact on funds

The evidence demonstrates how BPC has enabled FMs to raise funds of larger/optimum sizes and accelerated the pace at which funds close, and influenced investment strategies in terms of UK content and of EDI. It has also helped to crowd in other LP investment. However, the evidence is more mixed on the extent to which BPC can or has influenced the investment horizons of some BPC-backed funds. It is too early to fully assess the financial performance of BPC, but early findings are encouraging,

There is strong evidence of partial finance additionality at the fund level. Three quarters of BPC-backed funds are larger than they would have been without BPC investment (even if fund sizes tend to be towards the lower end of the anticipated range) or have been able to achieve their optimal scale for their investment strategy and two thirds have closed more quickly than would otherwise have been the case. These findings were supported by qualitative evidence and our econometric analysis of fund size – for example, our analysis of PitchBook data suggested that BPC-backed funds were on average £55m larger than their non-BPC counterparts. The difference was estimated to be greater (c. £80m) after controlling for the time it took a fund to close.¹⁸²

There is also evidence of full additionality in some cases, whereby just over one third of FMs (notably of less established FMs) they would not have been able to obtain LP commitments from elsewhere at all without BPC. The wider buoyancy of VC markets has provided a tailwind for BPC, but these findings suggest that BPC has not just been “riding the wave” of market trends, but has provided additional finance.

Finance additionality varies across the funds supported by BPC, reflecting the way in which BPC has assessed the rationale for investing in each fund on a case-by-case basis in order to balance its commercial and policy objectives. However, greater transparency on this would be helpful to reassure external stakeholders that the balance is optimal from a policy perspective.

¹⁸¹ We note that in percentage terms turnover and valuations were found to grow at the same rate as those of companies that secured alternative VC funding.

¹⁸² These results are statistically significant, however the magnitude of estimated differences should not be overstated since only 21 (c.40%) of the BPC-backed funds in scope were covered by the PitchBook data, and only 15 of them had data on the time it took the fund to close.

The evidence from FMs also demonstrates how BPC has influenced the investment strategies of two thirds of FMs supported, primarily in relation to UK content and their prioritisation of EDI issues. However, the extent to which BPC has influenced investment horizons appears to be more variable: in some cases, this is because FMs are already relatively patient; but in others, BPC appears to have limited influence. The mechanisms or incentives through which BPC could influence a fund's patience are not fully clear. It is too early to fully assess exits for a long-term fund of this nature, but this should be tracked closely to ensure that BPC-backed funds are implementing long-term patient capital investment strategies. Factors such as BPC's contribution relative to overall fund size, the point at which it invests in the fundraising process and whether FMs are already well established have a bearing on whether BPC can plausibly influence investment strategies (and doing so without potential implications for other objectives, such as crowding in other LPs).

With the current model, BPC has performed well in terms of crowding in private sector finance. This is attributed to BPC's scale, reputation, ability to follow-on itself, and robust due diligence processes providing credibility and validation that gives other LPs confidence to invest. By Q3 2021, we estimate that BPC-backed investment into UK companies had levered £1.4bn from private LP funds (in gross terms), suggesting good progress against BPC's original ambition to leverage at least £5bn of private investment over BPC's lifetime. The econometric evidence suggests a statistically significant (but not necessarily causal) link between BPC-backed investment into specific UK regions and sectors and non-BPC VC activity in the same areas. Specifically a one percent increase in BPC-backed investment is associated with a 0.4% increase in non-BPC VC investment.

It is too early to meaningfully assess the financial performance of the BPC-backed funds, but preliminary analysis of financial returns is encouraging. By Q3 2021, BPC had realised values of £478 million, a distributed to paid in ratio (DPI) of 0.13 and a total value to paid-in ratio (TVPI) of 1.9 across the funds in scope (on aggregate). This was in line with other funds of a similar vintage in the market.

Impact on wider finance market

BPC is starting to play a market leadership role and have a positive signalling effect in the wider market. This is helping to improve the functioning of the VC market and strengthen the UK's innovation and enterprise ecosystems. However, the challenge is substantial and long-term, particularly in terms of influencing institutional investment.

It is too early to fully assess BPC's impact on the wider finance market, so at this stage we have explored whether the mechanisms are in place and working effectively to facilitate these wider impacts in the longer-term. Both the performance of the BPC-backed funds/direct co-investments *and* BPC's outward facing signalling and demonstration role will be critical to success.

According to some FMs and stakeholders, BPC has started to have a wider signalling effect through its portfolio of funds, e.g., in terms of robust due diligence, "setting standards", "unifying" FMs, and its own follow-on investments in these funds. It is also starting to play a wider market leadership role, and taking appropriate steps to influence the market (for example, in terms of EDI), co-ordinate the market and demonstrate its own commercial performance by hosting events and publishing annual reports on financial returns. The extent to which BPC has influenced the attitudes/behaviours of institutional investors towards this asset class is not clear, which is not unexpected at this stage.

Economic evaluation

It is too early to provide definitive figures on the economic cost effectiveness of the BPC programme, but the evaluation findings suggests BPC is offering value for money. We estimate a Benefit Cost Ratio of 3.2 (the range is between 2.8 and 3.7, reflecting the uncertainties associated with VC investment). In other words, for every £1 of economic cost of operating the programme, BPC generates £3.2 in additional GVA.

The BPC's value for money was assessed over a ten-year horizon for BPC commitments made by 2021. The analysis covered the period from 2013/14 FY until 2030/31FY and included both realised and expected benefits and costs. The VfM model accounted for uncertainties in company level outcomes and the timing of returns.

The economic costs associated with BPC activities to date were estimated to be c. £500m with further £1.1bn expected over the next ten years.¹⁸³ Opportunity costs accounted for approximately half of BPC's economic costs (c. £810m, of which c. £620m were anticipated future costs). The present value of net GVA expected to be generated by BPC beneficiaries in scope by 2030/31FY was estimated to be £5.1bn.¹⁸⁴ This is equivalent to an average contribution by one beneficiary company of £15.5m.

Overall assessment

Finally, we provide an assessment of BPC performance to date and whether it is 'on track' to deliver against its ultimate objectives at this interim evaluation stage. Put another way, in the first three-to-four years of activity, has it established appropriate foundations that will set BPC on a trajectory to deliver against its longer-term goals?

Overall, the evidence suggests that BPC has made good progress against both its commercial objectives (in terms of financial performance) and policy objectives (specifically in relation to company level innovation and growth).

Reflecting back on the logic model set out in Figure 3-3 and BPC's commercial objectives relating to the supply of capital, BPC has:

- increased the supply of additional capital, both directly and by crowding in private investment, and
- enabled funds of greater scale, with a greater UK focus and that have been able to close more quickly.

Under the policy objectives relating to business performance, we have observed companies using BPC-backed finance to innovate and grow, which has enabled further follow-on investment. There is strong evidence to suggest this growth is additional and BPC-backed finance has made an important role in realising growth, as illustrated by the additionality and contribution findings above. The CBA results above also suggest that BPC-backed investments have the potential to provide good value for money for the taxpayer in terms of their economic impact.

Going forward, we highlight two points that BPC may want to consider so that the impact of the programme is maximised:

¹⁸³ Figures are expressed in 2020 £s.

¹⁸⁴ This figure were underpinned by the findings from econometric analysis of net impacts on turnover.

- **The balance between commercial and policy objectives:** Greater clarity is needed on the intended balance between commercial and policy objectives, and scope/priorities in terms of policy (e.g. additionality, company scale up, building momentum in the venture/venture growth stage of the VC market, crowding in private capital including institutional investment, addressing other market imbalances relating to spatial and diversity issues, etc). Finding an “acceptable” balance from the perspectives of BPC, FMs and HMG will not necessarily be straight forward. Potential trade-offs between commercial and policy objectives need to be explicitly recognised and managed. This might require element of conditionality to ensure that policy objectives are delivered, ensuring that any short or long term consequence are accepted.
- **The patience of investment:** The final consideration here relates to BPC’s ambitions to demonstrate that “a long-term patient capital investment strategy can produce commercially attractive returns” and encourage “other UK institutional investors to invest in the asset class”. Greater clarity on the specific mechanisms through which BPC is seeking to influence the patience of the overall VC ecosystem, both through its own commitments and (in time) influencing the wider market, would be helpful. Recent evidence suggests that the funding gap is greatest in frontier science, disruptive technologies and deep tech sectors requiring investors with deep pockets and long time horizons. The commercial (vs policy) case for patience will only emerge if higher returns occur as a result, which will take time. The other key factor is likely to be building funds able to go from venture rounds up to B+; funds this size are not common in the UK and nor is the mix of skills in the FM team, but the scale and combination now appear to be the norm among leading FMs in the US.

Looking forward, a number of aspects of the programme should be monitored closely, including the size and stage of deals, investment horizons and exits of BPC-backed funds, sources of levered finance and any shifts in institutional investments. More broadly, BPC should continue to gather evidence to characterise and quantify the scale up finance gap it is seeking to address, especially given the rapidly changing market context at present.

Annex A: List of consultee organisations

Annex Table A-1: List of Fund Manager consultees

Organisation
Active Partners
Amadeus
Atlantic Bridge (x2)
Atomico (x2)
Balderton Capital
Connect Ventures
Crane Venture Partners (x2)
Dawn Capital
ETF
Frog Capital
Hoxton Ventures
IQ Capital
Kindred Capital
Molten Ventures
Nauta
Notion Capital
OXX Capital
Passion Capital
Prime Ventures
Seedcamp
SEP
SV Health Investors

Source: SQW

Annex Table A-2: List of Stakeholder consultees

Organisation
BEIS (x2)
BIA
BPC (x3)
British Business Bank (x2)
BVCA
HM Treasury
Innovate UK
UKRI
ScaleUp Institute
Tech UK
UK Government Investments (x2)

Source: SQW

Annex B: Further detail on methodology

This Annex provides further detail on the evaluation methodology, in particular key issues and challenges, the theory and practice of contribution analysis, and the econometric analysis to estimate impacts.

Key issues and challenges

Investment by stage, sector and vintage will influence level of impact – The level of investment and timing of exits is influenced by stage and sector focus of businesses. The evaluation took into account that the BPC programme invests across venture and later stage venture growth – and that some sectors exhibit long term pathways to innovation, taking 15+ years to commercialise and exit (e.g. cleantech); other sectors can move faster (e.g. 3-5 years in software). Although there is variation by sector, most firm level impacts arising from BPC-backed funds are likely to be realised after 10 years. Also, the year of VC investment is potentially a key determinant of success and that the internal rate of return (IRR) from investments can be influenced by economic cycles more so than fund performance. Given the above, the evaluation needed to be realistic about firm level impacts evidence to date, with potential implications for value for money.

Assessing additionality on two distinct levels (fund and company) – At the fund level it was important to assess BPC investment into private VC funds i.e., what would have happened in the absence of BPC investment (for example in terms of the size of funds and timing of fund close). At the firm level, the evaluation assessed BPC's underlying private VC fund company portfolio investment additionality – capturing the innovation and business performance outcomes and impacts identified in the programme logic model. The scoping discussions suggested a wide spectrum of views amongst FMs, external stakeholders and businesses on the additionality of BPC. This is particularly the case where other investment sources (including different funding rounds) and factors are at play to support innovative businesses in their scale up journey.

Programme aims not necessarily aligned with the wide range of programme outcomes and impacts – There are potential tensions between programme objectives, which affect performance given the array of benefits relating to firm performance, financial, and the wider market. For example, job creation does not necessarily mean firms are more productive; or that investment in innovation results in new jobs (e.g. the adoption of lean processes may replace workers). The evaluation highlighted the tensions. In any case, the focus is on scaling-up through (additional) long term patient capital, leading to exits (e.g. through IPO, listing on London Stock Exchange, or perhaps trade sale).

Programme design, delivery, and governance influence demand and performance – As described in Section 3, it was important to assess *how* the design, delivery and governance/management of BPC has influenced progress towards BPC's intended outcomes and impacts. This captured the experiences of Fund Managers, British Business Bank/BPC staff, and gather feedback on the “customer journey” of businesses. The scoping discussions highlighted particular issues to consider. For example, how EDI is incorporated into the delivery of the programme; the extent to which governance structures and members influence the performance of BPC; how delivery has contributed to changes in behaviours of Fund Managers and businesses. The assessment of design and delivery also requires examination of the fixed-term vehicles in place for the majority of

investments, whilst recognising that BPC is open to more innovative structures, particularly those providing evergreen or perpetual capital.

The wider context influences business performance and innovation – In order to provide a fair and balanced assessment, it was important to understand the context/system within which investee companies and the funds operate. For example, investment in, and performance of, firms is affected by a range of issues including the development of technologies, access to other funding (equity and debt), access to markets and skills, changes in the UK economy and finance markets including, in particular COVID-19 and Brexit. The latter two have had a profound influence on firms and the wider economy.

Time lags, availability and compatibility of secondary data – secondary datasets used in econometric analysis (Beahurst, PitchBook, and IDBR) have varied coverage of beneficiaries depending on the outcome measure of interest. For example, they contain annual data on employment and turnover, but valuations are updated irregularly. In addition there are lags in when the data becomes available, and uncertainties in relation to which year it relates arising from the methodology used to construct those databases. This means that prior to the analysis the evaluation aligned the datasets, as far as was practical, and after the initial round of analysis it triangulated the effect of BPC on beneficiaries from a range of statistical models that covered different time periods and groups of businesses.

Contribution analysis

The evaluation used contribution analysis (CA) to test the evidence on outcomes and impacts, whilst considering other factors which may have contributed to these benefits. CA is a theory-based evaluation approach that “aims to define the links between each element of a logic model, and test and refine these theoretical links between the programme and the expected impacts. It provides a framework for analysing not just whether the programme has had an impact, but how that impact materialised and whether any particular element of the programme or contextual factors were crucial to the impact”.¹⁸⁵

In other words, it makes explicit the extent of the change and why the change occurs, considering the context in which the intervention is being implemented. CA can increase confidence that the intervention has had an impact: instead of developing a picture of what would have happened in the absence of the intervention, focuses on whether there is strong evidence that the intervention rather than something else was critical in causing the benefits observed.¹⁸⁶

CA draws on the development of logic models and underlying theory of change as to how intended outcomes and impacts came to materialise. The supporting evidence collected is used to prove the intervention made the difference by constructing a “contribution story” on the extent to which the intervention was important in generating these observed outcomes and impacts relative to other factors – internal and external to the intervention.

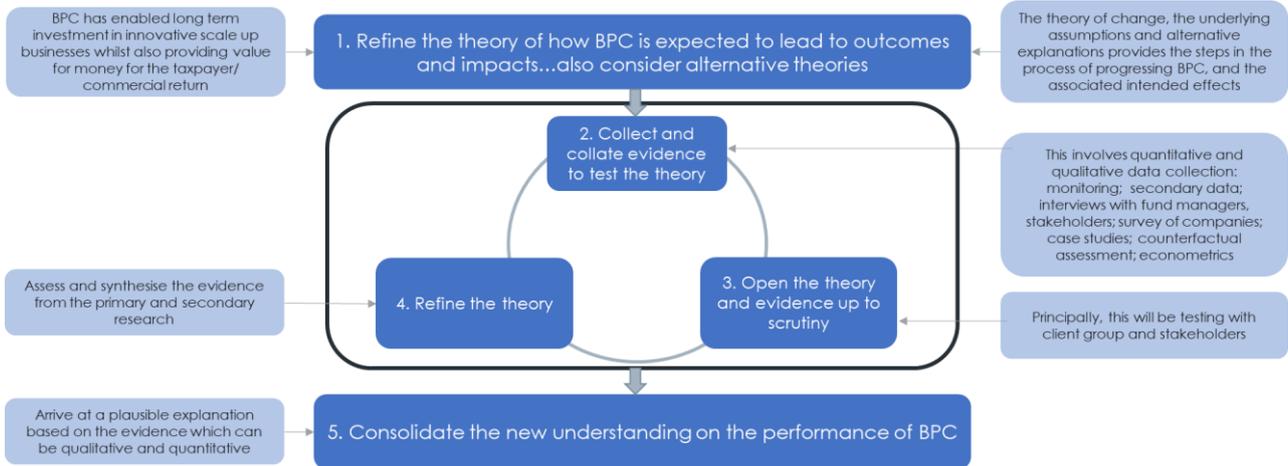
Informed by the Magenta Book (2020),¹⁸⁷ the steps in applying CA are set out in Figure 1.2.

¹⁸⁵ Innovate UK (2018) Evaluation Framework. *How we assess our impact on business and the economy.*

¹⁸⁶ Befani, B., and Mayne, J., (2014) *Process Tracing and Contribution Analysis: A Combined Approach to Generative Causal Inference for Impact Evaluation*, IDS Bulletin, Vol. 45 No. 6.

¹⁸⁷ HM Treasury (2020) Magenta Book - *Central Government guidance on evaluation.*

Annex Figure B-1: Steps in contribution analysis



Source: SQW based on HMT Magenta Book (2020)

Further detail on econometric analysis

This section provides additional information about our econometric methodology and results. The order in which this additional information is presented mirrors that of Section 9 in the main report. We recognise that most statistical analysis presented in this report is probabilistic in nature and there is always a chance to be wrong when concluding the effect is or is not present. **When drawing conclusions we adopted the 10% level as a threshold for accepting a result as statistically significant.** In other words, we allow c. 10% chance of being wrong when concluding that obtained estimates are different from zero. This decision reflects the large variation in outcomes one can expect from VC investment and the presence of additional ‘noise’ from linking several data sources and trying to align the information (e.g., in terms of calendar vs financial years). However, where relevant, **we present continuous p-values to allow the reader to draw their own conclusions should they wish to use a different significance level.**

Analysis of VC investment into UK regions and sectors of the economy

As part of the analysis of BPC’s impacts at the fund level we investigated the relationship between the volume and number of BPC and non-BPC deals in 60 region-sector pairs of the UK. To do that we estimated the following statistical model:

$$NonBPC_{ijt} = \alpha_{ij} + \gamma_t + \lambda_{it} + \beta_1 BPC_{ijt} + \varepsilon_{ijt}$$

where

- $NonBPC_{ijt}$ – is the number of non-BPC deals or the natural logarithm of non-BPC VC investment in region i , sector j in year t
- α_{ij} – is a region-sector “fixed effect” that captures time-invariant, potentially unobserved characteristics of each region-sector pair
- γ_t – is a year “fixed effect” that captures economy-wide shocks and events in a given year that affect all region-sector pairs, e.g., Brexit vote and COVID-19
- λ_{it} – captures time trends specific to region i

- BPC_{ijt} – represents the number of BPC deals or the natural logarithm of BPC investment in region i , sector j in year t . β_1 is the coefficient of interest representing the average number of non-BPC deals associated with one BPC deal in a region-sector pair
- ε_{ijt} – is an error term.

When analysing the results we used cluster-robust standard errors that allow the error terms for each region-sector pair to correlate over time. In other words, we accounted for the fact that if the model does not match the data for a region-sector pair in a given year, it is also more likely to explain observations from that region-sector pair poorly in the following year as well. The models were estimated with OLS.

The relationship between the volumes of BPC and non-BPC investment was expressed in natural logarithms of the variables to allow interpretation of the effect as percentage changes. This however meant that all region-sector pairs that did not attract any BPC investment had to be omitted (since the logarithm of zero is undefined). **This substantially reduced the number of available observations and therefore the estimates should be interpreted with caution.** The number of observations analysed in each model were: 38 and 51 for the models of investment volumes covering the periods from 2018 and 2013 respectively; 220 and 495 for the models of the number of VC deals covering the same periods.

Annex Table B-1 and Annex Table B-2 present the estimates for the coefficient of interest (β_1).

Annex Table B-1: Estimated relationship between the volume of BPC and non-BPC VC investment in UK region-sector pairs

	Estimate	Std. error	[95% Conf. interval]	P-value	
Effect since 2018	0.408	0.078	0.208	0.608	0.003
Effect since 2013	0.303	0.041	0.207	0.400	0.000

Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook's own figures)

Annex Table B-2. Estimated relationship between the number of BPC and non-BPC VC deals in UK region-sector pairs

	Estimate	Std. error	[95% Conf. interval]	P-value	
Effect since 2018	-0.01	0.42	-0.83	0.82	0.985
Effect since 2013	1.10	0.30	0.52	1.68	0.000

Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook's own figures)

Annex Table B-3 and Annex Table B-4 present the breakdown of the number of VC deals by region based on PitchBook data used for this analysis (rather than based on monitoring data as presented in Section 4), and provides further evidence on the dominance of London in the VC market.

