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Understanding equity access and use in early-stage ventures

Phase 1 report

ERC Research Report

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A report for Innovate UK and the Department of Business and Trade

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Background

Early-stage equity can play a significant enabling role in firms' commercialisation strategies. In this report, we consider early-stage ventures' journey towards equity and the barriers and enablers of accessing equity. This Phase 1 report is based on a survey of equity-engaged, early-stage entrepreneurs and businesses, case studies and interviews with equity providers undertaken between January and June 2023.

UK early-stage equity investment market context

Stakeholder interviews suggested that early-stage markets are well supplied by a wide range of Tech investors, including accelerators, business angels, Seed VCs and crowdfunding. Tech investing has been encouraged by S/EIS tax benefits which have led to a proliferation of 'EIS' angel network and VC seed funds. Angel co-finance and EIS funds have led to their increased investment at later seed and Series A early revenue venture stages. There has also been an increase in seed VC investing spurred by SEIS funds.

An addition to the burgeoning UK tech accelerator market has been an increase in Tech founder launchpads, sponsored by public (e.g. universities, IUK), corporate and VC investors. The pipeline of S&T research-driven spin-outs is increasingly well-funded by collaborative university seed funds (e.g. Northern Gritstone).

Innovate Edge has an increasingly important role to play in new venture investment readiness (IR) – particularly with the loss of ERDF and the need to address EDI and levelling up across the UK regions.

Deeptech/hardtech remains difficult to fund for private equity, particularly at early-stages where risk is highest, exit timetables are long, requiring many capital-intensive rounds (e.g. to build prototypes) and also because S/EIS ordinary shares do not protect against later-stage investment share evaluation crushing. Sustainable deeptech requires a combination of more consistent public grant funding, available through the valley of death pre-revenue stage and public-private co-financing to generate earlier equity investment which can instil commercial acumen and improved signalling of venture quality to later-stage investors.

Key survey findings

A survey of 750 equity-engaged, early-stage entrepreneurs and businesses, case studies and interviews with equity providers was conducted between January and June 2023. The sampling frame for the survey was compiled from company lists provided by a range of equity providers, and business support organisations, and through a data-sharing agreement with Innovate UK. This has resulted in a relatively large proportion of respondents having some prior contact with Innovate UK, something which is not typical of the general population of businesses.

28.3 per cent of ventures had a CFO or specific finance resource with finance being dealt with by other members of the management or leadership team in the vast majority of cases. Overall, 58.8 per cent of respondents had experience raising equity finance before the year before the survey, a proportion which was higher among pre-trading firms and those in business services.

Overall, around 62.6 per cent of respondents were using external finance 12 months before the survey, Equity was the most commonly used source of funding among responding ventures being used by 45.8 per cent of firms.

Among respondent ventures 49.2 per cent sought external finance in the year prior to the survey with the majority of those ventures seeking finance approaching funders multiple times.

Among those respondents seeking finance, 64.9 per cent had sought equity over the last year with more than 53.1 per cent also seeking Innovate UK grant support.

On average ventures were successful in obtaining 42.3 per cent of the funding they actually sought in the year prior to the survey. Around this average value success varied widely, however, with a significant proportion of firms (around 35 per cent) receiving below 10 per cent of their target and a further 30 per cent obtaining all the funding they sought. On average funding success was generally lower for pre-trading firms than for early-stage trading ventures.

Ventures who reported seeking equity were asked in the survey how many potential providers of equity they had approached during the last year. By far the most common response was '5 or more' equity providers. The search for equity also involved a wider range of new partners than the general search for finance. Overall, only around 7.2 per cent of ventures seeking equity sought new funding only from their existing funders, the remainder of firms either approached only new funders (55.8 per cent) or a combination of new and existing funders (36.9 per cent).

The most common equity providers approached were business angels or angel networks (60.2 per cent) and venture capital funds (57.8 per cent). Smaller proportions of ventures approached private equity firms (28.5 per cent) and other types of private and public/government providers.

Overall, just over half of ventures which sought equity finance (51.4 per cent) were successful either in part or fully in obtaining finance. Of those which were successful in obtaining some or all of the finance they were seeking, around 25.3 per cent of firms obtained all the finance they were seeking and a further 26.1 per cent obtained some of the equity they sought. Success rates were lower than average among pre-trading businesses which had the highest failure rate (54.5 per cent) of all types of firms.

Where ventures had either partial or no success in obtaining equity, they were asked at what stage of the application process their application was rejected. Rejection was most common either at the stage of initial or multiple presentations with investors.

The main consequences of not obtaining equity funding were said to be slower market introduction of new products/processes, slowed technology development and limited business growth.