Annex Table B-3: Number of VC deals by region since 2013

Region	All VC deals	%	BPC and VC Catalyst deals	%
East Midlands	57	1%	6	2%
East of England	488	12%	34	14%
London	1731	41%	135	54%
North East	168	4%	1	0%
North West	261	6%	8	3%
Northern Ireland	78	2%	4	2%
Scotland	411	10%	5	2%
South East	535	13%	34	14%
South West	151	4%	7	3%
Wales	77	2%	4	2%
West Midlands	134	3%	8	3%
Yorkshire and Humber	130	3%	3	1%

Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook's own figures)

Annex Table B-4: Number of VC deals by region since 2018

Region	All VC deals	%	BPC deals	%
East Midlands	36	1%	5	2%
East of England	277	11%	24	11%
London	1099	46%	123	58%
North East	80	3%	1	0%
North West	129	5%	6	3%
Northern Ireland	47	2%	4	2%

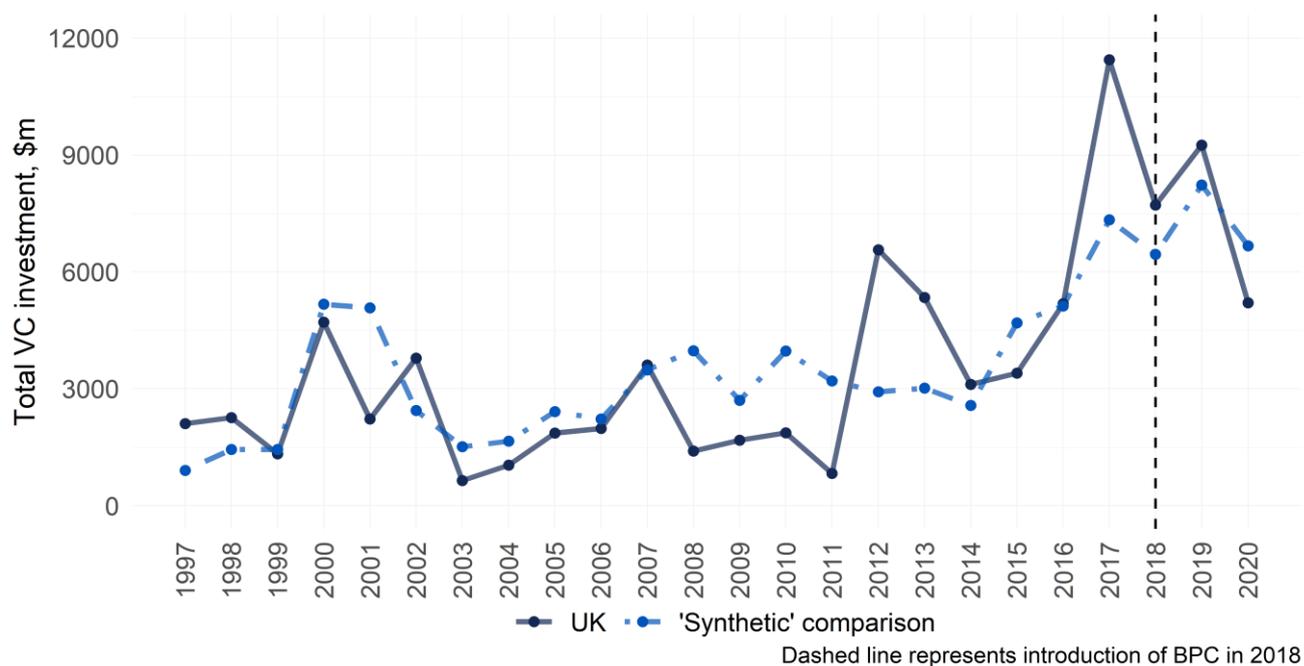
Region	All VC deals	%	BPC deals	%
Scotland	182	8%	4	2%
South East	290	12%	27	13%
South West	98	4%	7	3%
Wales	38	2%	2	1%
West Midlands	64	3%	6	3%
Yorkshire and Humber	73	3%	2	1%

Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook's own figures)

Synthetic control analysis of UK trends

When constructing the synthetic comparison for the UK we followed the methodology and analytical algorithms described in Abadie et al. (2010). We did not pre-specify the relative importance of comparator economies or additional variables used to improve the match between the synthetic and real UKs. The weights were selected computationally to achieve the best possible quality of constructed comparison and were different for each of the two measures (number of VC funds and volume of VC investment) and considered periods (1997 – 2020 vs 2007 - 2020). The final weights used in the analysis are presented in Annex Table B-5 - Annex Table B-8, while Annex Figure B-2 - Annex Figure B-4 present the outputs omitted from Section 9.

Annex Figure B-2: Trends in VC investment observed in the UK vs synthetic comparison, 1997 – 2020



Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook’s own figures)

Annex Table B-5: Weights of countries in the synthetic comparison, 1997 - 2020

Country	VC investment	Number of VC funds
Canada	5.29%	39.36%
France	68.58%	8.01%
Germany	0.10%	25.55%
Israel	0.46%	12.04%
Switzerland	19.73%	8.01%
US	5.83%	7.02%

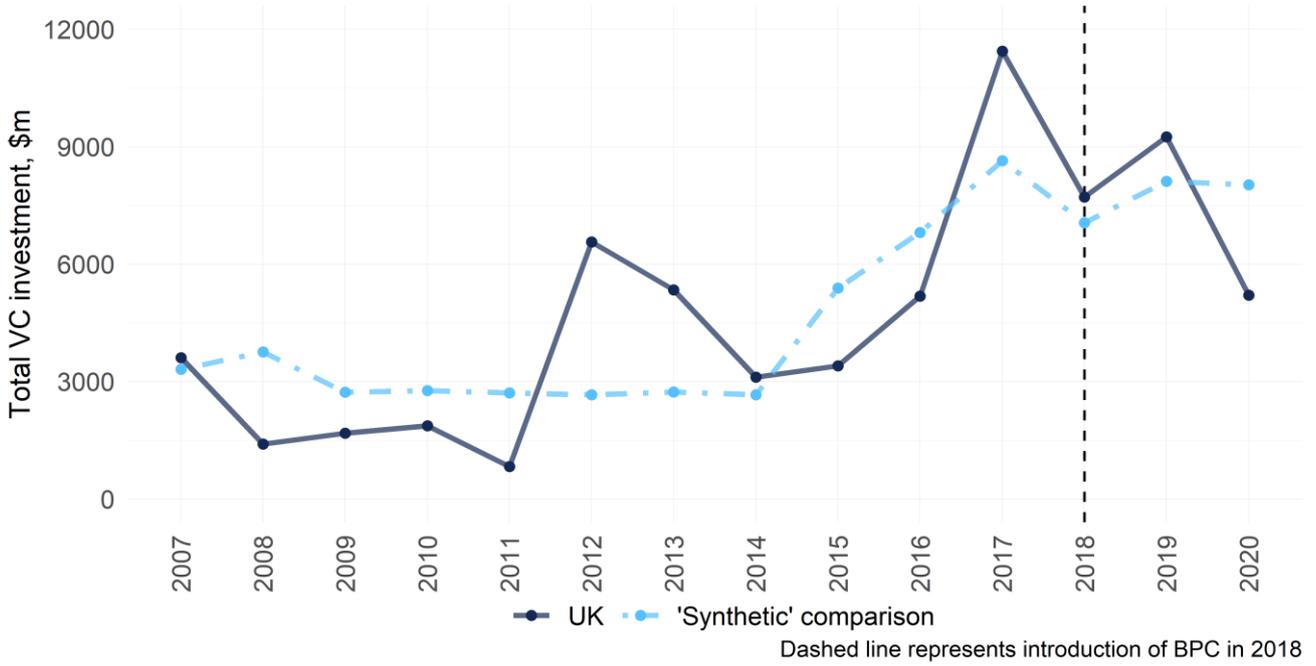
Source: SQW

Annex Table B-6: Weights of variables used to construct the synthetic comparison, 1997 - 2020

Variable	VC investment	Number of VC funds
Mean share of finance sector in the economy	0.08%	1.33%
Mean log GDP per capita	0.31%	9.53%
Mean ease of doing business index	0.00%	1.22%
Digital adoption index 2014	0.00%	5.93%
Digital adoption index 2016	23.23%	7.52%
Human capital index 2010	0.26%	11.83%
Human capital index 2017	0.01%	5.18%
VC investment in 1997	0.02%	10.66%
VC investment in 2002	0.01%	10.07%
VC investment in 2007	9.77%	7.42%
VC investment in 2013	0.02%	1.80%
VC investment in 2014	1.02%	4.12%
VC investment in 2015	18.61%	10.19%
VC investment in 2016	40.29%	3.73%
VC investment in 2017	6.36%	9.47%

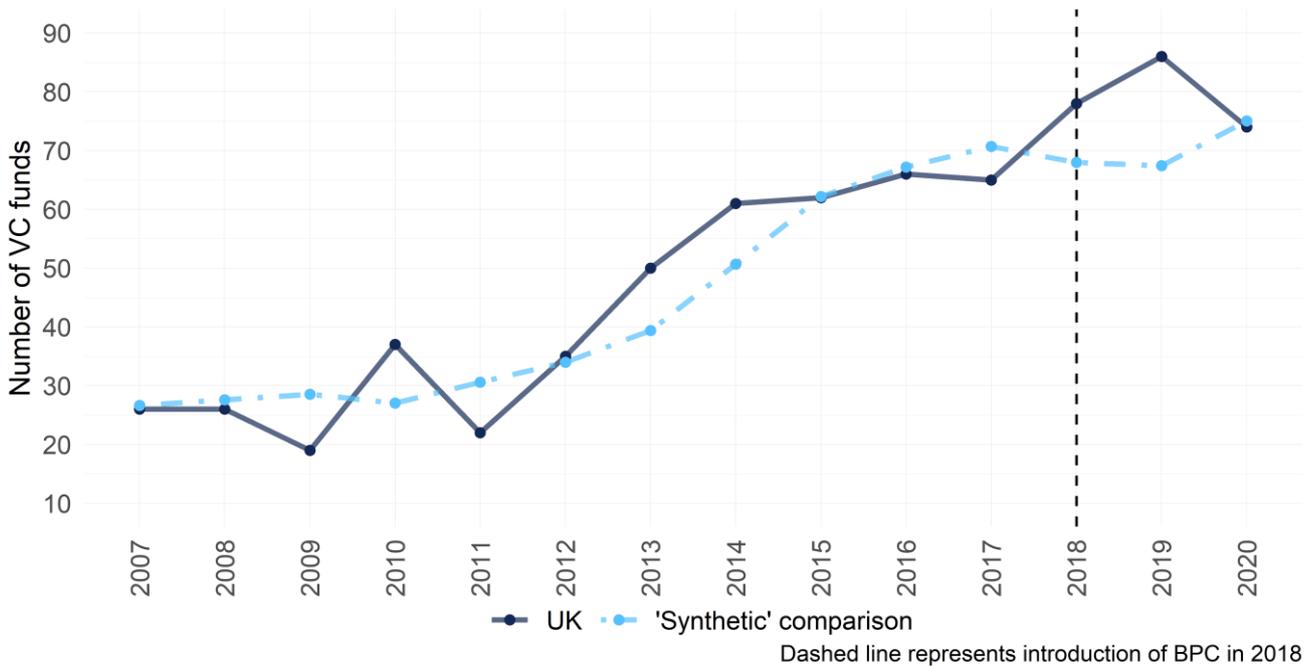
Source: SQW

Annex Figure B-3: Trends in VC investment observed in the UK vs synthetic comparison, 2007 – 2020



Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook’s own figures)

Annex Figure B-4: Trends in the number of VC funds observed in the UK vs synthetic comparison, 2007 – 2020



Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook’s own figures)

Annex Table B-7: Weights of countries in the synthetic comparison, 2007 - 2020

Country	VC investment	Number of VC funds
China	2.13%	3.69%
France	33.63%	22.19%
Japan	0.00%	2.34%
Netherlands	0.00%	53.59%
Spain	15.39%	12.36%
Switzerland	42.46%	0.00%
US	6.39%	5.82%

Source: SQW

Annex Table B-8: Weights of variables used to construct the synthetic comparison, 2007 – 2020

Variable	VC investment	Number of VC funds
Mean log GDP per capita	0.01%	0.01%
VC investment in 2007	4.80%	2.55%
VC investment in 2008	4.05%	2.59%
VC investment in 2009	4.31%	2.66%
VC investment in 2010	1.12%	1.54%
VC investment in 2011	2.03%	2.05%
VC investment in 2012	2.21%	3.27%
VC investment in 2013	2.47%	5.51%
VC investment in 2014	2.67%	7.95%
VC investment in 2015	13.09%	19.97%
VC investment in 2016	30.05%	24.45%
VC investment in 2017	33.21%	27.46%

Source: SQW

Propensity Score Matching

This section provides further detail on implementation of PSM. We used statistical matching to narrow down the three comparator groups to companies with the most similar to the beneficiaries. This process consisted of four stages:

- **First, we selected observable characteristics that could predict whether a company secured investment from a BPC-backed fund.** There is trade-off between the number of variables that one may want to include into the model and the reduction in the number of observations (companies that would be included into the matched sample). This reduction occurs because not every characteristic is observed for every company. We adopted an iterative approach: analysed descriptive statistics of a wide range of variables from business size and sector to their credit rating and risk levels, estimated several models and we narrowed down the list to a set of strongest predictors. Annex Table B-9 - Annex Table B-11 include the list of characteristics used in the final matching model for each of the three comparison groups
- **Second, we obtained propensity scores – estimated probabilities to be a BPC beneficiary based on observable characteristics defined at the first stage.** Propensity scores were estimated using observable characteristics from the year before the company secured the relevant funding (BPC for beneficiaries, first VC round for Group A, first equity for Group B). Since Group C did not secure any equity the matching model for this group used observations from 2017/18 financial year.
- **Third, for each BPC beneficiary included in the analysis we selected companies from each comparison group with the closest propensity score** i.e., those that were as likely to be BPC beneficiaries as the actual beneficiaries. This allowed us to form subsamples of the most similar BPC and comparator companies – the “matched samples”. We note that **the matching process excluded companies that were “off common support”** i.e., we excluded beneficiaries with a higher predicted probability to secure BPC funding than the largest propensity score observed in the comparison group, and comparator companies with propensity scores lower than the lowest score observed among the beneficiaries
- **Finally, we assessed the results of the matching process.** First, we considered whether this process reduced imbalance between the groups on observable characteristics. Then we carried out a graphical analysis of pre-investment trends observed in the full and matched samples (we discuss our findings from this graphical analysis in the following subsection).

Annex Table B-9 - Annex Table B-11 present the outputs from the matching models for all three comparison groups. Annex Figure B-6, Annex Figure B-8, and Annex Figure B-10 demonstrate the balance improvements achieved through matching, while Annex Figure B-5, Annex Figure B-7, and Annex Figure B-9 show the distribution of propensity scores among beneficiaries and comparison groups before and after matching. Matching was performed using the Matching package (Sekhon, 2011)¹⁸⁸, and covariate balance was assessed using cobalt (Greifer, 2022¹⁸⁹), both in R.¹⁹⁰

¹⁸⁸ Ho DE, Imai K, King G, Stuart EA (2011). “MatchIt: Nonparametric Preprocessing for Parametric Causal Inference.” *Journal of Statistical Software*, 42(8), 1–28

¹⁸⁹ Greifer, N. (2022). cobalt: Covariate Balance Tables and Plots. R package version 4.3.2.

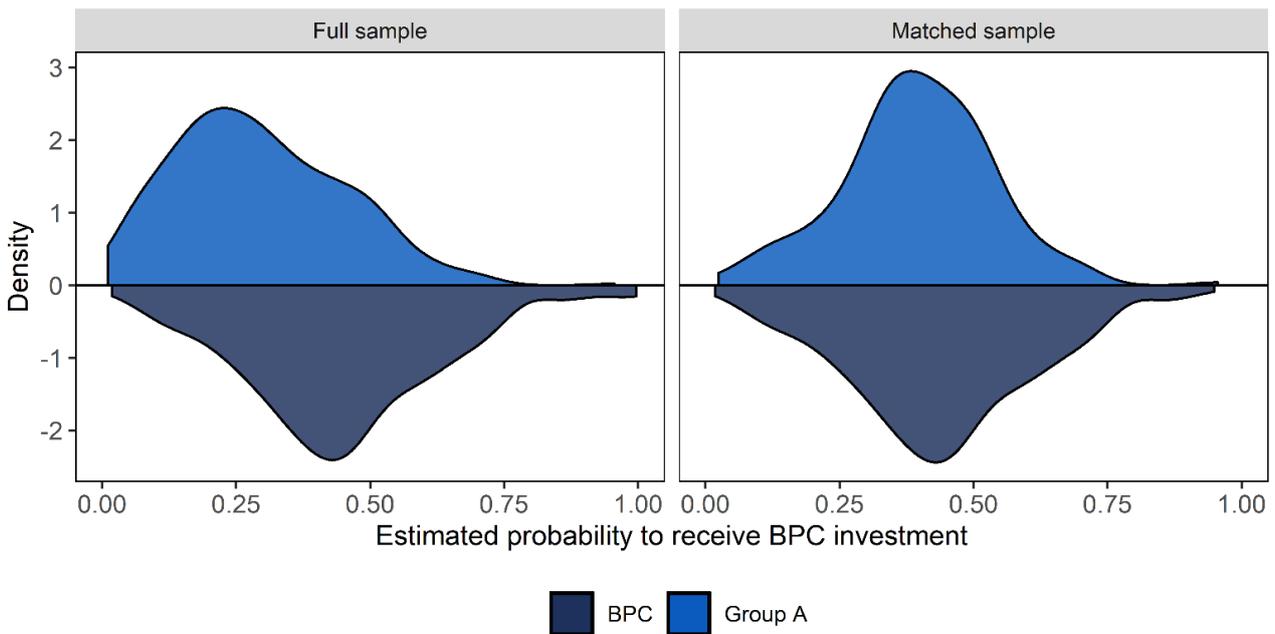
¹⁹⁰ Note that we follow contemporary statistical community in not reporting the results of balance t-tests. As discussed by, e.g., Ali et al. (2015) and Linden (2014) such tests are affected by sample sizes and those change when matching is performed. Instead of relying on t-tests as a definitive rule to assess success of the matching procedure, success should be seen through the lens of relative improvement of the balance between groups.

Annex Table B-9: Estimated coefficients from the propensity score model, Group A.

	Estimate	Std. Error	Statistic	P-value
Intercept	-1.66	0.31	-5.27	0.00
Marked with at least one buzzword	2.50	0.19	13.43	0.00
Company age	-0.29	0.03	-10.45	0.00
Featured in Beauhurst high growth lists	0.86	0.19	4.44	0.00
Accessed Innovate UK funding	0.16	0.21	0.75	0.45
Academic spinout	1.14	0.39	2.94	0.00
Credit rating	0.00	0.00	-1.14	0.26
Target market: businesses	-0.12	0.21	-0.58	0.56
Target market: public sector	-0.68	0.29	-2.33	0.02
Target market: third sector	-0.24	1.11	-0.22	0.83
Log employment	0.23	0.09	2.75	0.01
Null deviance:	1660.38			
Residual deviance:	958.87			
AIC	980.87			

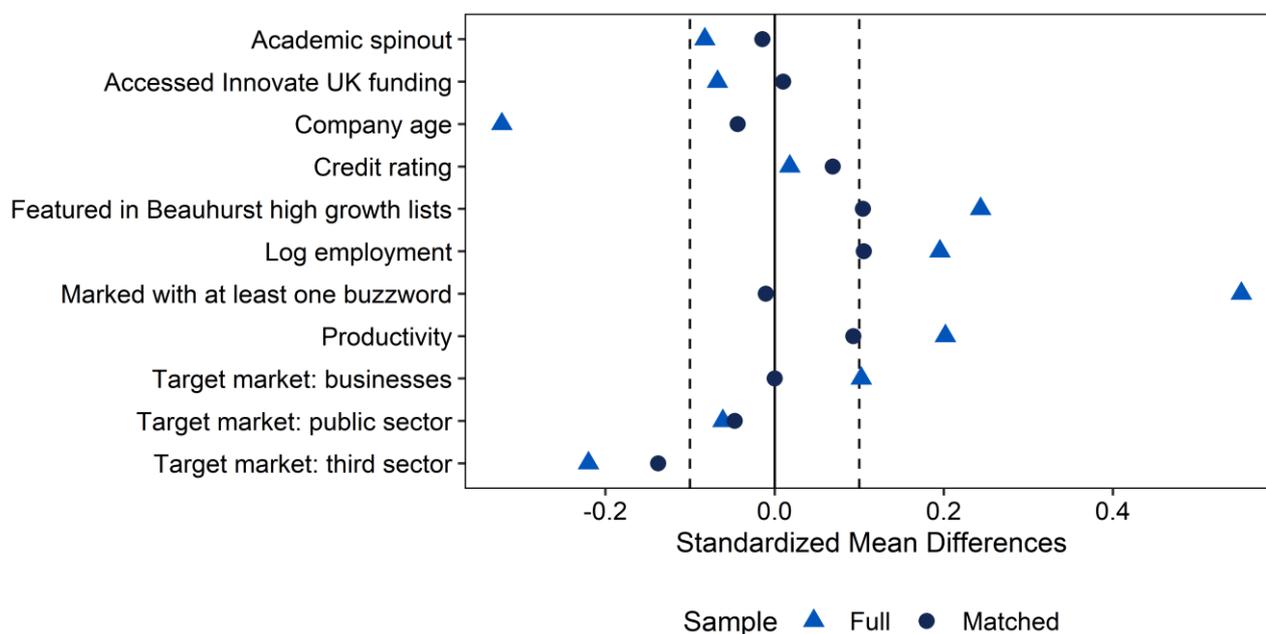
Source: SQW

Annex Figure B-5: Distributions of estimated propensity scores in full and matched samples, Group A



Source: SQW

Annex Figure B-6: Standardised mean differences between BPC and Group A companies, full vs matched samples



Source: SQW

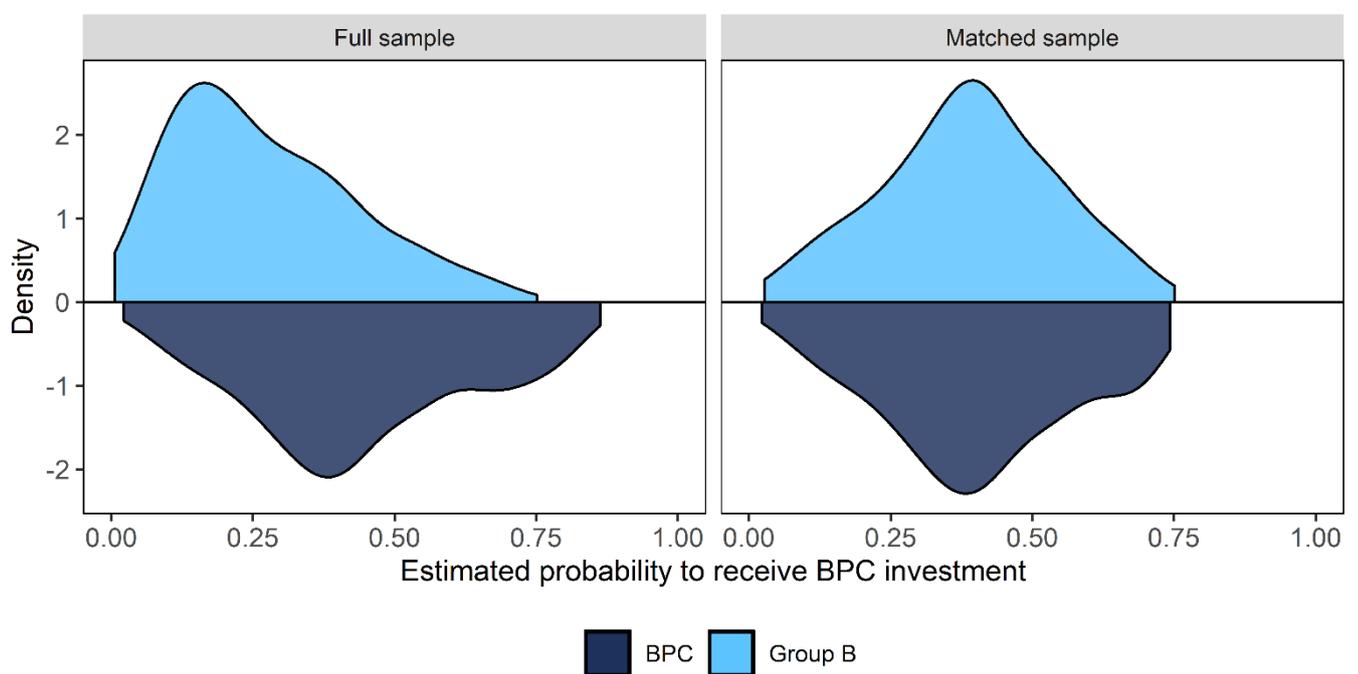
Annex Table B-10: Estimated coefficients from the propensity score model, Group B.

	Estimate	Std. error	Statistic	P-value
Intercept	-1.70	0.31	-5.43	0.00
Marked with at least one buzzword	0.88	0.19	4.54	0.00
Company age	-0.12	0.03	-4.45	0.00
Featured in Beauhurst high growth lists	0.89	0.21	4.33	0.00
Accessed Innovate UK funding	0.13	0.21	0.61	0.54
Academic spinout	0.56	0.33	1.72	0.09
Credit rating	0.00	0.00	0.24	0.81
Target market: businesses	0.57	0.21	2.76	0.01
Target market: public sector	-0.25	0.31	-0.80	0.42
Target market: third sector	-0.65	1.15	-0.57	0.57

Log employment	0.32	0.08	3.80	0.00
Null deviance:	860.62			
Residual deviance:	742.98			
AIC:	764.98			

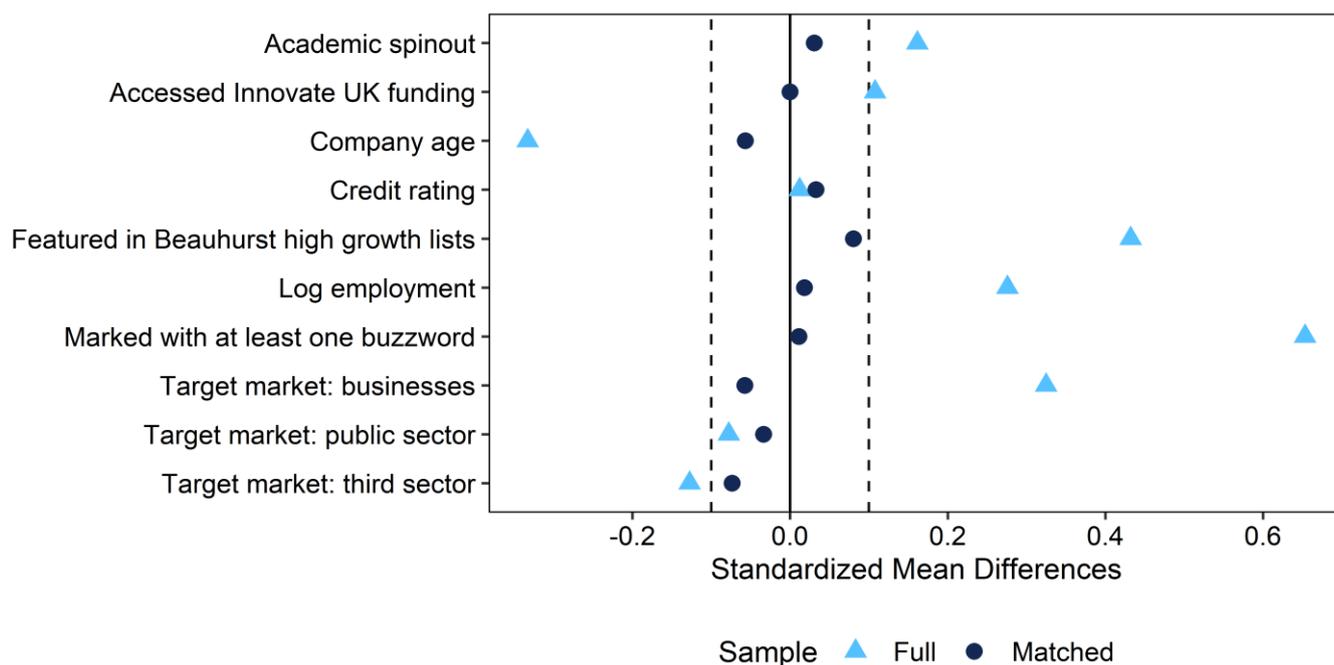
Source: SQW

Annex Figure B-7: Distributions of estimated propensity scores in full and matched samples, Group B



Source: SQW

Annex Figure B-8: Standardised mean differences between BPC and Group B companies, full vs matched samples



Source: SQW

Annex Table B-11: Estimated coefficients from the propensity score model, Group C.

	Estimate	Std. Error	Statistic	P-value
Intercept	-1.66	0.31	-5.27	0.00
Marked with at least one buzzword	2.50	0.19	13.43	0.00
Company age	-0.29	0.03	-10.45	0.00
Featured in Beauhurst high growth lists	0.86	0.19	4.44	0.00
Accessed Innovate UK funding	0.16	0.21	0.75	0.45
Academic spinout	1.14	0.39	2.94	0.00
Credit rating	0.00	0.00	-1.14	0.26
Target market: businesses	-0.12	0.21	-0.58	0.56
Target market: public sector	-0.68	0.29	-2.33	0.02
Target market: third sector	-0.24	1.11	-0.22	0.83
Log employment	0.23	0.09	2.75	0.01

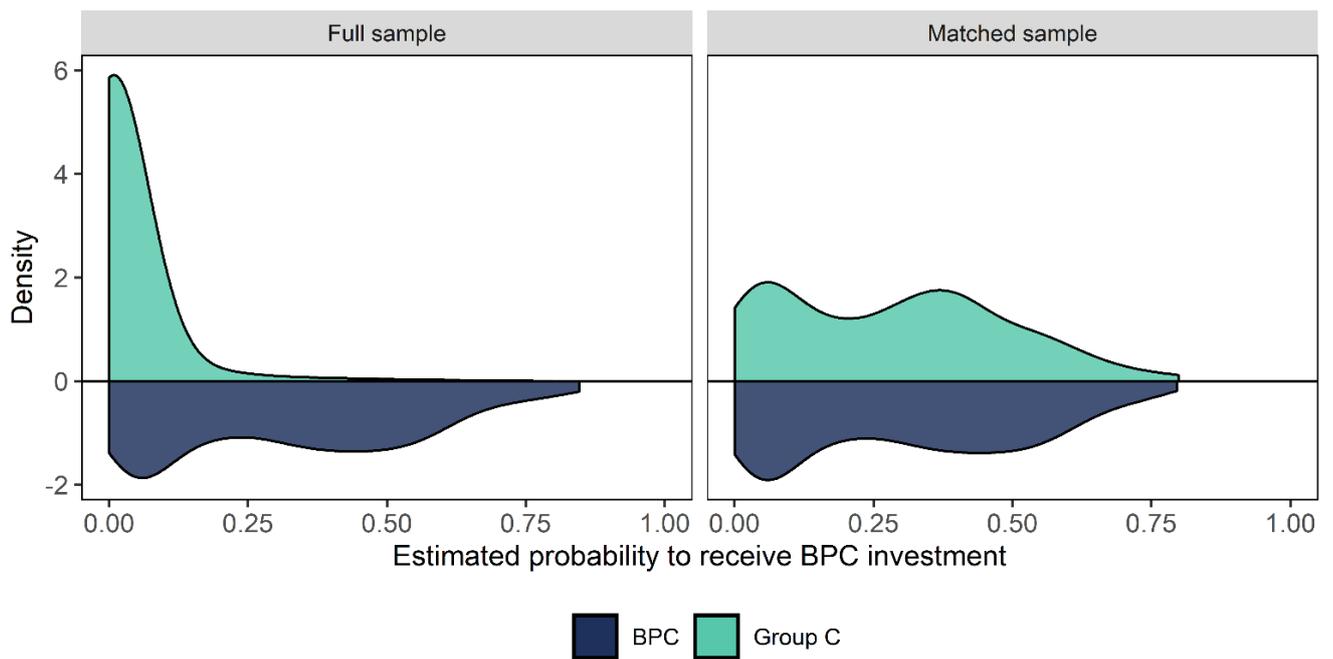
Null deviance: 1660.38

Residual deviance: 958.87

AIC 980.87

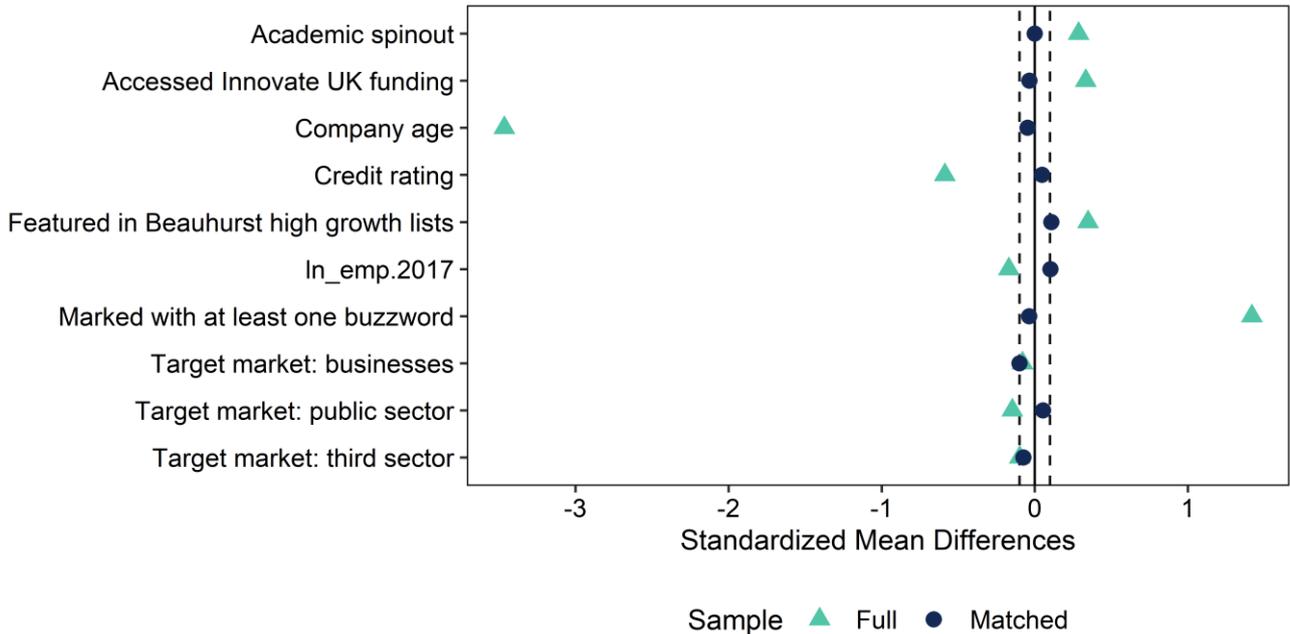
Source: SQW

Annex Figure B-9: Distributions of estimated propensity scores in full and matched samples, Group C



Source: SQW

Annex Figure B-10: Standardised mean differences between BPC and Group C companies, full vs matched samples



Source: SQW

As expected, companies from the matched subsamples were closer to each other than from the full list of beneficiaries and comparison groups. However, considering the original comparison groups were already pre-selected based on the type of finance they chose to or managed to secure, and that further matching came at a cost of substantial reduction in sample sizes (Annex Table B-12) we decided to utilise both the full and matched samples in our analysis.

Annex Table B-12: Number of companies in each comparison group

	Full	Matched
BPC	331	same as the number in each comparison group
Group A	521	215
Group B	558	203
Group C	5589	187

Source: SQW

Graphical analysis of trends in employment and turnover

Whether a comparison group establishes a valid counterfactual for the beneficiaries in a DiD setting largely depends on whether the parallel trend assumption is satisfied, i.e., whether it is plausible to assume that in absence of BPC beneficiaries would have followed the same trajectory as comparator companies. **To assess this assumption we considered trends in average**

employment and turnover among BPC beneficiaries and all three comparison groups before and after they secured BPC or the first round of alternative VC/equity funding.

The dataset was recast relative to funding rounds with t representing the financial year in which funding was secured, $t+1$ the first year after that, $t-1$ the year before the funding round, etc. We illustrate this approach for Group A (Annex Figure B-11). The same patterns were present for all three groups (though graphical analysis for group C considered the natural timeline rather than recast timeline).

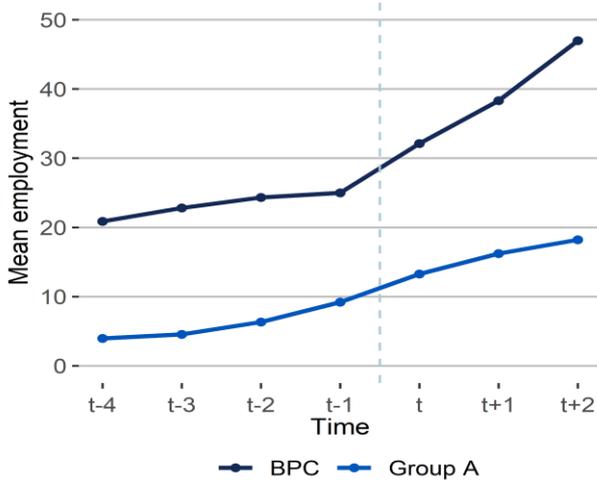
There are three points we want to highlight in these graphs:

- **First, the trends in full and matched samples are very similar** supporting our decision to analyse both samples and leverage precision gains that can come from a larger sample size (for the full sample) and a closer fit on observable characteristics (matched sample).
- **Second, the graphs provided an early indication of possible statistically significant impacts on both employment and turnover**
- **Third, the graphs provide an insight into whether the parallel trends assumption is satisfied for absolute figures (“levels”) of when the outcome measures are expressed in natural logarithms.**¹⁹¹ The logarithmic transformation has many properties that make it a common choice in econometric modelling. For example, it allows to interpret the estimates as percentage changes and compresses the distributions of variables making the results less sensitive to outliers. However, when the parallel trend assumption is more likely to hold in levels, in our opinion, these additional benefits do not outweigh the cost of potentially getting an inaccurate estimate because of the violation of the key assumption behind the method.

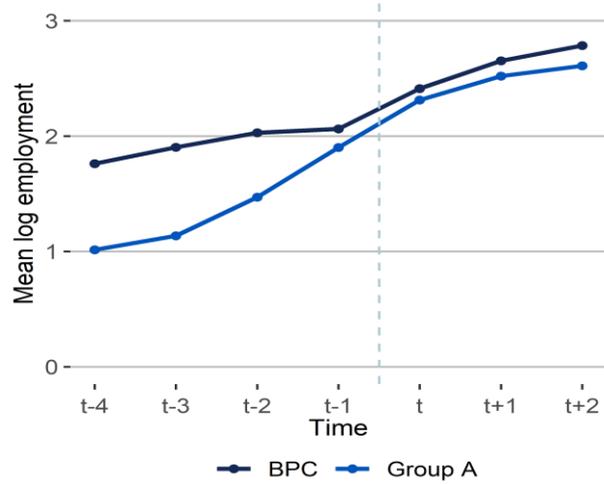
In the case of employment, the parallel trends assumption appears to be satisfied in levels, with BPC companies demonstrating a lower pre-investment growth in relative terms (logarithms) and then “catching up” with comparator companies. The case with turnover is less clear-cut. On the one hand, the trends appear fairly parallel in levels. On the other hand, this may be due to the fact that both groups demonstrate exponential growth in turnover and the pre- t periods fall onto the more compressed (or flat) part of the exponential curve. Whereas the trends “in logs” may be considered parallel taking into account the usual noise and volatility in turnover data. For transparency purposes, and **to make sure our results were robust, a decision was made to carry out the analysis of turnover and valuations both in levels and logarithms. Analysis of employment was undertaken in levels, and productivity was considered in logarithms (as it is a ratio of turnover to employment).**

¹⁹¹ Since the logarithmic transformation is non-linear, the parallel trends assumption cannot be strictly satisfied for both absolute figures (‘levels’)

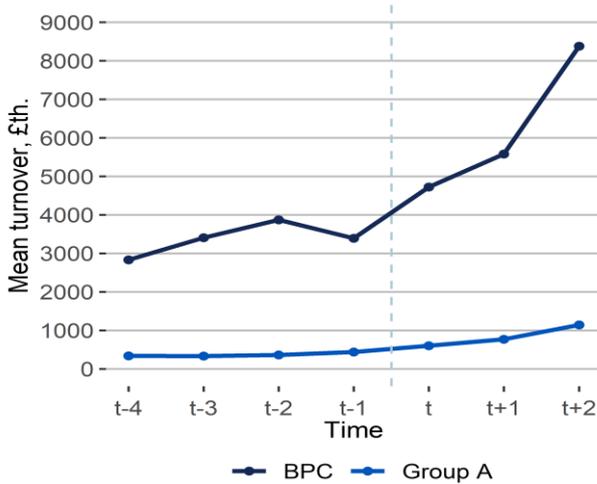
Annex Figure B-11: Trends in employment, log employment, turnover and log turnover. Full sample



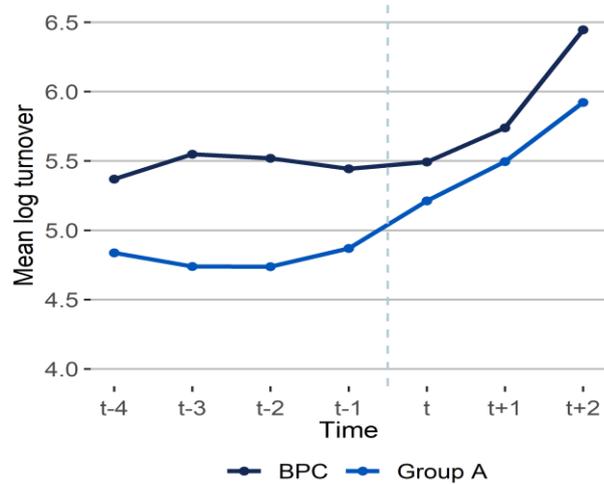
Time 't' represents financial year in which VC funding was secured