Multi-variate analysis suggested which factors have the strongest link to seeking finance, seeking equity and success in raising equity:

- Ventures with a track record of previous use of equity, are 14.6% more likely to seek external finance, while firms receiving support from Innovate UK were 14.4% more likely to subsequently seek external finance
- Firms having a track record of using equity were 27% more likely to seek equity in the current period. Receiving support from an incubator increased the probability of seeking equity by 6.9%, with support from consultants increasing the probability by 10.9%, and that from Innovate UK by 13%. Being located in London and the South

East, increases the probability of seeking equity by 7.1%.

- Having a track record of previously raising equity, is associated with an increase in the percentage of finance obtained of 26.0%, while being an early-stage trading business is associated with an increase in the percentage of finance obtained of 23.1% compared to be a pre-trading venture.

Recommendations from stakeholders and case-study companies

Industry stakeholders and case-study companies suggested recommendations for improving the early-stage investment markets. These apply to the strengthening of the UK early-stage equity high-growth potential venture market overall, including regional levelling up and EDI and also to the patient capital problem:

- Continue to support S/EIS and ensure it is locked into long-term policy to ensure early-stage market stability.
- Provide enhanced tax incentives through e.g. S/EIS for patient capital – including key incentives for green environmentally positive activities - and R&D to assist with re-balancing the investment risk-reward ratio.
- Enhance public-private co-financing programmes for angels and VCs to cover the loss of EIF and ensure that these funds apply environmental credentials (with DNH as a minimum requirement) regional focus and EDI. It was noted that BBB is enhancing the Regional Investment Funds and this needs to be stepped up.
- IUK is playing an increasingly important role in developing Investment Readiness programmes through the Business Support (Edge) programme. This is vital and the linkages between IUK, grants and Investor Partners are very important to creating a more fluent and effective early-stage funding escalator connecting grants with equity.
- Public sector investment readiness programmes are critical in linking ventures to finance and can play an important role in addressing levelling up and EDI. French Tech offers a potential model for support and investments consistently across national regions.
- More substantive and progressive grants like the BEIS Energy Entrepreneurs Fund are required to support longer-horizon cleantech and disruptive hardtech. These need to offer follow-on grants and co-finance early with accredited angels and VC to create a blended tech and commercial finance support programme.
- Support the momentum behind university collaborative seed funds which might help unlock more corporate and institutional investment into earlier stages.
- Unlocking institutional pension funds is a game changer for early-stage investment. Just 1% of these funds invested into UK early-stage markets with a focus on patient capital would transform the market.
- Develop international collaborative cross-border investing (Ireland has been suggested as a strong case), particularly to overcome shortfalls from EIF and to ensure a more effective long-horizon early-stage investment market which avoids thin market pitfalls and is able to follow investments overseas to optimise returns and likely retention of UK IP and employment.

SECTION 1: INTRODUCTION

1.1 Objectives

It is widely recognised that early-stage entrepreneurs, particularly those operating in high-risk market areas, face limitations in the availability of capital. Early-stage equity can play a significant enabling role in firms' commercialisation strategies. The then Department of Business, Energy and Industrial Strategy (BEIS) provided an assessment of the availability of early-stage equity in 2019 with data collected before EU-exit and the pandemic[1]. In this project, we update this previous work and aim to: (1) assess the availability of early-stage equity to different types of firms; (2) assess the impact of any equity gaps; and, (3) provide detailed insight into the stage of the application process where particular deals fail. The latter is important in terms of shaping potential support mechanisms for early-stage entrepreneurs in enabling them to access early-stage equity.

The report is based on a survey of equity-engaged, early-stage entrepreneurs and businesses, business case studies and interviews with equity providers. Fieldwork was undertaken between January and May 2023. The results inevitably reflect the climate of uncertainty in financial markets, and the particular pressures on firms due to the cost of doing business crisis, during this period. Interviews with case study businesses and investors were undertaken in June 2023. This is a Phase 1 report on the project. Phase 2 planned for Autumn 2024 will hopefully extend the survey coverage.

The report addresses several key questions:

- Who seeks early-stage equity finance? What are the characteristics of these firms/entrepreneurs? What age/sector/size are firms seeking equity? Where are they located?
- What is the attitude of early-stage entrepreneurs towards using equity? How does this vary relative to other financing sources? How is this influencing their demand for early-stage equity? How does this differ across regions and sectors?
- Are firms investment-ready? Do they have competencies in corporate finance or have they sought external advice in fund-raising? How easily available is high-quality advice? Is this different in different regions/sectors?
- Do firms seeking equity get the finance they are seeking? How does this differ between potential sources of equity funding and locations? Where are the equity 'gaps' in terms of investment size, sector, stage of development and location? Are these uniform or specific to sub-groups of companies?
- Where early-stage entrepreneurs do encounter equity gaps how is this influencing the financing and growth of their businesses?
- How does the customer journey towards equity funding work? Are there specific barriers or challenges? Where equity is not obtained where did the process fall down? Why did the process collapse in the firm's view?