Time 't' represents financial year in which VC funding was secured

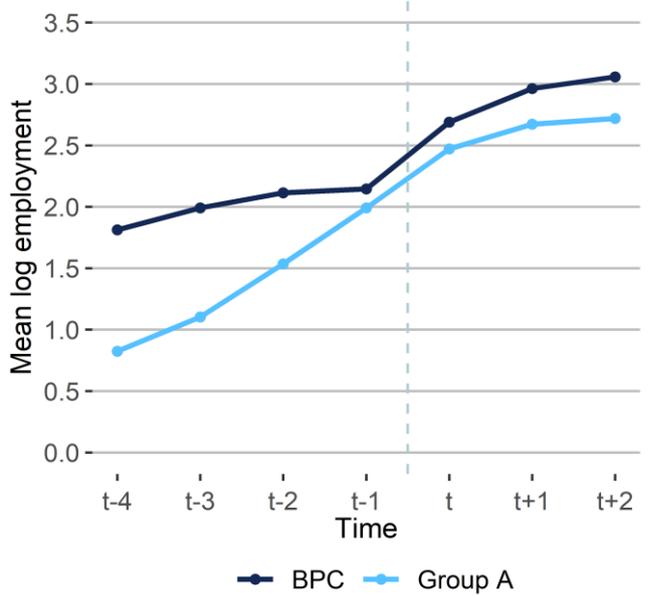
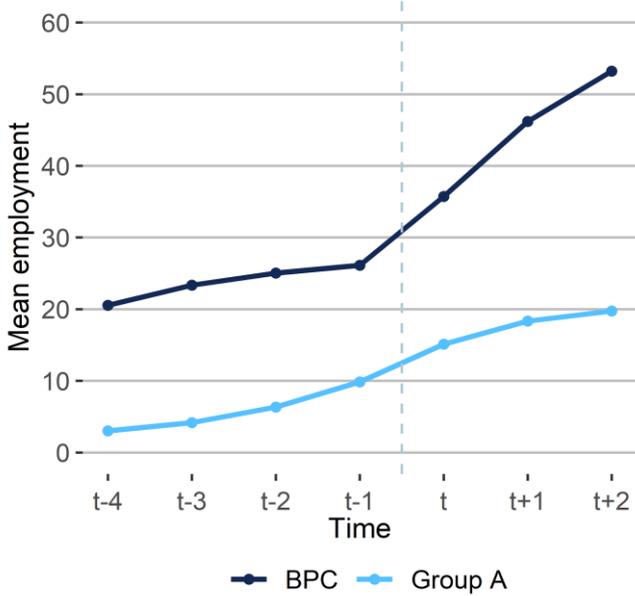


Time 't' represents financial year in which VC funding was secured



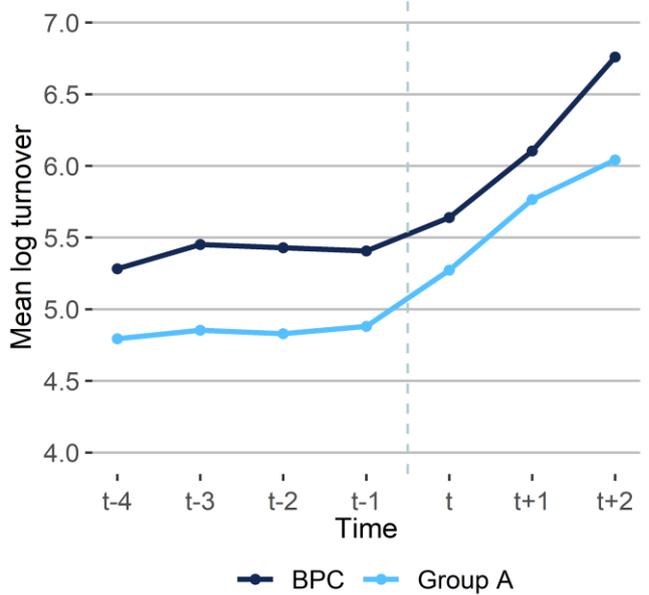
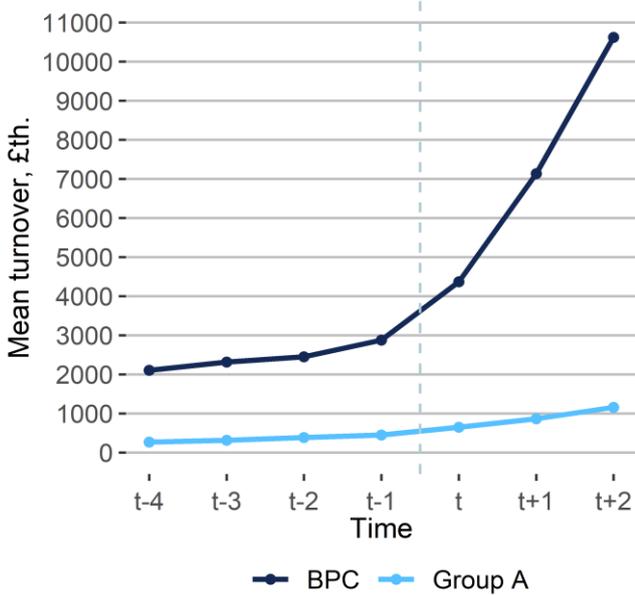
Time 't' represents financial year in which VC funding was secured

Annex Figure B-12: Trends in employment, log employment, turnover and log turnover. Matched sample



Time 't' represents financial year in which VC funding was secured

Time 't' represents financial year in which VC funding was secured



Time 't' represents financial year in which VC funding was secured

Time 't' represents financial year in which VC funding was secured

Difference-in-difference analysis of impacts on employment, turnover and productivity

The DiD analysis of BPC impacts on employment and turnover was carried out using the “recast” dataset (in terms of time relative to the financial year in which VC/equity investment was secured). We used a regression-based specification that allowed us to leverage multiple observations per company over time (as opposed to considering only two points: ‘before’ and ‘after’) and to benefit from an increased statistical power¹⁹² that comes with larger samples.

The final specification of the DiD model used for the analysis was as follows:

$$Y_{it} = \alpha_i + \gamma_t + \beta_1 D_{it} + \beta_2 X_{it} + \varepsilon_{it},$$

where:

- Y_{it} – is the outcome measure of interest for company i in time t
- α_i – is a company “fixed-effect” capturing potentially unobserved time-invariant characteristics of each particular company (e.g., their management style, risk attitudes etc.)
- γ_t – is the time trend capturing the change in the outcome measure that is common for beneficiaries and comparison companies (i.e., the counterfactual trajectory)
- X_{it} – is a vector of variables capturing the effects of significant macroeconomic events – the Brexit vote in 2016 and COVID-19
- D_{it} – takes the value of one for beneficiaries when $t \geq t$ (i.e., in the periods after securing BPC investment) and zero otherwise. β_1 is the coefficient of interest (the DiD estimate). It represents the average uplift in the outcome of interest observed in the years after securing BPC funding relative to the counterfactual trajectory
- ε_{it} – is the error term.

The model was estimated using OLS. “Clustered” estimates for the standard errors were used that allowed the error terms for each company to be correlated over time. We note that the model estimates the average impact over all years following BPC-backed funding. We preferred this approach to an “event study” set up that would differentiate between the effects in the first, second, third year etc. after securing the funding because the paths to impacts vary across beneficiaries – as some may realise the benefits much quicker than others. In addition, segmenting the effect by year reduces the sample available to identify the effect in each of the years. For example, there are far fewer companies that have had seven years’ worth of post-investment data than those that had only two. Therefore, the estimates of the effect in later years would be influenced by very small sample sizes. When interpreting the coefficients from our model it is important to remember that it is likely to overestimate the immediate effect but underestimate the later effects, capturing the average impact over the investment horizon.

Tables Annex Table B-13 - Annex Table B-15 present the estimates of the BPC impacts on employment, turnover and productivity obtained using the model presented above.¹⁹³

¹⁹² Statistical power is the probability to correctly conclude that BPC has had impacts on beneficiaries if those impacts are indeed present.

¹⁹³ We also tested several specifications that included additional control variables for characteristics with the largest imbalance between beneficiaries and comparison groups, e.g. company age. Those additional variables did not affect the results and in most cases proved to be statistically insignificant. Therefore a decision was made to use a parsimonious specification consistent across all outcome measures, comparison groups and samples.

Annex Table B-13: Estimates of BPC impacts on beneficiaries' employment

	Estimate	Std. error	P-value	[95%	Conf. int.]
Group A, full sample	13.90	3.57	0.000	6.90	20.90
Group A, matched sample	14.74	4.19	0.000	6.53	22.95
Group B, full sample	15.60	3.77	0.000	8.20	22.99
Group B, matched sample	10.21	4.66	0.029	1.06	19.36
Group C, full sample	16.53	5.64	0.003	5.47	27.59
Group C, matched sample	15.71	6.16	0.011	3.62	27.79

Source: SQW

Annex Table B-14: Estimates of BPC impacts on beneficiaries' turnover

	Estimate	Std. error	P-value	[95%	Conf. int.]
Levels					
Group A, full sample	4762.08	2263.70	0.035	323.78	9200.38
Group A, matched sample	5355.49	2634.40	0.042	188.97	10522.02
Group B, full sample	4525.93	2275.79	0.047	63.96	8987.89
Group B, matched sample	4525.93	2275.79	0.047	63.96	8987.89
Group C, full sample	7649.09	4358.39	0.079	-893.43	16191.60
Group C, matched sample	5132.18	2938.81	0.081	-630.99	10895.36
Logarithms					
Group A, full sample	-0.09	0.15	0.557	-0.38	0.20
Group A, matched sample	0.00	0.17	0.995	-0.34	0.34
Group B, full sample	0.18	0.14	0.199	-0.10	0.47

Group B, matched sample	0.27	0.17	0.116	-0.07	0.60
Group C, full sample	0.84	0.13	0.000	0.60	1.09
Group C, matched sample	0.42	0.15	0.006	0.12	0.72

Annex Table B-15: Estimates of the effect of BPC-backed funding on productivity

	Estimate	Std. error	P-value	[95%. Conf. int.]
Group A, full sample	0.02	0.14	0.893	-0.25 0.29
Group A, matched sample	0.13	0.16	0.430	-0.19 0.45
Group B, full sample	0.12	0.14	0.376	-0.15 0.39
Group B, matched sample	0.24	0.17	0.153	-0.09 0.57
Group C, full sample	-0.11	0.11	0.329	-0.33 0.11
Group C, matched sample	0.42	0.15	0.006	0.12 0.72

Source: SQW

Difference-in-differences analysis of impacts on companies' valuations

To overcome the issue of irregular updates to companies' valuations we focussed on the most recent valuations available from the periods before and after the BPC or alternative equity funding was secured. It was also important to control for the amount of time between the valuations. Therefore we applied a different DiD specification compared to the analysis presented above. This model included:

$$Val_{it} = \alpha + BPC_i + \gamma_t + \beta_1 D_{gt} + \beta_2 X_{it} + \varepsilon_{igt}$$

where:

- Val_{it} – is company's i valuation in time t . In this model t takes two values: 'before' and 'after'
- α – is a constant that captures the average pre-investment valuation in the comparison group
- BPC_i – is an indicator for BPC beneficiaries and captures the pre-existing difference in valuations between them and the comparison group
- γ_t – takes the value of one when t takes the value "after". This variable captures the counterfactual path of valuations (i.e. the uplift observed in the comparison group over time)

- X_{it} – is a vector of additional control variables, including: company age, amount of time between valuations and region
- D_{gt} – takes the value of one for BPC beneficiaries in the “after” period. β_1 is the coefficient of interest (the DiD estimate of the uplift in valuation linked to BPC-backed funding)
- ε_{igt} – is an error term.

We carried out the analysis of valuations using two comparison groups: Group A (as the primary comparison group of interest since those companies also secured VC investments) and a combined Group A+B which included all companies from Groups A and B for which we had the data on “before” and “after” valuations. The two groups were combined to boost the sample size, considering we had data only for approximately one third of beneficiaries. Because of the sample size considerations we also did not consider the matched samples. Annex Table B-16 presents the results.

Annex Table B-16: DiD estimate of the effects of BPC funding on companies’ valuations

	Estimate	Std. error	[95% Conf.	interval]	P-value
Group A levels	60.75	36.85	-11.48	132.98	0.10
Group A levels no outliers	13.06	3.08	7.02	19.10	0.00
Group A logs	-0.25	0.17	-0.58	0.07	0.13
Group A logs no outliers	-0.27	0.15	-0.58	0.03	0.08
Groups A and B: levels	61.07	36.79	-11.03	133.17	0.10
Groups A and B: levels no outliers	13.38	5.00	3.58	23.17	0.01
Groups A and B: logs	-0.18	0.16	-0.50	0.14	0.27
Groups A and B: logs no outliers	-0.20	0.15	-0.49	0.09	0.18

Source: SQW

Business survival

To investigate whether BPC was linked to a higher or lower rate of business survival **we estimated a logit model that related current (at the time of analysis) company status (active/non-active) to company’s age, region and its group (BPC beneficiary, Group A, Group B, Group C)**. A positive statistically significant estimate for the BPC indicator would suggest a higher probability of business survival for those companies. However, **we found no evidence of any differences in estimated probabilities of being an active firm in 2021 between BPC beneficiaries and the three comparison groups**. Annex Table B-17 - Annex Table B-18 present the estimation results from a model that included all three comparison groups and from a model that excluded Group C to allow us to control for the amount of time since the first VC/other equity round.

Annex Table B-17: Estimation results for the model of business survival vs all three comparison groups

	Estimate	Std. Error	Statistic	P-value
Intercept	1.43	0.14	9.39	0.00
Group (relative to Group A)				
BPC	-0.01	0.16	-0.09	0.93
Group B	-0.09	0.10	-0.93	0.35
Group C	0.09	0.10	0.93	0.35
Company age	-0.00	0.00	-0.85	0.39
Region (relative to East Midlands)				
East of England	0.37	0.15	2.50	0.01
London	0.12	0.12	1.04	0.29
North East	0.20	0.19	1.05	0.29
North West	0.03	0.13	0.24	0.80
Northern Ireland	0.27	0.25	1.09	0.27
Scotland	0.41	0.16	2.52	0.01
South East	0.15	0.13	1.16	0.24
South West	0.23	0.15	1.56	0.11
Wales	-0.03	0.16	-0.19	0.84
West Midlands	-0.02	0.14	0.12	0.90
Yorkshire and Humber	0.03	0.14	0.23	0.82
Null deviance:	2797.4			
Residual deviance:	2773.2			
AIC	2805.2			

Source: SQW

Annex Table B-18: Estimated relationship between BPC investment and business survival relative to Groups A and B

	Estimate	Std. Error	Statistic	P-value
Intercept	1.54	0.36	4.27	0.00
Group (relative to Group A)				
BPC	-0.02	0.18	-0.09	0.93
Group B	-0.13	0.13	-0.99	0.32
Company age	0.03	0.02	1.54	0.12
Years since first VC / other equity funding round	-0.13	0.03	-4.69	0.00
Region (relative to East Midlands)				
East of England	1.39	0.48	2.87	0.00
London	0.61	0.32	1.90	0.06
North East	0.38	0.60	0.64	0.52
North West	0.27	0.39	0.71	0.47
Northern Ireland	3.95	113.48	0.04	0.97
Scotland	1.35	0.53	2.54	0.01
South East	0.74	0.35	2.10	0.04
South West	0.78	0.42	1.85	0.06
Wales	0.41	0.49	0.84	0.40
West Midlands	0.09	0.43	0.22	0.82
Yorkshire and Humber	0.56	0.56	0.99	0.32
Null deviance:	559.56			
Residual deviance:	508.71			
AIC	540.71			

Source: SQW

Appendix C: Further analysis of BPC portfolio

Fund data analysis

The following data is sourced from BPC/British Business Bank monitoring data.

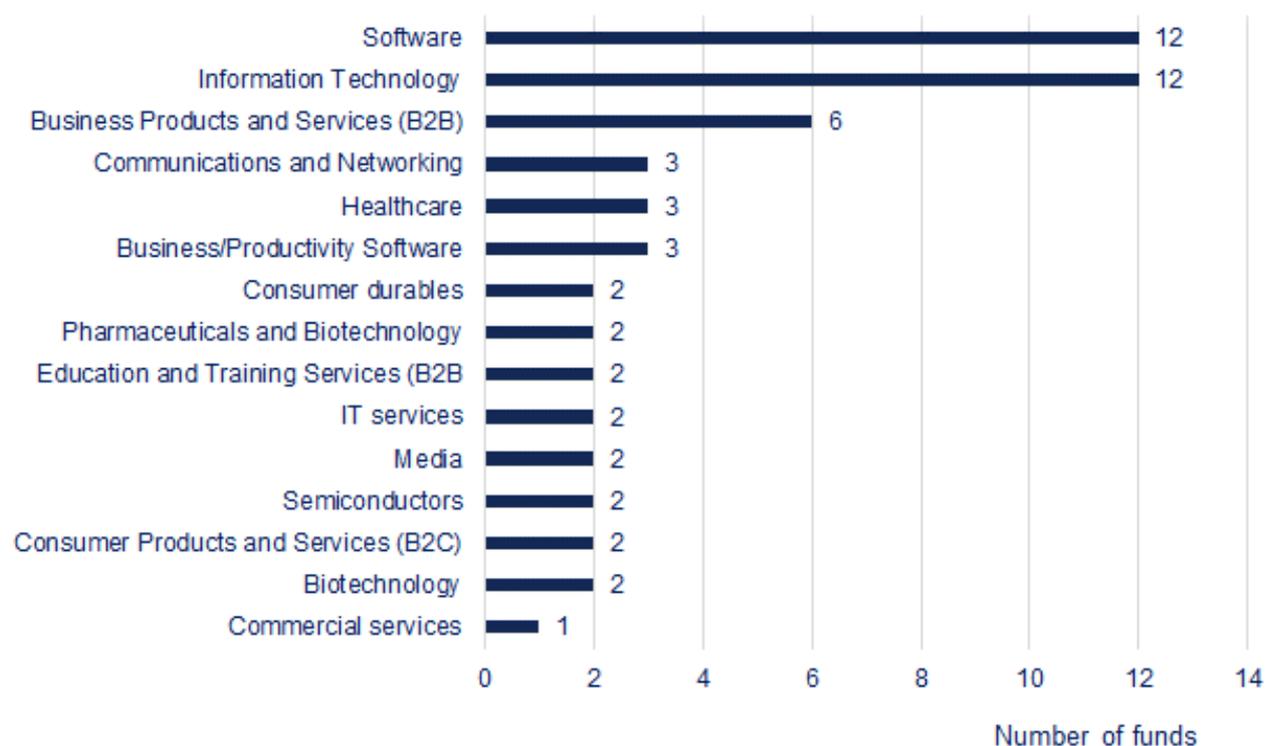
Annex Table C-1: Number of funds by vintage

Vintage	Number of funds	% of Grand total
2013	1	2%
2014	3	6%
2015	7	13%
2016	2	4%
2017	7	13%
2018	13	25%
2019	7	13%
2020	10	19%
2021	2	4%
Grand Total	52	100%

Source: SQW analysis of British Business Bank data

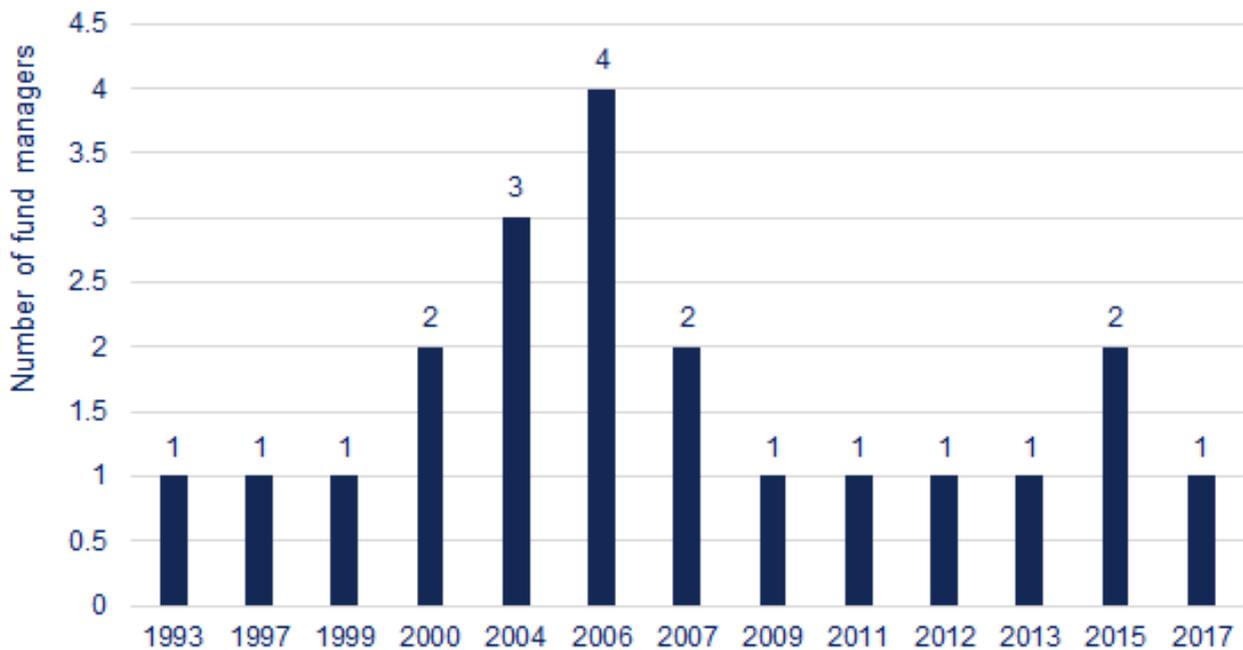
The following data is sourced from PitchBook.

Annex Figure C-1: BPC funds by industry



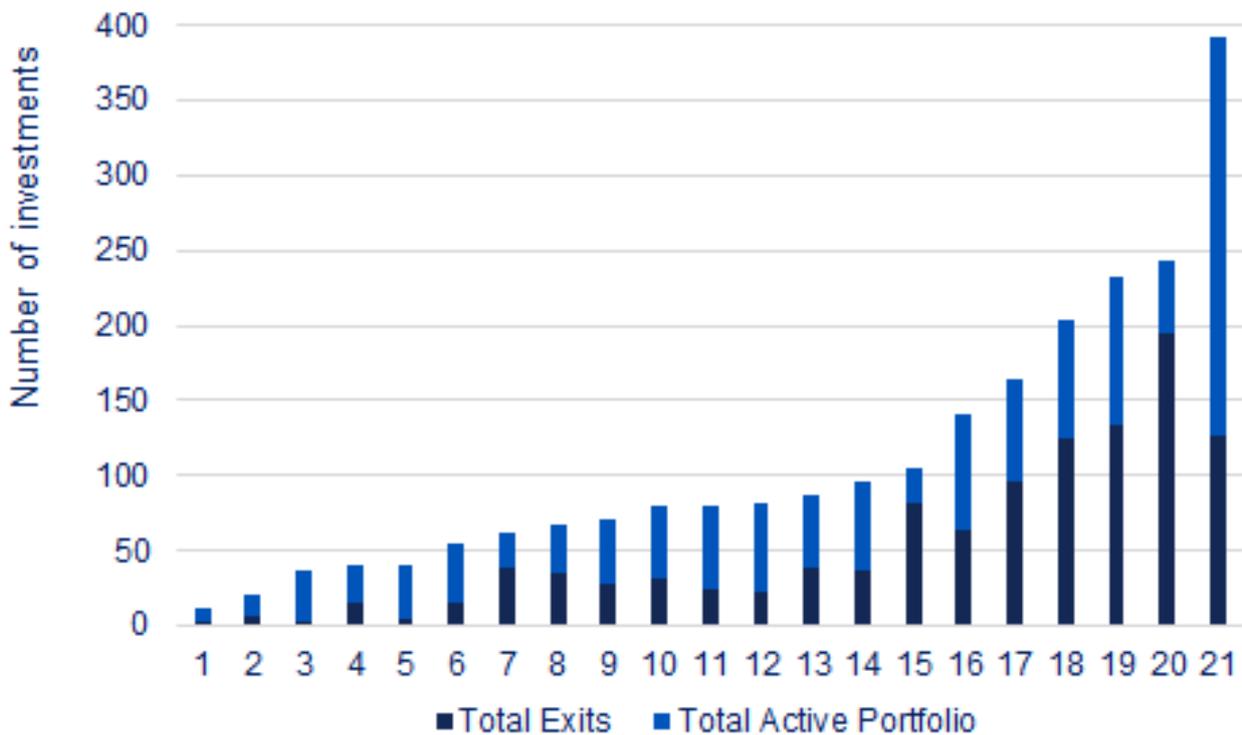
Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook’s own figures) (downloaded 27th October 2021)

Annex Figure C-2: BPC fund managers by year founded



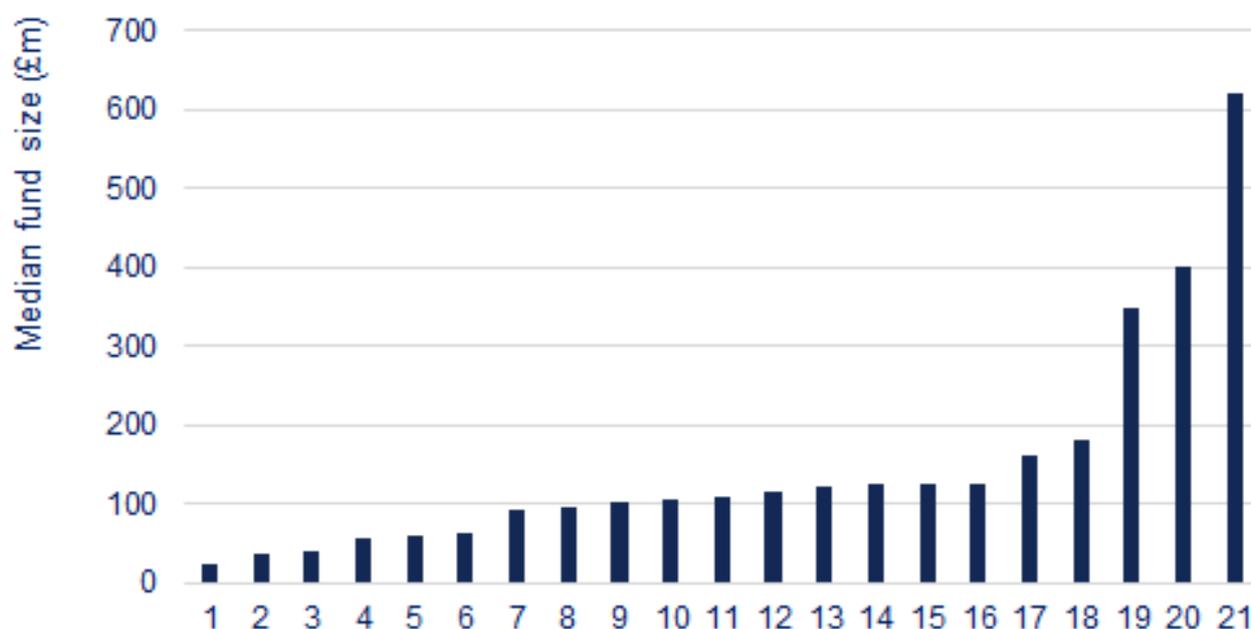
Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook’s own figures) (downloaded 27th October 2021)

Annex Figure C-3: Total active investments and exits for BPC-backed fund managers



Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook’s own figures) (downloaded 27th October 2021)

Annex Figure C-4: Median fund size for BPC-backed fund managers



Source: SQW user defined search of PitchBook and analysis of PitchBook data. (Results may differ to PitchBook’s own figures) (downloaded 27th October 2021) Firm data analysis

The following data is sourced from BPC/British Business Bank monitoring data.

Annex Table C-3: UK in scope

	Number of investments	Number of firms	Sum of gross invested	% of gross invested
UK	452	389	£1,890m	53%
Outside of UK	359	336	£1,654m	47%
Grand total	811	725	£3,544m	100%

Source: SQW analysis of British Business Bank data

Annex Table C-4: UK regions

Region	Number of investments	Number of firms	Sum of gross invested	% of gross invested
London	314	267	£1,167m	70.5%
South-East England	47	44	£177m	10.7%
East England	45	38	£164m	9.9%
South-West England	13	11	£53m	3.2%
North-West England	8	8	£50m	3.0%
West Midlands	7	6	£3m	0.2%
Yorkshire and Humber	5	5	£6m	0.4%
Northern Ireland	5	4	£6m	0.3%
East Midlands	3	2	£3m	0.2%
North-East England	3	2	£2m	0.1%
Scotland	2	2	£23m	1.4%
Wales	0	0	£0m	0%
Grand Total	452	389	£1,654m	100%

Source: SQW analysis of British Business Bank data

Annex Table C-5: UK Investments by BVCA sector of firm

BVCA sector	Number of investments	Sum of gross invested	% of gross invested
Technology	242	£846m	51.2%
Industrials	68	£266m	16.1%
Healthcare	50	£141m	8.6%
Consumer Services	36	£134m	8.1%
Financials	31	£122m	7.4%
Consumer Goods	16	£95m	5.8%
Telecommunications	6	£49m	2.9%
Basic materials	2	£1m	<0.1%
(unknown)	1	<£1m	<0.1%
Grand Total	452	£1,654m	100%

Source: SQW analysis of British Business Bank data

Annex Table C-6: UK Investments by investment type

Investment type	Number of investments	Sum of gross invested	% of gross invested
Venture	352	£770m	46.5%
Venture-Growth	97	£864m	52.3%
Co-Investment	3	£20m	1.2%
Grand Total	452	£1,654m	100%

Source: SQW analysis of British Business Bank data

Annex Table C-7: UK Investments over time

Year	Venture			Venture-Growth			Co-Investment			Grand total		
	Inv.	Gross	%	Inv.	Gross	%	Inv.	Gross	%	Inv.	Gross	%
2013	1	£5m	0%							1	£4.7m	0%
2014	3	£10m	1%	1	£7m	0%				4	£17m	1%
2015	4	£17m	1%	2	£25m	2%				6	£42m	3%
2016	8	£26m	2%	1	£25m	1%				9	£50m	3%
2017	35	£81m	5%	6	£106m	6%				41	£187m	11%
2018	73	£190m	11%	35	£226m	14%				108	£415m	25%
2019	87	£179m	11%	17	£167m	10%				104	£354m	21%
2020	86	£184m	11%	14	£95m	6%	2	£13m	1%	102	£293m	18%
2021	55	£78m	5%	21	£215m	13%	1	£7m	0%	77	£300m	18%
Total	352	£770m	47%	97	£864m	52%	3	£20m	1%	452	£1,654m	100%

Source: SQW analysis of British Business Bank data

Annex Table C-8: Multiple investments

Number of investments	Number of firms					
	UK		Outside UK		Grand Total	
1	336	86.4%	317	94.3%	653	90.1%
2	45	11.6%	16	4.8%	61	8.4%
3	7	1.8%	2	0.6%	9	1.2%
4			1	0.3%	1	0.1%
5	1	0.3%			1	0.14%
Grand Total	389	53.7%	336	46.3%	725	100.00%

Source: SQW analysis of British Business Bank data

Annex Table C-9: UK firm exits

	Number of firms	Number of investments	Sum of gross invested	% of gross invested
Active	367	428	£1,518m	95.1%
Partial exit	19	21	£81m	4.9%
Full exit	3	3	£55m	3.3%
Grand Total	389	452	£1,654m	100%

Source: SQW analysis of **British Business Bank data**

The following data is based on Beauhurst analysis.

British Patient Capital-backed funds can be characterised as having participated in more fundraising rounds including companies at their venture (44.4%) or growth (26.3%) stage of evolution than observed across the broader equity market – 31.2% and 9.0%, respectively. Deals including British Patient Capital-backed funds have been less likely to involve companies at seed stage (26.3%) or those which are established (3.0%)

Annex Table C-10: The stage of evolution at deal date for all companies, and for British Patient Capital supported companies. (2013-2021)

Stage of evolution	No. of all companies	Proportion (%)	No. of BPC funded companies	Proportion of BPC funded companies (%)
Seed	27,634	54.1%	226	26.3%
Venture	15,931	31.2%	382	44.4%
Growth	4,584	9.0%	226	26.3%
Established	2,961	5.8%	26	3.0%

Source: Analysis of Beauhurst and British Business Bank data

The cohort of companies currently supported by the British Business Bank via British Patient Capital are strongly tech-orientated and are heavily centralised within the London region. These companies have exhibited exceptional levels of growth in the years since receiving equity from the Bank. This

cohort also has disproportionately large numbers of companies that have either appeared on a high growth list or spun out from an academic institution.

There are similarities between all companies receiving equity and British Patient Capital beneficiaries in terms of the sectors, emerging sectors and SIC codes that they occupy. The most common sector for all equity-backed companies, software-as-a-service (2,681), is also the most occupied by British Patient Capital businesses (99), comparator group A (52) and B (48). There is a large degree of similarity between all these cohorts, with analytics, insights and tools, internet platform and mobile apps ranking highly across these groups.

Annex Table C-11: Sector ranking for all equity-backed companies and British Patient Capital beneficiaries

Sector ranking – All companies	No.	% of total	Sector ranking – BPC companies	No.	% of total
Software-as-a-service	2,681	15.0	Software-as-a-service	99	36.8
Internet platform	2,317	12.9	Analytics, insight, tools	68	25.3
Mobile apps	2,079	11.6	Internet platform	48	17.8
Analytics, insight, tools	1,792	10.0	Mobile apps	39	14.5
Business banking and financial services	1,043	5.8	Business banking and financial services	27	10.0
E-commerce	874	4.9	Security services	23	8.6
Marketing services	716	4.0	Consumer banking and financial services	21	7.8
Consumer banking and financial services	661	3.7	Payment processing	13	4.8
Educational services	641	3.9	E-commerce	10	3.7
Security services	518	2.9	Marketing services	9	3.4

Source: Beauhurst

The data for emerging sectors also highlights the similarities between the groups, with artificial intelligence and FinTech emerging as the most populated industries for all companies that have raised equity, and those supported by British Patient Capital.

Annex Table C-12: Emerging sector ranking for all equity-backed companies and British Patient Capital beneficiaries

All companies	No.	% of total	BPC companies	No.	% of total
FinTech	1,155	6.5	Artificial intelligence	69	25.7
Artificial intelligence	1,119	6.3	FinTech	47	17.5
EdTech	398	2.2	Digital security	20	7.4
Digital security	396	2.2	Big data	15	5.6
eHealth	344	1.9	eHealth	12	4.5
AdTech	295	1.7	Open source	8	3.0
Internet of things	283	1.6	Internet of things	7	2.6
PropTech	259	1.5	InsurTech	6	2.2
Big data	256	1.4	Alternative finance	6	2.2
Blockchain	215	1.2	Wearables	6	2.2

Source: Beauhurst

For all companies that have received equity, the most popular SIC code descriptions are business and domestic software development (1,927), other information technology service activities (1,280), and other business support service activities (1,137). There is a degree of correlation between these businesses and British Patient Capital beneficiaries. For these companies, the most popular SIC code description is the same: business and domestic software development (71). This is followed by other information technology service activities (43) and information technology consultancy activities (11).

British Patient Capital supported businesses have less regional distribution than the broader private markets. Although amongst the companies that have received equity funding there is an element of centralisation in London, with 45.7% of these businesses headquartered in the region, this is more acute for the companies backed by British Patient Capital, of which 72.9% are London

based. Both competitor groups A and B fall within this range, with 66.4% and 61.8% of these companies located in London, respectively.

Annex Table C-13: Location ranking for all equity-backed companies and British Patient Capital beneficiaries

All companies	No.	% of total	BPC companies	No.	% of total
London	8,178	45.6	London	196	72.9
South East	2,350	13.1	East of England	32	11.9
East of England	1,295	7.2	South East	22	8.2
South West	1,167	6.5	Yorkshire and The Humber	4	1.5
North West	1,093	6.1	South West	4	1.5
Scotland	1,004	5.6	North West	4	1.5
Yorkshire and The Humber	647	3.6	Northern Ireland	2	0.7
West Midlands	631	3.5	North East	2	0.7
East Midlands	476	2.7	Scotland	2	0.7
Wales	444	2.5	West Midland	1	0.4
North East	383	2.1	Wales	0	0
Northern Ireland	236	1.3	East Midlands	0	0

Source: Beauhurst

Beneficiaries of British Patient Capital are more concentrated within the growth stage of evolution in comparison with the wider equity market. This is most likely due to the investment team’s focus on supporting funds working with early stage businesses still in their growth periods. The cohort of British Patient Capital beneficiaries has a larger proportion of businesses within their growth stage (23.8%) than all equity-backed companies (8.9%). At this stage, those businesses unlikely to survive past the seed or venture stage have died, and the company has entered a phase of growth that is both fast paced yet secure. Instead, the broader equity market has a large number of both seed stage companies, which are more volatile, and established companies, which have less need to secure equity investment.

Annex Table C-14: Stage of evolution of all high-growth companies and British Patient Capital beneficiaries

Stage of evolution	No. of all companies	Proportion of all companies	No. of BPC companies	Proportion of BPC companies
Seed	8,415	47.0%	62	23.0%
Venture	5,427	30.3%	137	50.9%
Growth	1,602	8.9%	64	23.8%
Established	1,778	9.9%	6	2.2%

Source: Beauhurst

Between the financial statement filed prior to a fundraising taking place, and after, there was a larger growth in EBITDA for British Patient Capital backed deals than all others. In this time frame, all companies increased their EBITDA by 16.9%. However, for fundraisings including funds supported by British Patient Capital, this was higher—19.9%.

The British Patient Capital supported cohort also has a disproportionate number of businesses with high-growth potential. Whereas 13% of all equity-backed companies have featured on a high-growth list, 38% of British Patient Capital beneficiaries have achieved this. British Patient Capital supported companies are also more likely to be academic spinouts, with 10.8% of businesses falling into this category. This statistic is lower for the broader equity community, at just 2.25% of all equity backed firms.

Across the wider equity markets, **male founding teams dominate**—with 62.6% of companies falling into this category. All female teams are less common, representing just 8.5% of the companies. There is a larger number of majority male founding teams (2.9%) than majority female ones (0.50%). Within the private markets, 7.1% of companies had an equal gender split in their founding teams.

The cohort of companies supported by British Patient Capital have more male dominated founding teams. Within these businesses, 79.1% of founder groups are all male, while just 5.7% were all female. Meanwhile, there are no companies with a majority female founding team, whereas 7.1% are majority male. In this cohort, 8.2% of businesses had an equal split of men and women in their founding teams.

Annex Table C-15: Gender balance of all equity-backed companies and British Patient Capital beneficiaries

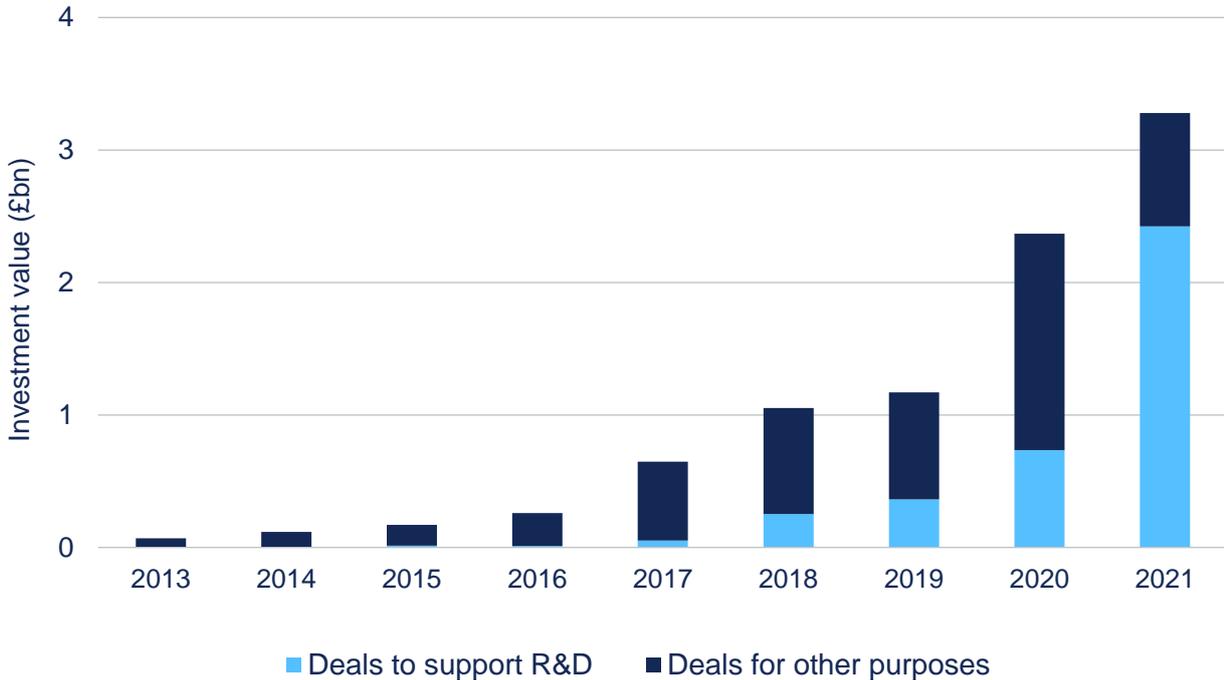
Gender Balance	No. of all companies	Proportion of all companies	No. of BPC companies	Proportion of BPC companies
All male	11,216	62.6%	223	79.1%
All female	1,521	8.5%	16	5.7%
Equal split	1267	7.1%	23	8.2%
Majority male	515	2.9%	20	7.1%
Majority female	90	0.5%	0	0%

Source: Beauhurst. Note: A company will only be included where the gender balance of their entire team is known. If there is a founder whose gender is "unknown", the whole company is excluded from the analysis.