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/821902/sme-equity-finance-regions-research-2019-012.pdf

1.2 The UK Early-stage Venture Investment Market Context for 2023

UK early-stage venture investment markets have developed considerably during the past 10-15 years, post the Global Financial Crisis of the late 2000s. This period has seen increasing volumes of investment into UK high-growth potential ventures at all sizes and stages. Strategically, these are important to the UK economy as they are likely at some stage to form a key part of the '*Vital 6%*'[2] of UK SMEs that create half of new jobs – often high-skilled jobs (e.g. software and technical engineers) that are well paid. Furthermore, these smaller high-growth potential ventures can offer the cleantech innovations to address UK and global Net Zero and wider environmental aspirations[3].

However, early-stage venture equity investment is highly risky with high failure rates, and only a small percentage (less than 1:10) make 'blockbuster' returns with the best performers often taking the longest to exit[4]. Public policy therefore plays a vital role in nurturing and developing venture capital markets, particularly in de-risking early-stage investment[5], when information asymmetries between venture founders and private financiers are greatest, and where ventures lack a trading track record and collateral[6]. The UK has seen considerable state intervention, notably to assist early-stage investment, particularly in the form of grants from Innovate UK (IUK), venture capital co-financing through the British Business Bank, and investor tax relief (from HMRC). Despite these advances, UK equity finance gaps still exist, with financial supply-side evidence indicating fluctuations in financing stage supply and high rates of equity applications.

Qualitative studies like BEIS (2017) 'Journey to Finance of Innovative Businesses' suggest that early-stage ventures often lack the experience and resources and therefore investment readiness to seek, and successfully apply for, equity finance. Yet, relatively little is known about the very early venture demand-side experience and success rates in obtaining the first formal round of equity data. This is because current UK venture finance data (e.g. Beauhurst, Dealroom, etc.) typically track new venture investment data from the first publicly announced round of finance (either a large grant of £100k plus, equity or potentially a small loan for a soft start trading venture) rather than from the time when firms initially seek finance.

There is an assumption that the high rates of equity application rejections represent the market doing its job by rejecting commercially unviable propositions. However, qualitative studies suggest that these failures might relate to a combination of applicant venture demand failure due to lack of experience and investment readiness, and also a lack of suitable types of finance, particularly for disruptive technologies with large capital investment requirements and long investment horizons. This latter point is critical for policy because many of the game-changing cleantech innovations which stem from new ventures may fall into this *'deeptech'* category[7].

[2] https://www.nesta.org.uk/report/the-vital-6/
[3] Owen et al (2019) Early-stage Investing in Green SMEs: The UK Case. ACRN Journal of Finance 8.
[4] Wiltbank R (2014) Returns to Angel Investors in Groups. University of Washington
[5] Mazzucato M & Penna CR (2016) Beyond Market Failures: the market creating and shaping roles of state investment banks. Journal of Economic Policy Reform 19(4)
[6] North et al (2013) Funding the growth of UK technology-based small firms. Venture Capital 15
[7] Owen & Chari (2023) UK Policy for University Entfin Ecosystem for Cleantech. IEEE TEM

A key source of recent data is the British Business Bank's annual Small Business Equity Tracker, based on Beauhurst data for reported formal equity investment in UK ventures. This shows that the number of equity investment deals and volume of investment increased consistently from 2011 – from less than £2bn into around 500 deals to a peak of £18.8bn into nearly 3,000 deals in 2021, before declining by 7% in deals and 11% in investment volume in 2022. This decline, which took place in the second half of 2022, can be explained by a combination of factors, ranging from market correction after a boom period in 2021 where valuations may have been over-hyped, to the cycle of equity investment where many investors are now fundraising for more investment capital, and the worsening economic conditions which are slowing down the investment exit markets.

Equity Tracker[8] data suggests that although the earlier seed and venture (Series A early commercialisation) stages were less affected by the market downturn, this was feeding through to the earlier investment stages in 2023.

The 2022 UK seed stage investment market represented a £2.2bn investment into over 1,100 deals, a 14% increase in investment over 2021. However, the underlying trend showed a decline in seed and venture stage investment during the second half of the year. This means that the early-stage venture survey in this report will have been impacted at least to some extent by this market downturn.

Public-Private policy influence

The recent growth in the post-GFC UK equity market has been spurred by many financial market innovations and changes, underpinned by the public-private co-financing operations of the British Business Bank (BBB) (it backs around 1:7 of equity deals, with a strong regional presence in London, the North West, the Midlands and South West of England). The Bank was established in 2013 to oversee the public development of SME finance markets, with a particular focus on developing earlier-stage seed and Series A funding.

This has taken place mainly through the flagship Enterprise Capital Fund (ECF) programme which sought to co-fund new and existing VCs to invest at earlier stages to fill a perceived equity gap in the £250k-£5m range where private VCs lacked risk appetite or experience[9]. Additionally, public co-financing of business angels – traditionally the main early-stage source of equity in the UK market[10] - through the Scottish Co-fund and more recent British Business Bank initiatives, including the Regional Angels Programme has increased angel investment. ERDF, which ended in 2023 and was superseded by the Shared Prosperity Fund, provided funds to English regions and devolved nations, with the enhanced British Business Bank Regional Investment Funds designed to address regional equity finance and support shortfalls and deliver levelling-up.

[8] British Business Bank Equity tracker 2023.pdf
[9] Owen, R., Mac an Bhaird, C. and North, D. (2019) The Role of Government Venture Capital Funds: Recent Lessons from the UK Experience. Strategic Change: Briefings in Entrepreneurial Finance 28(1)
[10] Mason & Harrison (2015) Business Angel Investment Activity. EP&C 33(1)

A further major policy contributor to the stimulation of early-stage private investment has been the Seed Enterprise Investment Scheme (SEIS)[11] investor tax relief, which alongside the later stage EIS, has supported Venture Capital Trust funds and a plethora of more recent angel EIS funds (e.g. SyndicateRoom, Green Angel Syndicate etc). S/EIS has also supported the development of equity crowdfunding platforms, since they first appeared in the UK in 2011, led by Crowdcube and Seedrs.

The early-stage venture pipeline

As the BBB Equity Tracker demonstrates, UK equity finance markets are dynamic, fluctuating over time. The potential high-growth venture finance escalator relies on achieving a balance between a sufficient innovative and scalable venture pipeline and a suitable supply of risk finance[12]. It is therefore vital that public policy addresses the ecosystem support requirements to stimulate good quality new venture formation alongside the supply of finance[13].

The post-GFC period has seen a huge increase in the activities of launchpads and accelerators which seek to develop new technology-based companies, bringing together new venture founders, offering small initial investments, and support for developing the proof of concept and investment readiness of founding teams (see Case A). These have seen both public and private investment, notably corporate early-stage investment into tech accelerators[14]. This has taken place alongside the growth of university seed funds, which are increasingly seeing university collaborations like Northern Gritstone and Set Squared providing the initial pipeline of venture support. The British Business Bank Equity Tracker reported that University investment reached a record UK level of £2bn in 2022.

For many pre-seed start-ups Innovate UK (IUK) offers the first public financing opportunity, often in the form of grants, but increasingly with links to seed investors through their Investor Partners programme. This is an important link, with prior BEIS[15] research indicating that there was a limited connection between the technical assurance of IUK SMART grant funding for new ventures and the commercial demands of investors.

The current survey draws largely on the IUK support network of early-stage venture Pitchfest applicants for initial Proof of Concept grant funds. It comes too early to see how IUK's launchpad programmes to address Net Zero will perform, but these alongside the Investor Partners programme are designed to improve the early-stage innovation finance escalator.

Persistent patient capital funding gaps

The early-stage capital market has been well supplied by early-stage investors, particularly in the burgeoning tech market hot spots in London, Cambridge, Oxford, and also Central Scotland and Manchester. Indeed, the British Business Bank Equity Tracker highlights

[11] https://www.gov.uk/guidance/venture-capital-schemes-apply-to-use-the-seed-enterprise-investment-scheme
[12] Mason C (2018) Financing Entrepreneurial Ventures. Sage Handbook ISBN 9781473925236
[13] Brown and Mason (2017) Looking inside the spike bits: a critical review and conceptualisation of entrepreneurial ecosystems. SBE 49
[14] https://www.beauhurst.com/accelerating-the-uk-report/
[15] BEIS (2017) The Innovative Firms Journey to Finance

Fintech, Software and Life sciences as sectors where the UK excels. Whilst these continue to perform well, there is a persistent funding gap for more disruptive longer horizon 'deeptech' (e.g. cleantech) ventures which require higher levels of capital expenditure for hardware prototype development and experience longer periods within the valley of death before establishing commercial foothold[16].