Since the establishment of British Patient Capital in 2018, **the proportion of equity invested into companies with the purpose of supporting research and development** has continued to grow. In 2018, 28.8% of equity invested into beneficiary companies with the intention of supporting research and development. By 2021, this figure had increased to 61.5%.

In comparison with all companies, British Patient Capital beneficiaries have received a proportionately larger amount of equity for the purposes of research and development. Since 2018, the volume of investment received by all companies for this purpose has been 26.8%. In comparison, between 2018 and 2021, British Patient Capital beneficiaries received 45.4% of their investments with the invention of supporting research and development.

Annex Figure C-16: BPC-backed deals investment research and development (2013-2021)

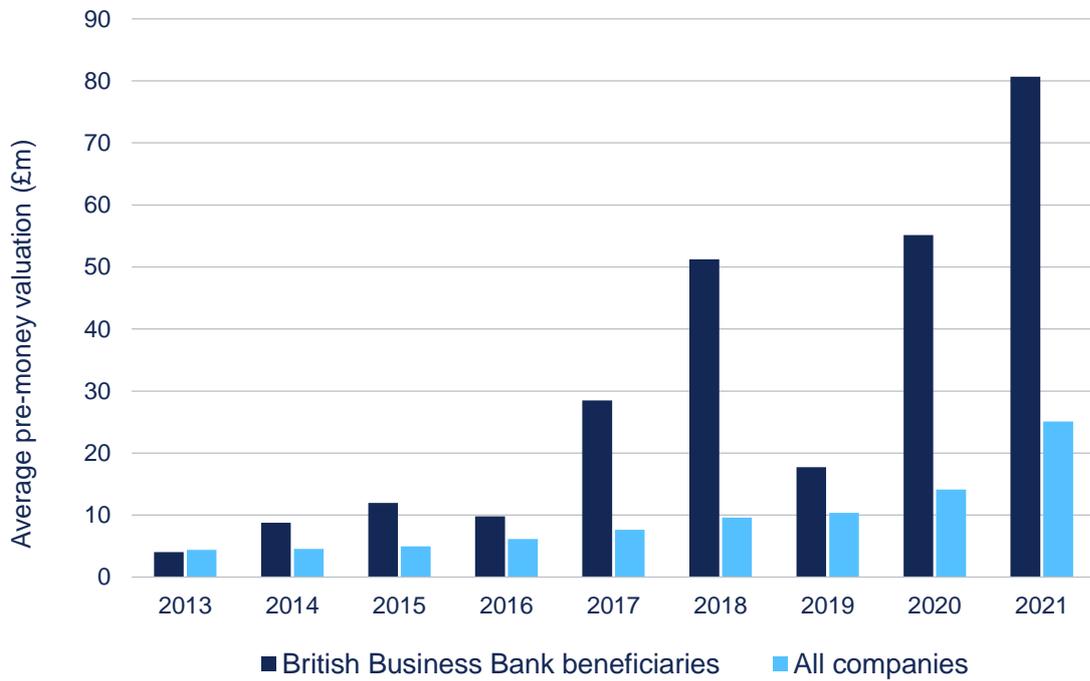


Source: Beauhurst (2022)

The **average pre-money valuations for deals** secured by beneficiaries of British Patient Capital between 2018 and 2021, and the VC Catalyst fund supported by the British Business Bank prior to this, are higher than the average valuation for all companies benefitting from equity financing. In 2013, when the Bank began investing into companies through the VC Catalyst Fund, these figures were broadly similar. The average pre-money valuation for beneficiaries was £4.04m, for all companies this figure was £4.39m.

As the investment activities of the Bank have matured, the average valuations received by their beneficiaries have separated from those received by all businesses by showcasing more extreme growth. Between 2013 and 2017, the average valuations for British Business Bank beneficiaries were 128% higher than that received by all UK companies. From 2018 to 2021, in the years following the establishment of British Patient Capital, the difference between the average pre-money valuation received by all companies and those secured by beneficiaries jumped to 246%.

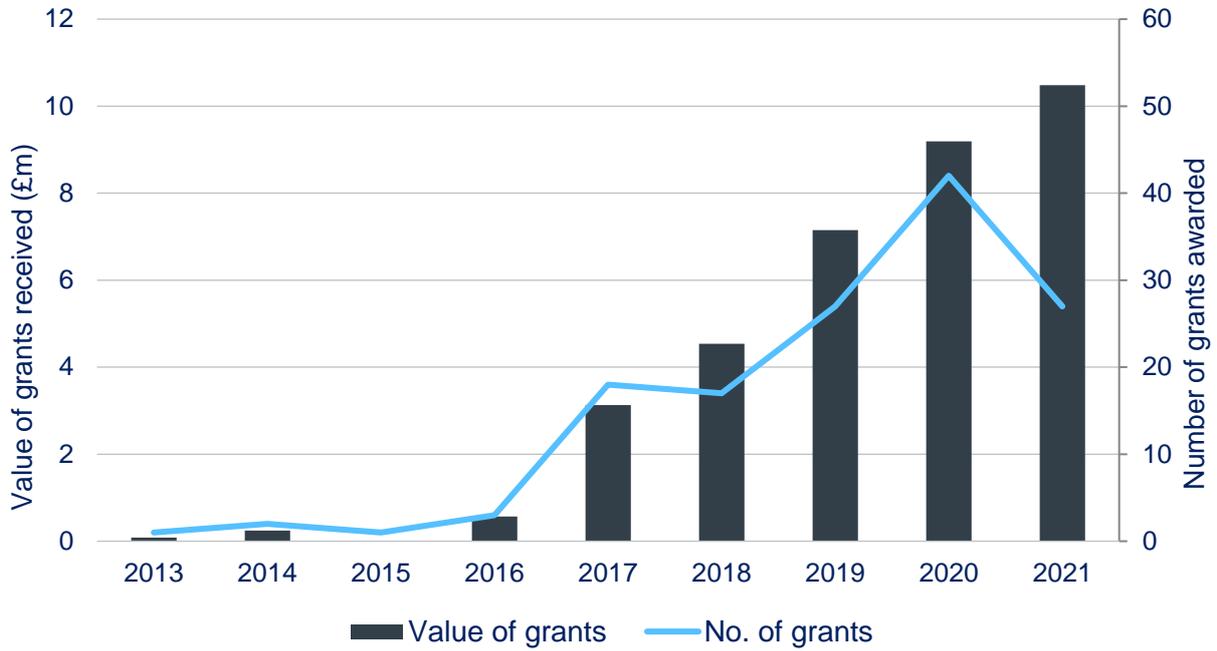
Annex Figure C-17: The average pre-money valuations for all companies, and for British Patient Capital beneficiaries (2013-2021)



Source: Beauhurst (2022)

Whilst the **funding awarded to all companies by Innovate UK** peaked at £439m in 2020, before declining once again to £292m in 2021, the value of these grants secured by businesses backed by funds backed by British Patient Capital escaped this drop—rising by 13.6% instead. The first group of matched companies has experienced a more turbulent relationship with Innovate UK grants. The value of the awards received peaked in 2017 at £11.2m. The second comparator group had a similar experience to that of all companies in recent years, with Innovate UK awards rising to £7.42m in 2020 before declining to £3.52 in 2021.

Annex Figure C-18: Innovate UK grants awarded to British Patient Capital beneficiaries (2013-2021)



Source: Beauhurst (2022)

In 2021, the businesses supported by British Patient Capital-backed funds secured a disproportionate amount of both equity investment and Innovate UK grants. Although this group of companies represents just 1.39% of those which are receiving equity investment, in 2021, they contributed towards 12.9% of the investment secured by UK high-growth companies, and 3.58% of grants awarded by Innovate UK. Analysing the investment received by British Patient Capital businesses from both equity funding and Innovate UK grants, it is therefore clear that this group of companies have avoided the turbulence experienced in recent years in a way that the broader equity market, and competitors, have not.

Annex D: Beneficiary survey analysis

A telephone survey was completed with 48 recipient companies. The interviews focused on the equity round in which a BPC-backed FM was involved, and gathered feedback on the finance process, finance additionality, the investment process, follow-on finance, outcome additionality and the relative contribution of the BPC-supported Fund Manager, and wider impacts of the finance received.

Overall, the survey was completed with 34% (48 of 140) of the survey contacts who consented to be contacted for the survey and for which telephone numbers were made available to SQW by Fund Managers, or were identified through the Beauhurst database.¹⁹⁴

The survey was completed only with in-scope companies who had received finance from Fund Managers before 2021, however it is important to note that four of the 48 companies spoken to had received funding in 2021 but are still included in this analysis and the below representativeness analysis. The survey respondents accounted for 12% of the total population of in-scope companies (48 of 389), and 16% of total gross investment committed. Further detail is provided in the tables below.

Annex Table D-1: Survey respondent profile – date of first investment

	Survey	Survey	Population (to end of Dec 2020)	Population (to end of Dec 2020)
	No. of companies	%	No. of companies	%
2013	-	-	1	0%
2014	1	2%	4	1%
2015	1	2%	6	2%
2016	-	-	9	2%
2017	7	15%	35	9%
2018	11	23%	95	24%
2019	10	21%	98	25%
2020	14	29%	80	21%
2021	4	8%	61	16%
Total no. of companies	48		389	

Source: Analysis of BPC Recipient Company Survey (2022)

¹⁹⁴ This represented 65% (48 of 74) of companies that were contactable during the survey period (i.e., answered the phone or did not refuse to take part).

Annex Table D-2: Survey respondent profile – Fund Manager venture/growth

	Survey	Survey	Population (to end of Dec 2020)	Population (to end of Dec 2020)
	No. of companies	%	No. of companies	%
Venture	36	75%	311	80%
Growth	12	25%	78	20%
Total no. of companies	48		389	

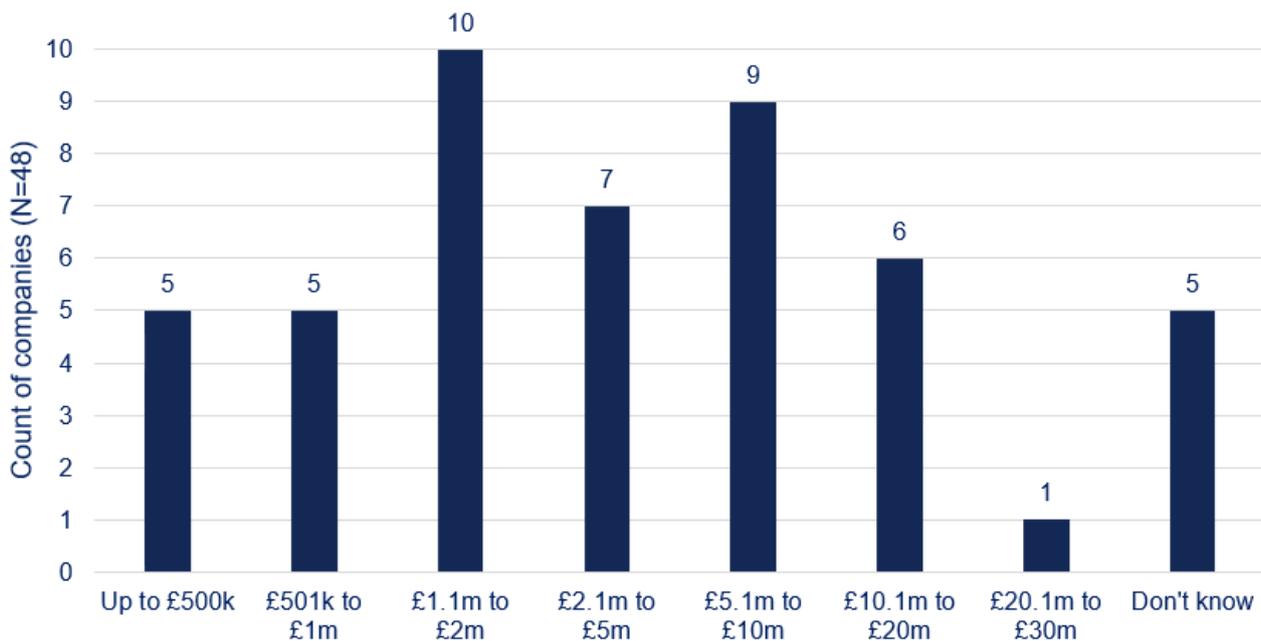
Source: Analysis of BPC Recipient Company Survey (2022)

Fundraising process

Around half of the recipient companies (25/48, or 52%) were at the seed or start-up stage of development (pre-revenue, no VC investors but possible funding from angels or other investors) at the point before they received initial investment from their Fund. Of the remainder, 12 (25%) were early stage (pre-revenue, VC backed) and 11 (23%) were later stage (revenue generating, VC backed).

Overall, **the highest proportion of recipient companies (10/48, or 21%) were originally trying to raise a total of £1.1m to £2m equity investment, while nine (19%) companies were aiming to raise between £5.1m and £10m.** The average equity investment target across the 43 recipient companies who provided figures was £6m.

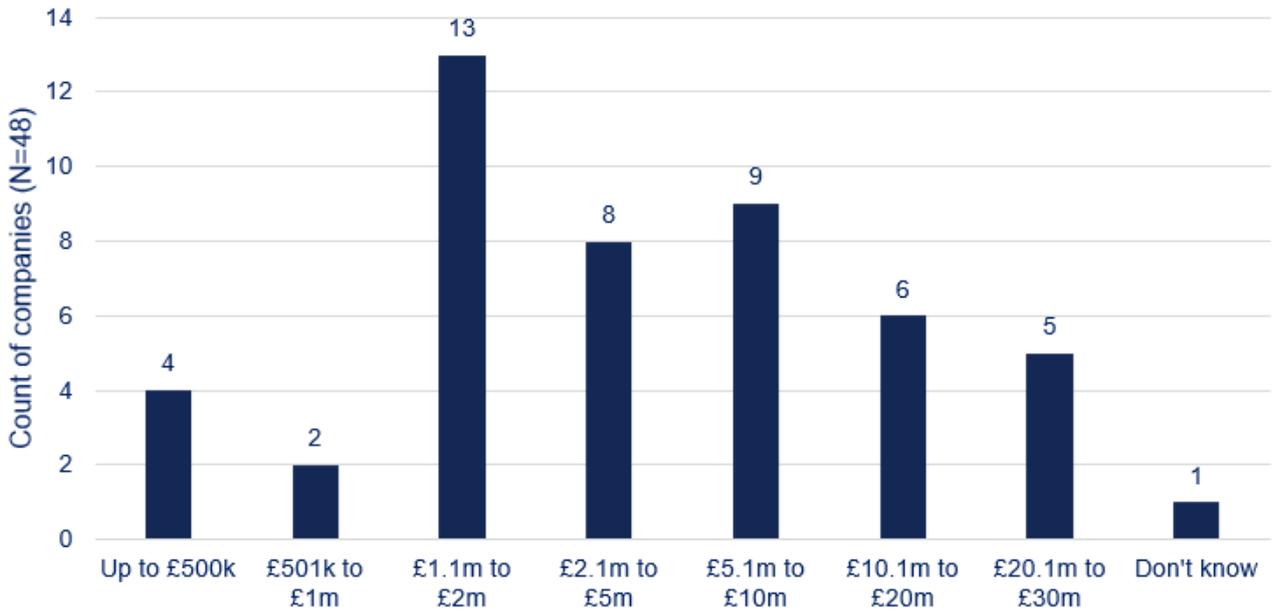
Annex Figure D-1: Target for equity investment



Source: Analysis of BPC Recipient Company Survey (2022)

Similar to original equity investment targets, the highest proportion of recipient companies (13/48, or 27%) actually received equity investment of between £1.1m to £2m, while nine (19%) companies were aiming to raise between £5.1m and £10m. The average equity investment raised across the 47 recipient companies who provided figures was £7.3m.

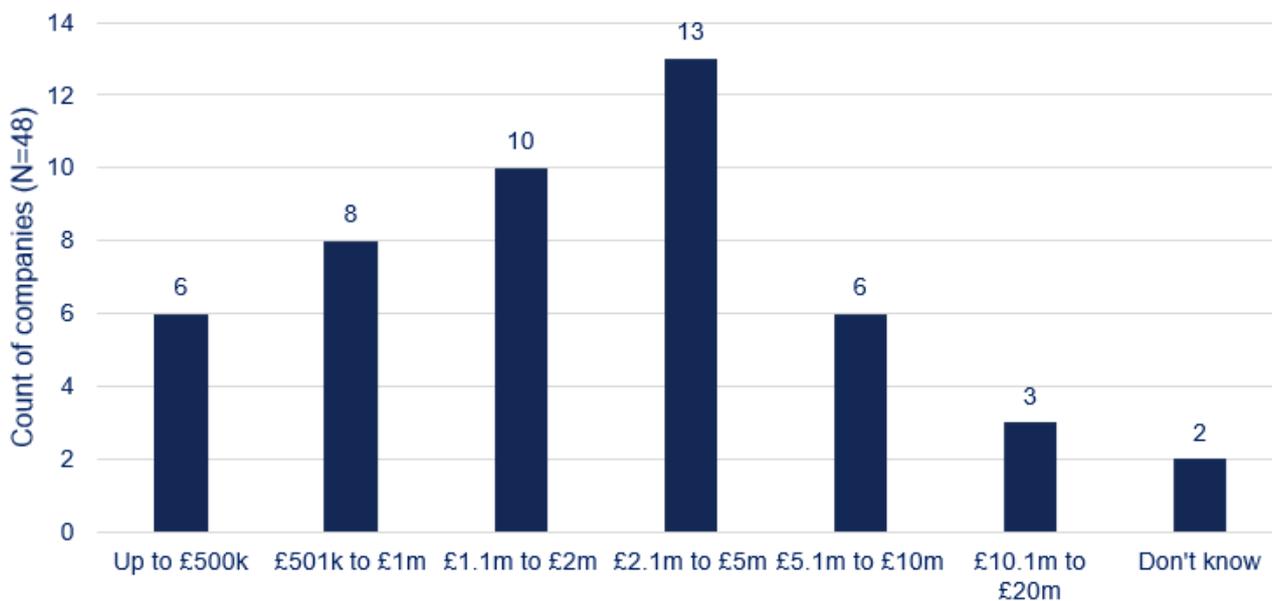
Annex Figure D-2: Actual equity investment received



Source: Analysis of BPC Recipient Company Survey (2022)

Overall, the highest proportion of recipient companies (13/48, or 27%) received between £2.1m and £5m of funding from the BPC-supported Fund Manager. The average equity investment provided by BPC-supported Funds across the 45 recipient companies who provided figures was £3.4m.

Annex Figure D-3: Equity investment received from BPC supported Fund



Source: Analysis of BPC Recipient Company Survey (2022)

Over half of recipient companies (25/48, or 52%) had between two and five equity investors participating in this equity round (including the BPC-supported Fund Manager). When comparing the number of investors between stages, a slightly higher proportion of late stage companies had one to five equity investors (9/11, or 82%) when compared to seed or start-up (12/25, or 48%) and early stage (7/12, or 58%).

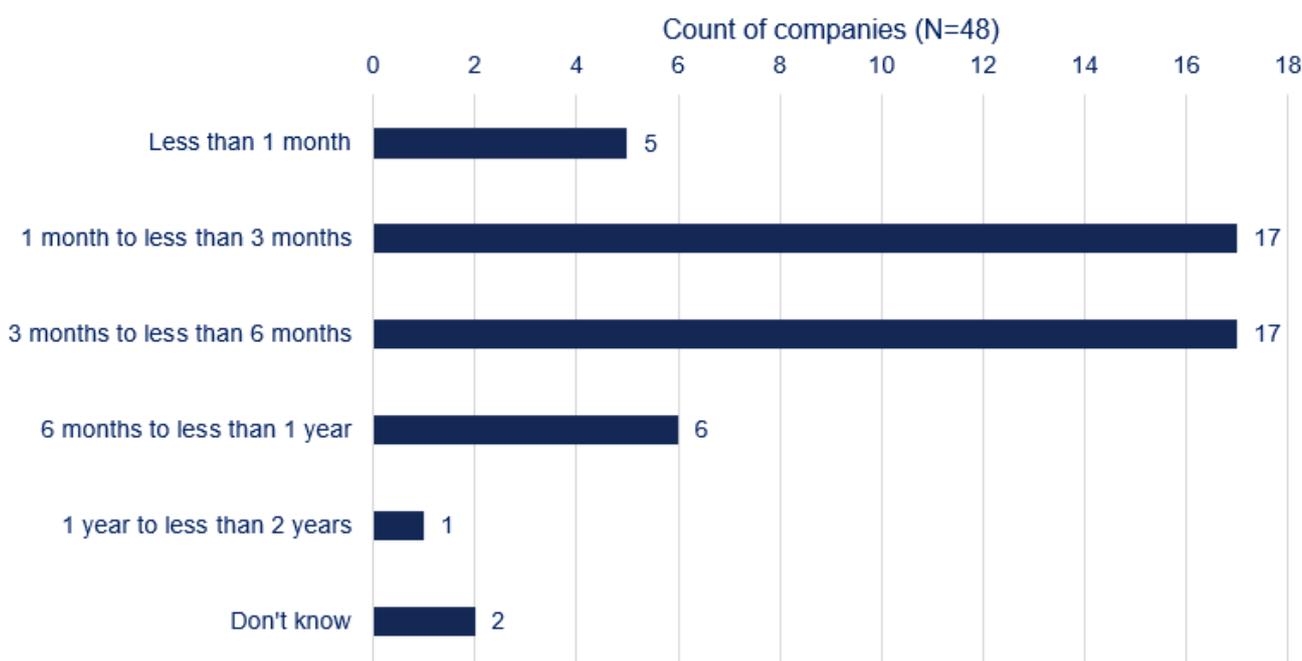
Annex Table D-3: Number of equity investors participating in equity round

	Seed or start-up	Early stage	Late stage	Total
1	1	-	2	3 (6%)
2 to 5	11	7	7	25 (52%)
6 to 10	10	1	1	12 (25%)
11 to 20	2	3	-	5 (10%)
21 to 50	-	1	-	1 (2%)
51 or more	-	-	-	-
Don't know	1	-	1	2 (4%)

Source: Analysis of BPC Recipient Company Survey (2022)

An equal number of recipient companies raised equity finance between 1 month to less than 3 months (17/48, or 35%) as did between 3 months to less than 6 months (17/48, or 35%). More widely, a smaller proportion of firms (6/48, or 13%) took 6 months to less than one year, while five (10%) took less than one month.

Annex Figure D-4: Time taken to raise equity finance between first approaching and securing equity finance from the BPC-supported Fund Manager



Source: Analysis of BPC Recipient Company Survey (2022)

Almost all recipient companies (45/48, or 94%) had discussions with other venture capital funds as part of the funding round, while three did not.

The 45 recipient companies who had discussions with other venture capital funds as part of the funding round reported having spoken to varying numbers of venture capital funds, ranging from two to 100. The highest proportion (11/45, or 24%) had spoken to between 21 and 50 venture capital funds; however, this was closely followed by ten (22%) who had spoken to between 6 and 10 funds.

Annex Table D-4: Number of venture capital funds with which discussions were held

	Seed or start-up	Early stage	Late stage	Total
1 to 5	4	3	2	9 (20%)
6 to 10	4	4	2	10 (22%)
11 to 20	6	1	1	8 (18%)
21 to 50	5	3	3	11 (24%)
51 or more	2	-	-	2 (4%)
Don't know	3	-	2	5 (11%)

Source: Analysis of BPC Recipient Company Survey (2022)

Of the recipient companies who had discussions with other venture capital funds as part of the funding round reported, the majority (31/45, or 69%) had received between 1 and 5 offers of funding from venture capital funds as part of this funding round (excluding the BPC-supported Fund Manager). The average number of offers received across the 40 recipient companies who provided figures was two.

Annex Table D-5: Number of offers of funding received from venture capital funds

	Seed or start-up	Early stage	Late stage	Total
0	3	1	3	7 (16%)
1 to 5	17	10	4	31 (69%)
6 to 10	2	-	-	2 (4%)
Don't know	2	-	3	5 (11%)

Source: Analysis of BPC Recipient Company Survey (2022)

Follow-on finance

Annex Table D-6: Sources of additional or new equity funding rounds obtained since receiving equity investment from BPC-supported Fund Manager

	Seed or start-up	Early stage	Late stage	Total
Venture capital funding	17	8	4	29 (62%)
Angel funding / angel groups	12	4	2	18 (38%)
Corporate venture finance	4	1	1	6 (13%)
Private equity	0	1	1	2 (4%)
Crowd funding	1	0	0	1 (2%)
Other equity finance	7	2	1	10 (21%)
None of these	3	1	6	10 (21%)

Source: Analysis of BPC Recipient Company Survey (2022)

Annex Table D-7: Amount of additional or new equity funding rounds obtained since receiving equity investment from BPC-supported Fund Manager

	Seed or start-up	Early stage	Late stage	Total
None	3	3	0	6 (16%)
Up to £500k	1	0	0	1 (3%)
£501k to £1m	2	0	0	2 (5%)
£1.1m to £2m	1	0	1	2 (5%)
£2.1m to £5m	3	2	1	6 (16%)
£5.1m to £10m	4	1	0	5 (14%)
£10.1m to £20m	4	2	2	8 (22%)
£20.1m to £30m	1	1	0	2 (5%)
More than £30m	2	1	1	4 (11%)
Don't know	1	0	0	1 (3%)

Source: Analysis of BPC Recipient Company Survey (2022)

Annex Table D-8: Extent to which the support from the BPC-supported Fund Manager supported recipient firms in raising additional equity finance

	Seed or start-up	Early stage	Late stage	Total
Entirely	6	1	1	8 (22%)
To a large extent	10	4	1	15 (42%)
To a moderate extent	4	1	3	8 (22%)
To a small extent	0	1	0	1 (3%)
Not at all	1	2	0	3 (8%)
Don't know	1	0	0	1 (3%)

Source: Analysis of BPC Recipient Company Survey (2022)

Future ambitions

Annex Table D-9: Extent to which the equity investment from the BPC-supported Fund Manager will support the recipient company in achieving their short-term growth ambitions

	Seed or start-up	Early stage	Late stage	Total
Entirely	5	1	2	8 (17%)
To a large extent	14	9	4	27 (57%)
To a moderate extent	4	1	5	10 (21%)
To a small extent	1	0	0	1 (2%)
Not at all	0	1	0	1 (2%)

Source: Analysis of BPC Recipient Company Survey (2022)

Annex Table D-10: Extent to which the equity investment from the BPC-supported Fund Manager will support the recipient company in achieving their medium-term growth ambitions

	Seed or start-up	Early stage	Late stage	Total
Entirely	2	0	0	2 (4%)
To a large extent	13	6	2	21 (46%)
To a moderate extent	4	3	6	13 (28%)
To a small extent	5	1	1	7 (15%)
Not at all	0	2	1	3 (7%)

Source: Analysis of BPC Recipient Company Survey (2022)

Markets and competitors

Annex Table D-11: Competition in main market/s: Now thinking about your competitors, how would you describe the nature of the competition in your main market/s (defined with respect to the type of goods and services you sell and the geographic area in which you sell them)?

	Number of recipient companies
Very intense competition	4 (8%)
Intense competition	19 (40%)
Moderate competition	16 (33%)
Weak competition	7 (15%)
No competition at all	2 (4%)

Source: Analysis of BPC Recipient Company Survey (2022)

Annex Table D-12: Competition in main market/s: And where are these competitors based...?

	Number of recipient companies
Locally, that is within 20 miles of your business	6 (13%)
Elsewhere in your region of the UK	7 (15%)
In the rest of the UK, but outside your region	10 (22%)
In the European Union (EU)	6 (13%)
In other countries outside of the European Union (EU)	7 (15%)
Globally	32 (70%)

Source: Analysis of BPC Recipient Company Survey (2022)

Characteristics

Annex Table D-13: Characteristics of senior management team (N=46): How many people are on the firm’s senior management team?

	White men - number	White men - %	Men from ethnic minority background -	Men from ethnic minority background - %	Women - number	Women - %	Women from ethnic minority background -	Women from ethnic minority background - %
Zero	2	4%	29	63%	13	28%	37	80%
One	4	9%	13	28%	13	28%	7	15%
2 to 5	31	67%	4	9%	20	43%	2	4%
6 to 10	9	20%	0	0%	0	0%	0	0%

Source: Analysis of BPC Recipient Company Survey (2022)

The majority of recipient companies (40/46, or 87%) have an equality diversity and inclusion plan or strategy in place.¹⁹⁵ Of the remainder, three (7%) indicated that they might in the future, two (4%) do not and one (2%) did not know.

¹⁹⁵ N=47 as one recipient company refused to answer this question.

Annex E: Additional information on exits

Notable British Patient Capital portfolio company exits

1. Matches Fashion

Exit date: 01/09/2017

Matches Fashion was founded in 1992 and sells designer clothes and accessories in stores and online. In 2012, the company secured £20m of equity from investors including Scottish Equity Partners, managing a fund supported by the British Business Bank. The business was acquired five years later by UK private equity firm Apax Partners.

2. Dotmatics

Exit date: 04/05/2021

Since launching in 2005, Dotmatics has developed information management and data analytics software for businesses working in the pharmaceutical, engineering, oil & gas, and biotechnology industries. Prior to its exit, the company secured £684k of equity funding from investors including Scottish Equity Partners, a fund backed by British Patient Capital. The company was acquired by Insightful Science — an American life sciences software developer—in May 2021.

3. Brightpearl

Exit date: 18/01/2022

Brightpearl creates a centralised system for small businesses, aimed at reducing the need to re-enter information across multiple systems. Since launching in 2007, the company secured over £62.1m of equity investment, alongside £237k of grant funding. One of their investors was Notion Capital, managing a fund sponsored by British Patient Capital. The company was acquired by SAGE, software developer for small businesses, in January 2022.

4. Dealflo

Exit date: 30/05/2018

Launched in 2008, Dealflo developed a web-based software designed to automate contract processing at each stage of large value E-commerce transactions. The company has benefitted from £12m of equity investment across two fundraising rounds. The second of these took place in February 2017 and included British Business Bank-backed Frog Capital. The company was acquired by American online security service provider OneSpan.

5. Pusher

Exit date: 16/12/2020

Pusher develops web-based software allowing developers to create applications with real-time features. For example, providing activity updates or enabling conversations to appear on screen without needing to refresh. Since incorporating in 2011, the company has secured £8.25m of equity investment across three fundraising rounds. The most recent of these, hosted in April 2018, included a fund managed by Balderton Capital and sponsored by British Patient Capital. The

business was subsequently acquired in December 2020 by MessageBird, a Dutch web-based communication provider.

Annex F: International programmes

			
Country	Germany	France	Canada
Established	2018	2013	1944
Scale	€12bn total commitment envelope (excluding legacy programmes)	€13bn AuM ¹⁹⁶ (funds of funds investments)	>\$3.0bn committed
Target firms	Innovative technology firms seeking growth capital	Mostly SMEs, but also mid- and large caps 5,000 portfolio companies	SMEs, mid-market and IP-rich firms 800+ companies to date
Types of funds	<p>Early to late-stage VC (direct investment and funds), with a focus on funds with proven track record but also first-time funds</p> <p>VC and Venture Debt fund of funds (legacy programme)</p> <p>46 VC funds</p>	<p>Early to late-stage VC (500 partner funds, 200 GP relationships), plus quasi-equity and debt funding Invests into innovation funds (seed, early, mid and late stage and growth) covering range of sectors (e.g. digital, lifesciences, energy transition)</p> <p>Includes direct and fund investments, plus sector specific funds (e.g. energy and defence) and thematic funds (e.g. international development and tourism) Accelerator programmes and entrepreneur coaching</p>	<p>Early to late-stage VC, and mid-market growth equity</p> <p>Equity, quasi-equity, and debt transitional capital</p> <p>100 funds to date</p> <p>Includes direct and fund investments, plus sector specific and thematic funds</p> <p>Dedicated venture funds for deep tech, women in technology, industrial innovation, industrial clean energy technology, healthcare etc</p>

¹⁹⁶ Assets under Management

			
Commercial and/or policy focus	Commercial focus, but also aligned with KfW Group and government sustainability objectives. ESG criteria used in the selection of target funds and portfolio companies	Strong focus on building ecosystem Several mandated programmes, based on economic and political priorities (e.g. a fund investing exclusively in firms recognised at the Concours Mondial d’Innovation; also invests into regional funds to stimulate local economies)	Equity programmes feature in BDC Group KPIs (e.g. supporting women-led tech firms and amount of funding into cleantech firms) Core KPI focussed on TVPI Explicitly states “we are a patient and stable investor”
Other information	Existing funding time-limited (10-year commitment horizon) Annual assessment if further funding for KfW needed to support the market towards self-sufficiency KfW Capital also responsible for the Future Fund, which will invest c.€10 billion in the VC ecosystem over 2020-2030 and is designed to attract new investor groups to the VC asset class	Funding envelope not time-limited	Funding dependent on five-year corporate plan and objectives Prominently promotes EDI reporting template to Canadian GPs Offer includes business advisory services (via a network of 500+ business consultants) Includes research and analysis function (e.g., reporting on Canada’s VC landscape)

Source: British Business Bank and SQW



VÆKSTFONDEN

Country	Europe wide	Denmark
Established	1994	1992
Scale	2021 commitments: €2.9bn into VC funds, €5.2bn into all equity fund programmes	DKK2bn (€270m) at inception; current equity position of €6bn, invested into >8,500 firms
Target firms	SMEs	Small innovative firms looking to scale up globally, incl. start-ups
Types of funds	14 equity fund programmes Lower Mid Market and mezzanine programmes Sector specific and thematic funds Social impact & sustainability funds No direct investments	Fund investments (with 10:1 private sector participation and pari passu) Direct investments (5-10 per year) Links to angel networks Also direct loans and guarantees
Commercial and/or policy focus	Strong focus on EU political and policy objectives, e.g. regional development VC programme predominantly focused on funding firms facing financing challenges	More policy driven: focus on positive RoI, but also patience and “societal returns on investment” Under direct investments, explicitly states “We are a reliable and patient investor” and “we also take a long-term view in our efforts to secure a positive return”
Other information	Funding envelope not time-limited	Profits from investments are recyclable

Source: British Business Bank and SQW

Annex G: Case study summaries

Case study – ChAI

Overview of the firm

Commodities AI (ChAI) is an AI-driven commodity market foresight company. ChAI provide a service to firms that rely on the global supply of commodity goods for their production process. They identify market factors driving these prices, provide forecasts of costs, and determine the optimal time and amount to buy/hedge. ChAI use AI and machine learning algorithms to optimise foresight accuracy. Their R&D recent activities have been on making their forecasts more useful and accessible to customers and bundling the forecasts with an insurance product.

ChAI work with firms from a broad range of markets, supporting with commodities ranging from metals and energy to plastics and agricultural products. ChAI was incorporated in February 2019. It is at the venture stage of evolution and is classed as a small enterprise (25-49 employees).

ChAI		
	FM	Passion Capital
	TOTAL	£600k
	TECHNOLOG	AI
	LOCATION	London, UK

Investment experience

The fundraising round with Passion Capital was ChAI’s first major fundraising after an initial round from angel investors. After speaking to investors from around 50 different institutions, ChAI chose Passion Capital because of Passion’s strong reputation to be founder-friendly and their high calibre in the investment world. The consultee reported that once Passion was on board the fundraising process became a lot easier as they attracted other investors for the same round with Passion’s strong reputation. Being associated with Passion Capital has served as a strong signal to the market about ChAI’s expected profitability. ChAI has now started the process of securing a follow-on round of funding. Passion is also directly supporting ChAI’s efforts to secure this funding through their expertise and advice in this space.

Finance additionality

The consultee believes that ChAI would have been able to raise the funding they required from other sources if they had not had access to Passion Capital. However, there would have been compromises from going to lower calibre funds. ChAI would not have been able to leverage investment from others as easily without Passion leading the fundraising round. One of Passion’s partners also joined the board of ChAI and has consistently offered very good and practical advice for the running and operation of the business. The consultee thinks that compared to some of the other funds he has been involved with, Passion has been more patient in their approach. The consultee thinks fund manager patience is important in providing businesses with the opportunity to grow to their maximum potential before exiting.

How the investment was used

The investment unlocked by BPC has enabled ChAI to invest time and effort into building up their business capacity, developing their products, and hire staff and external advisors. Their business is at a stage where they are not currently profitable, and the funding is allowing them to build the capacity to fully realise their potential growth in turnover and profits. The consultee argued that there is “absolutely no way” they would have survived as a business without some form of funding at this point of their development.

How did BPC-backed investment benefit the firm?

Compared to the closest alternative outcome, which would have been to receive funding from a different source, the funding has benefitted ChAI in several ways. As reported above, Passion Capital has a strong reputation in the venture funding space and being associated with Passion Capital has unlocked ChAI’s ability to secure further funding from other investors. Passion also brought significant business experience and advice to ChAI’s board which has helped support the operation of the business. All in all, the BPC funding enabled ChAI to expect to be able to reach profitability sooner than they would otherwise. The improved processes in place due to Passion’s advice have already started to improve ChAI’s business turnover and employment. Outside of the funding, another factor that significantly affected ChAI’s growth is the COVID-19 pandemic. The consultee thinks that COVID-19 initially negatively impacted the firm as it slowed down business processes and affected their customers. However, in the long run, the consultee expects that it will have a positive impact on the business as recent supply-chain issues highlight the usefulness of ChAI’s product as ChAI effectively forecasts inflation in the commodity market. The consultee thinks that it is uncertain whether the BPC funding has influenced an earlier or later exit for ChAI. They have already received exit offers but they are not yet considering it for at least two years. The funding did not influence whether to leave the UK for another market as they would not have considered this either way.

Role of BPC-backed investment in supporting future growth ambitions

ChAI’s future plans are centred around the development of commercial layers around their forecasting product. Their main challenge is enabling their customers to use their product better through the interface that they engage with. The BPC-backed funding is enabling ChAI’s growth ambitions by directly improving the business’ capacity to raise further funding and through its positive impact on the businesses’ processes. The consultee expects that the latter will have more and more benefits to the business’ turnover, employment growth, and profitability in the future.

Case study – Firm A

Overview of the firm

A spin out from a wireless communications PhD project at the University of Southampton, Firm A was incorporated in 2016. Today, the company continues to conduct wireless semiconductor IP development work and delivers channel coding demodulation and channel estimation solutions (hardware and software). The company aims to deliver technology that helps to enable cost-effective, digital communications that achieve robust, error resilient, ultra-high performance.

For example, the channel coding solutions enhance the speed of wireless communication, by overcoming the effects of interference, poor signal strength and noise. The firm works with industry, customers and research institutions to develop optimal IP for different communication systems. The firm is currently at the venture stage of evolution and is classed as a small enterprise (c.50 employees).

Firm A



IQ Capital



TOTAL INVESTED **£3.0 million**



TECHNOLOGY **Telecommunications**



LOCATION **Southampton, UK**

Investment experience

Following initial Government grant funding to support the writing of the firm’s business plan, the firm received a small private Seed fundraising round in 2017. In 2018, the firm received Series A investment of £2.5m from two investors, and in 2020, the company raised a second Series A round totalling £5.8m from the BPC-backed IQ Capital (as the lead investor) and follow-on investment from the two other investors. Alongside this, the firm has received around £1.5m in Innovate UK grants.

Finance additionality

In the absence of the BPC-backed investment from IQ Capital, Firm A felt they definitely would have secured finance anyway, to the same scale and timeframe. The firm secured offers from five other VC funds as part of the funding round, excluding IQ Capital. However, the firm did note the advantages of IQ Capital’s involvement in the funding round offer, including the expertise and support they offered as a Fund Manager, their decision making and “*expediency and simplicity, straightforward terms and negotiation*”, alongside the important role they played in being willing to lead the funding round:

“There are a lot of funds out there that would like to invest and will put the money in and follow, but there seems to be a lack of funds willing to lead on a round. That is another way of articulating the way IQ Capital led last time - they knew they liked it and were prepared to lead the round”.

How the investment was used

The second Series A investment including BPC-backed investment from IQ Capital has enabled the firm to invest in growing their business through developing their technology and products, conducting business development activities, and hiring new people. The investment has allowed the

firm to undertake R&D to develop their product from a component to a system, which in turn should have a “*much easier channel to market*”. In terms of hiring people, the firm’s “*biggest cost is people*”, and through securing the investment they have been able to grow the team from 22 to over 50 employees, whilst developing their recruitment processes and hiring a full time HR Director.

How the BPC-backed investment benefitted the firm

The second Series A investment including BPC-backed investment from IQ Capital helped the firm to increase investment in R&D, primarily through recruiting and building up an engineering team with a diverse range of skillsets. The firm has also developed and introduced new practices and processes, including improved project management and installing various new IT infrastructure and solutions including product lifecycle management and electronic design automation tools. The investment was also noted to have increased turnover for the firm (doubling sales bookings year on year) and firm valuation. More widely, the firm’s growth was seen to have benefitted customers, suppliers and collaborators:

“As you grow and generate value and spend money businesses grow ecosystems around them. We use a local marketing company, we use web-based services (HR, Microsoft and EDA tools). There are a lot of beneficiaries in the supply chain even for us in IP”.

Alongside the funding, the wider telecommunications sector context and growth was identified as a factor currently helping the firm’s progress. Relative to this, the BPC investment was considered to have been an important contributory factor alongside others.

Role of BPC-backed investment in supporting future growth ambitions

The investment from IQ Capital has helped the company to grow its capabilities and develop its product, and is expected to help the company achieve its future growth ambitions. In addition, as a result of the BPC-backed investment from IQ Capital, the firm expects to exit sooner, with the finance having accelerated growth. At present, the firm is currently close to closing a Series B funding round. The investor’s role in providing both financial and non-financial support was noted to be important, including their brand credibility, contribution at the board level, and introductions to a wider business network.

“The main factor was the halo effect that IQ have is their brand and credibility and contribution at the board level to operational governance. They do work hard. They provide for me as a CEO – they do a fairly regular CEO workshop and get guest speakers in and give you the opportunity to network”.

Case study – Globechain

Overview of the firm

Globechain is an ESG reuse marketplace. It connects charities, businesses and people to redistribute unneeded goods and assets to reduce waste generating ESG data on the impact. It provides a user-to-user service where firms can offer unneeded items to second parties. This service provides benefits for suppliers by reducing the cost of waste removal and carbon and generates impact for firms/charities etc. Globechain generates income from this interaction by charging businesses subscription or project fees to list items on the marketplace. This fee is variable depending on the scale of use. Globechain offers additional services linked to this interaction including generating ESG data, an internal reuse/loan asset inventory management system and optional haulage services. Globechain was incorporated in 2015 and is currently at the seed stage of evolution. Globechain is classed as a micro-enterprise with 5-9 employees.

Globechain		
	FM	Kindred
	TOTAL	£650k
	TECHNOLOGY	ESG reuse marketplace
	LOCATION	London, UK

Investment experience

The consultee described their investment experience with Kindred as very positive. Kindred were very quick with offering terms and providing a term sheet that was founder-friendly including a share option pool. Kindred’s partners have all had operational experience of running their own companies which gives the fund more credibility and experience and scored highly because of this with the consultee. Before Kindred, the consultee spoke to over one hundred potential funders and received six funding offers. Compared to these, Kindred made a better offer with a fair offer in equity. They had faith in Globechain’s business model and the CEO’s ability as a sole female ethnic minority founder to run it. Globechain is currently in the process of preparing to do a raise of follow-on funding

Finance additionality

As evidenced by their five other funding offers, the consultee believes that without BPC they would have been able to raise the finance albeit longer and possibly not from as high-tier investors. This is ultimately because Globechain is generating revenue and can sustain itself and would have been able to keep going even without the funding. However, the consultee thinks that if they chose one of their other funding offers, the business would have been detrimentally affected in several ways as these offers had worse terms for exclusivity, equity, and drag-along rights. With a higher equity share given up for the funding, for example, it would have been much harder for Globechain to raise further equity funding in the future.

How the investment was used

Before the funding, Globechain had outsourced the marketplace’s web development and some consultancy capacity. The money was deployed to bring everything in-house and to own their IP technology. Globechain restructured the site architecture, advanced it, and hired a team of employees to run the business using the funds raised. A share of the funding was also used to expand the business in Spain and New York

How did BPC-backed investment benefit the firm?

“As a marketplace business, you go big or go home”. Globechain made the decision that they wanted to go global and ultimately that needed aggressive financing, execution and strategy. If they did not have access to the funding, they would not have been able to grow the team and build the system that operates today and secure the clients they have because they would not have had the bandwidth to operate at this scale. The funding also allowed Globechain to invest in technologies such as its ESG data service. ESG is a unique selling point in Globechain’s business model and gave Globechain a lead in the market. Without the funding, this would have been developed at a much later point (potentially 5 years) and at that point, a competitor might have already built it.

Another factor that affected Globechain’s growth was the impact of the COVID-19 pandemic. The consultee thinks that COVID-19 overall had a positive impact on Globechain. It accelerated sustainability and ESG needs and Globechain restructured their system architecture during covid. This has made Globechain more scalable and defensible and unlocked quicker and stable growth without the risk of collapse. It also showed how resilient the business model and the Globechain team were due to having retained clients and revenue, whereas some start-ups required emergency funding.

The consultee wants to grow the company to its full potential before exiting in the next few years. Kindred has also made it clear from the beginning that they were supporting Globechain for its long-run growth ambitions (10 years +). The consultee thinks that other investors would have been less patient and inexperienced in supporting a company like Globechain and would not have had the same positive impact on the business that Kindred has had as they might have pressured her to exit early.

Role of BPC-backed investment in supporting future growth ambitions

Globechain’s growth ambitions are to continue scaling internationally and to double their team size. Currently, Globechain have a “game-changing” feature in the pipeline. To unlock these ambitions, Globechain are looking at securing a second round of equity funding in September. This funding round will be significantly larger in size. Kindred has directly helped in this process by providing introductions and insights into the investment market based on the experiences they have brought in from their portfolio of investments.

Case study – Ieso Digital Health

Overview of the firm

Ieso was established in 2000 with the aim of making cognitive behavioural therapy more accessible using the digital technologies which were starting to emerge at the time.

The company developed a text-based platform connecting the therapist to the patient. Whilst there was anecdotal evidence of this model working well, growth was limited by the common assumption that the quality of care would be inferior to a face-to-face model. This view was challenged by a clinical trial in the late 2000s which led to a paper being published

in the Lancet showing that text-based and in-person therapy were delivering very similar outcomes. This was a turning point for the company and Ieso has continued to grow thereafter, building a network of c. 600 clinicians to date. The company has been contracted by NHS trusts across the UK to provide a digital methodology alongside the more common face-to-face delivery mechanisms, reaching 16,000 patients and 35,000 NHS referrals in 2021.

Ieso Digital Health



Molten (previously Draper Esprit)



TOTAL INVESTED

£6.5 million



TECHNOLOGY

Digital cognitive behavioural therapy



LOCATION

Cambridge, UK

Investment experience

For the first decade, the company was largely funded by the friends and family of its founders. As the market started to open up, they received external funding from a number of Angel investors and as a small Seed round in 2013¹⁹⁷. In 2018, Ieso raised a £23m Series A round led by the BPC-backed Molten (previously Draper Esprit) which invested £6.5m. This investment was seen as a “stepping stone” for the company, helping it to raise a further £45m in 2021 as part of a Series B round which included follow-on investment from Molten.

Finance additionality

In the absence of the BPC-backed investment in Series A, Ieso would probably not have been able to secure any other VC finance at the time. Whilst the firm had discussions with several other investors for Series A, Molten was one of only a few with a declared interest in digital health propositions.

How the investment was used

The Series A funding was intended to be used for scaling the activities in the UK and exploring a potential entry to the US market. However, the US market was not deemed ready for the format in which Ieso’s platform delivered care, and so the focus soon shifted. The company started to explore opportunities to use the vast amount of data which it had accumulated for building more automated software tools using Artificial Intelligence and Machine Learning. By automating certain aspects of care, these new technologies are expected to improve both the accessibility of therapy as well as patient outcomes. The Series A investment provided sufficient funds for early research, and the series B round (including investment from Molten) enables Ieso to progress this further.

¹⁹⁷ Primarily from angel investors.

How the BPC-backed investment benefitted the firm

The investment has enabled the firm to invest in R&D that it would otherwise not have been able to. The Series A funding has *“changed the direction of travel”* for the company – without it, Ieso would likely have focused on growing the existing offering instead of developing new technologies. With the investment, Ieso has been able to progress the new software tool towards commercialisation. Alongside the investment, Molten has also supported the company with a *“strong voice and advocacy at a strategic level”*, including by providing access to its network which extends to top-level key decision makers.

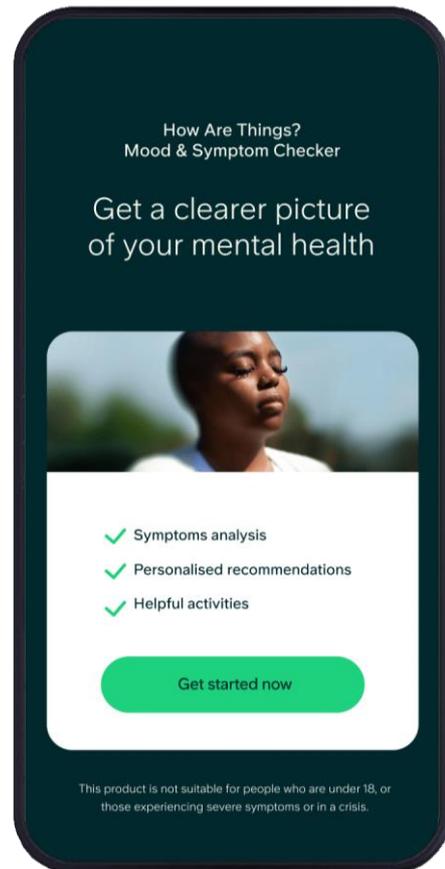
“The fact that we still exist, that we have raised additional money and that we are investing significant amounts in the development of digital therapeutics is all ultimately down to the fact that we have investors on board who believe that this is possible and are willing to support it. Molten is one of those.”

Alongside the funding, there were some other factors which helped the firm’s progress, including the profile of the business and regulatory/policy changes. Relative to these, the BPC investment was considered to have been an important contributory factor alongside others.

Role of BPC-backed investment in supporting future growth ambitions

The firm is hoping to commercialise the new software by late 2023 in the UK and US markets. The company does not have plans for exit at present. The patience of investors was seen as key to enabling the firm to progress at a suitable pace:

“It’s a lot harder to get traction, build adoption and be commercially successful in this particular space. Having investors behind you who appreciate that and are capable of aligning their funds to the overall timeline and challenges faced by the company is really important”.



Case study – Secondmind

Overview of the firm

Founded in 2016, Secondmind Ltd. (secondmind.ai) has developed a Machine Learning (ML) technology platform for use in the automotive industry. The company’s primary technology is the Active Learning platform which applies advanced ML to address common high-dimensional engineering problems in powertrain¹⁹⁸ design, calibration and optimisation, and other automotive engineering domains. This technology helps automotive manufacturers navigate the complexity of engineering design in the transition to electrification, leading to sustainability improvements (and ultimately environmental impacts) as well as time and cost savings for the business.

Secondmind		
	Atlantic Bridge	
	TOTAL INVESTED	£5.7 million
	TECHNOLOGY	AI and Machine Learning
	LOCATION	Cambridge, UK; Japan

Investment experience

Following a £1.5m round of Seed funding in 2016, Secondmind received Series A investment of £10m in 2017 from the BPC-backed Atlantic Bridge along with one other investor (with the latter leading the round). In 2019, the company raised a Series B round totalling c. £20m, this time led by Atlantic Bridge. Alongside this, Secondmind received support from the Future Fund in 2020.

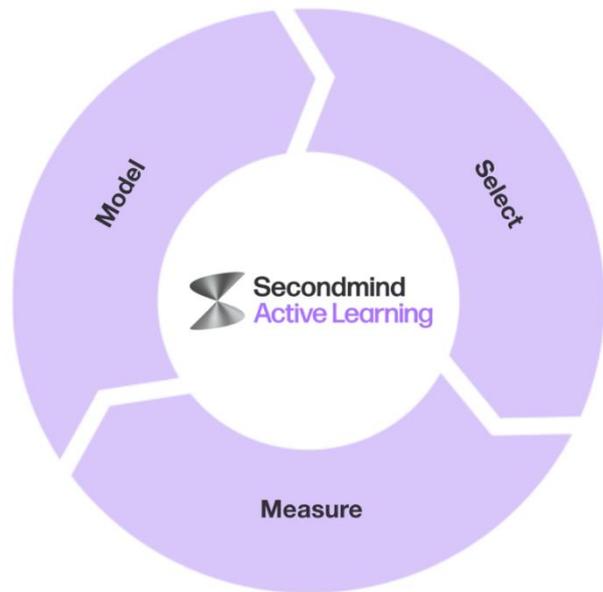
Finance additionality

Whilst there was a lot of activity in the Artificial Intelligence (AI) and ML space globally, Secondmind had a slightly different focus from other technologies, giving it an “interesting edge” over competitors and helping to attract investment. That said, it was recognised that there was no shortage of investment at the time, and so it is likely that they would have been able to obtain funding at the same scale and in the same timeframe from other investors without Atlantic Bridge’s involvement. Raising the Series B funding, however, was recognised as “a lot harder”, and it is likely that Atlantic Bridge’s involvement in Series A helped with this – both through its “cachet and brand” (particularly in AI and ML) as well as early signalling of its plan to follow the money in the next funding cycle. The relatively short period between the two rounds was important in order to benefit from early mover advantage.

¹⁹⁸ A powertrain is a system of mechanical parts in a vehicle by which power is generated and transmitted.

How the investment was used

The Series A investment allowed Secondmind to undertake research related to decision-making in different industries in order to identify where its technology could be best exploited. A small number of industries were selected for further experimentation. The Series B investment was intended to build on this, operationalising the applied research to start developing products. However, the company faced some internal challenges and so it was decided to go through restructuring in early 2021, including a change in top management team as well as a pivot from the previous focus on research and consulting to becoming a product-centric company. Atlantic Bridge advocated this transition, and the fund manager's "nurturing approach" was helpful in seeing it through.



How the BPC-backed investment benefitted the firm

The Series A investment helped the firm to undertake further R&D (resulting in five patents granted), develop new practices and processes (including adherence to Technology Readiness Levels and better facilitation of collaboration internally), and increase productivity. These developments fed into the activities undertaken with the Series B funding which led to the development of a new product – the Secondmind Active Learning Platform – and a strategic partnership with Mazda.

Role of BPC-backed investment in supporting future growth ambitions

The funding from Atlantic Bridge – in both Series A and B – has helped the company to shift its focus from research and consultancy to products. The investor's role was important in terms of both the financial and non-financial support (including introductions to potential partners).

“Atlantic Bridge takes a mentorship approach to guiding their portfolio companies and has an appreciation for the hard-to-predict nature of finding product market fit with nascent emerging AI/ML software. It's not just about numbers and growth absent this critical context, which is what I would have expected from a VC. With this unique approach, Atlantic Bridge helped us navigate a major transition and restructuring that led to more focus, a clearer path to productisation, and a healthier, more resilient business overall. I suspect that other VCs would have not had the stomach for the challenge and continued investment in the longer game, and written us off”.

Case study – SOC.OS

Overview of the firm

SOC.OS was spun out from BAE Systems Applied Intelligence in 2020 having been part of their corporate incubator. The company developed a SaaS-based security alert investigation and triage tool, a lightweight solution which allows security teams to optimise their operations and improve threat detection. The tool collects security alerts from on-premise and cloud tools into a single platform and can intelligently cluster alerts and prioritise cases. It has been shown to reduce triage volumes by more than 95%, with follow on benefits including time saving and enhanced analyst productivity. The technology has been adopted by leading security teams and in 2021 won the “Innovation in Cyber Award” at the National Cyber Awards¹⁹⁹. In 2021, the firm was at the venture stage of evolution and was classed as a small enterprise with 10-24 employees. In 2022 the firm was acquired by Sophos, a global leader in next-generation cybersecurity, via a full shareholders purchase.

SOC.OS



Hoxton Ventures



TOTAL INVESTED £1m



TECHNOLOGY Cybersecurity



LOCATION Milton Keynes, UK

Investment experience

The fundraising round with Hoxton Ventures was SOC.OS’s first major fundraising round. Prior to the fundraising round, BAE Systems were divesting a large proportion of their cyber portfolio business, which presented SOC.OS with a unique opportunity to go out to the VC community to secure funding. In 2020, SOC.OS raised £2m from the BPC-backed Hoxton Ventures along with one other investor (acting as joint leads for the round). The company originally set out to raise £1.5m with the one other investor mentioned who offered operational investment. However, following Hoxton Ventures interest and their offering of an extensive business network and US investment focus, SOC-OS increased the round to £2m.

Finance additionality

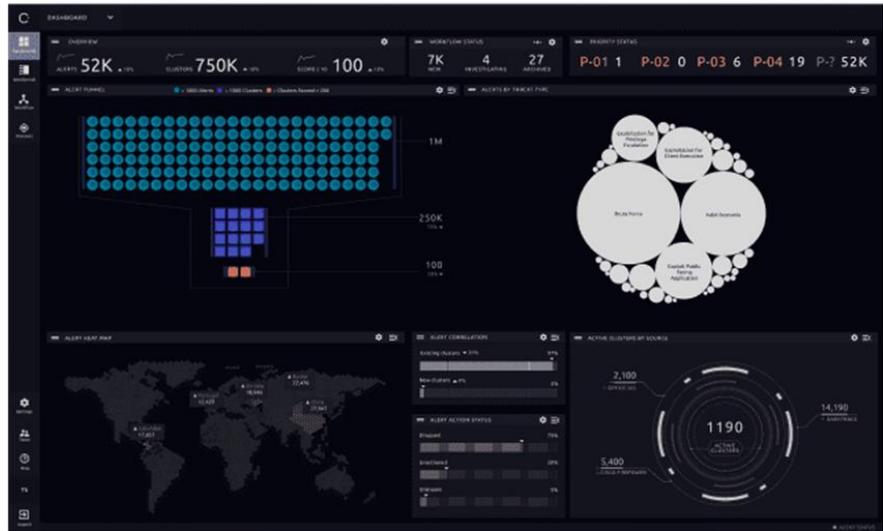
In the absence of the BPC-backed investment, SOC-OS felt they definitely would have been able to secure other VC finance in the same timeframe. However, this would have been the original £1.5m from the other investor from which they secured finance in the funding round, rather than the £2m they did secure with Hoxton Venture’s investment. In addition, it was noted that this would have been at the expense of not having access to the added value provided by Hoxton Ventures including their wider business network and advice and support.

“We probably would have raised £1.5m from them [the other investor] and we would not have been effective in executing against strategy. It would have been harder to make our growth a success”.

¹⁹⁹ The National Cyber Awards (2021) [2021 Finalists & Winners](#)

How the investment was used

The investment secured allowed SOC.OS to undertake a range of activities, including hiring new employees in various roles such as software engineering, product development, sales and marketing, growing from seven to thirteen employees. Alongside this, the investment allowed SOC-OS to undertake continued research and development related to the technology and identify routes to market for their product. The investment was also used to support general and administrative expenses to “keep the company going” including salary payments, and to support marketing activities, such as a £10k podcast and ad campaign.



How the BPC-backed investment benefitted the firm

The investment has helped the firm to undertake further, more experimental R&D, providing a “safety net” to conduct R&D which it otherwise would not have been able to do at the time. This has enabled the firm to learn more from investing in “mini-experiments”. The investment has also enabled the firm to develop new practices and process, for example on the sales operations side of things the company has invested in embedding a CRM tool alongside tele-marketing software and sales outreach tools such as LinkedIn sales navigator. This was noted as important: “as a first-time founder you don’t know that any of that exists – that is a huge thing”. This, alongside the R&D and product development was also reported to have resulted in increased turnover and profitability, whilst increasing the firm’s valuation and helping it to avoid business closure.

More widely, the additional capital was noted to have contributed to enhanced productivity and employee wellbeing:

“It allows you to have really great initiatives, [you] don’t have to be tight with how you keep people happy. We could do initiatives for employee wellbeing which is linked to productivity. You need the money to be able to do that, capital to support innovative wellbeing and employee engagement initiatives”.

Alongside the funding, internal factors including the team’s skills and motivation to succeed, were noted to have helped the firm’s progress. Relative to these, the BPC-backed investment was considered to have been an important contributory factor alongside others.

Role of BPC-backed investment in supporting future growth ambitions

The funding from Hoxton Ventures is expected to help the company achieve its future growth ambitions. The firm indicated that as a result of securing finance from Hoxton Ventures, they expected to exit sooner, with the finance fuelling their growth and product development. Since completing the evaluation survey, SOC.OS has been acquired by Sophos, a global leader in next-generation cybersecurity, via a full shareholders purchase. The technology and capability within

SOC.OS, including the personnel, will be used to advance Sophos' solutions. The firm highlighted the role Hoxton Ventures played in this process:

“Hoxton had good ideas to accelerate fundraising plans. We were going to do it about four or five months later, but they said in December 2021 to set up for fundraising sooner than we had planned.” ... “Clever stuff throughout our journey that was strategically important, if we hadn't gone out for fundraising, we probably wouldn't have had such a growth”.

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