Comparisons with the more established and considerably larger US VC market demonstrate that at every stage, UK VCs invest less than their US counterparts[17] and whilst this gap has closed it remains the case that many UK deeptech ventures will fail due to a lack of investment, and those that exit will often exit at earlier than optimal stages and via trade sales to overseas investors. This poses serious questions in terms of UK strategic socio-environmental policies which address for example Net Zero and wider environmental – rather than purely economic – aims which would align with UN sustainable development goals and the UK Green Finance Strategy[18].

1.3 Identifying survey participants

The business survey reported here aimed to collect data on a group of early-stage entrepreneurs both before and after starting trading, hereafter 'ventures'. Standard approaches to constructing sampling frames based on business registers or Companies House data would potentially miss pre-trading or nascent businesses. So here we adopt a different two-stage approach to the identification of potential respondents:

- **Stage 1: Identifying potentially relevant ventures** – we sought information from a range of accelerators, incubators and equity providers across the UK on their client companies (both successful and unsuccessful). In addition. we established a data-sharing agreement with IUK relating to the companies which had either applied to or participated in their Pitchfest event or received grant support for R&D or innovation. This generated a list of around 12,000 company names with some duplicated entries and very variable quality or no contact details for individuals.

- **Stage 2: Screening for equity-relevant ventures** - where possible – depending on contact details - we then sought to conduct telephone interviews with firms. Details of this activity are provided in Annex 1. In each case, we spoke to the lead entrepreneur or owner-manager of the company. Where they were willing to engage in the survey, we then asked a series of filter questions to identify a relevant group of entrepreneurs/firms who had at least considered the potential value of equity for their firm, had significant growth ambition, and were an early-stage business (Box 1)

[16] Owen R (2021) Lessons from Government Venture Capital Funds to Enable Transition to a Low-Carbon Economy: The UK Case. IEEE TEM DOI: 10.1109/TEM.2021.3094992
[17] Arundale (2020) Venture Capital Performance; British Business Bank Equity Tracker 2022
[18] HM Government 2023 Green Finance Strategy

Box 1: Screening for early-stage, equity-relevant ventures

Around 12,000 entrepreneurs and firms ('ventures') were initially identified as potential early-stage equity users. Two screening questions were then used to identify ventures which completed the main survey. These were as follows:

(1) Have you ever thought or considered that equity finance might be appropriate for your idea, project or the business you run?

(2) Which of the following statements describe your reasons for being in business? (1) I am in business as a means to work (as opposed to being an employee); (2) My goal is to run my own business and make a good living for myself and my family; (3) I want to be successful in business and become wealthy from running my business; (4) I hope to develop a product or service that will change my industry, society and/or make the world a better place.

Only ventures which responded positively to (1) and selected option (4) in question (2) were subsequently interviewed in full.

The sampling approach adopted here has both advantages and disadvantages. The key advantage is that we can be confident that respondents have, to some extent at least, engaged with using equity for their venture or business. The disadvantage – compared to a more typical structured survey sample – is that we are less confident about representativeness by sector or region. Instead, we have a group of respondents which is strongly self-selected in terms of their equity engagement. This results in strongly skewed regional coverage with Wales, Northern Ireland, Scotland and some Northern regions being under-represented in the respondents relative to their population shares (Annex 1). This reflects a combination of ventures inclusion/exclusion in the original sampling frame, survey non-response or screening out in the early stages of the survey process.

The initial group of potential respondents was also based predominantly on information provided by Innovate UK through a data-sharing agreement. This has inevitably shaped the group of respondents with around three-quarters of respondents having sought or used some form of government loan or grant before the survey (see Table 1.3).

Throughout the report, we focus on differences in ventures' attitudes, use and success with equity funding between sectors, and the stage of development of the business. We distinguish between ventures which were pre-trading (n=289) and those which were in the early stage of trading (mainly within the first 5 years) (n=429), and three broad sectors: 'Production (divisions ABCDEF, n=180), Business Services (divisions JKLMN, n=380); and other services (divisions GHIPQRS, n=167).

1.4 Profiling respondent ventures

Respondent ventures are categorised as pre-trading and early-stage trading. Among those firms in the early-stage trading group, Figure 1.1 provides a profile of the age distribution of ventures, with the vast majority of these ventures having started trading in the post-2018 period. Among those in the pre-trading group only around a fifth of ventures had been in development for 5 years or more, with other ventures divided almost equally between those which had been in development for 1-2 or 3-5 years (Figure 1.2).

Figure 1.1: Establishment dates of early-stage trading ventures (N=429)

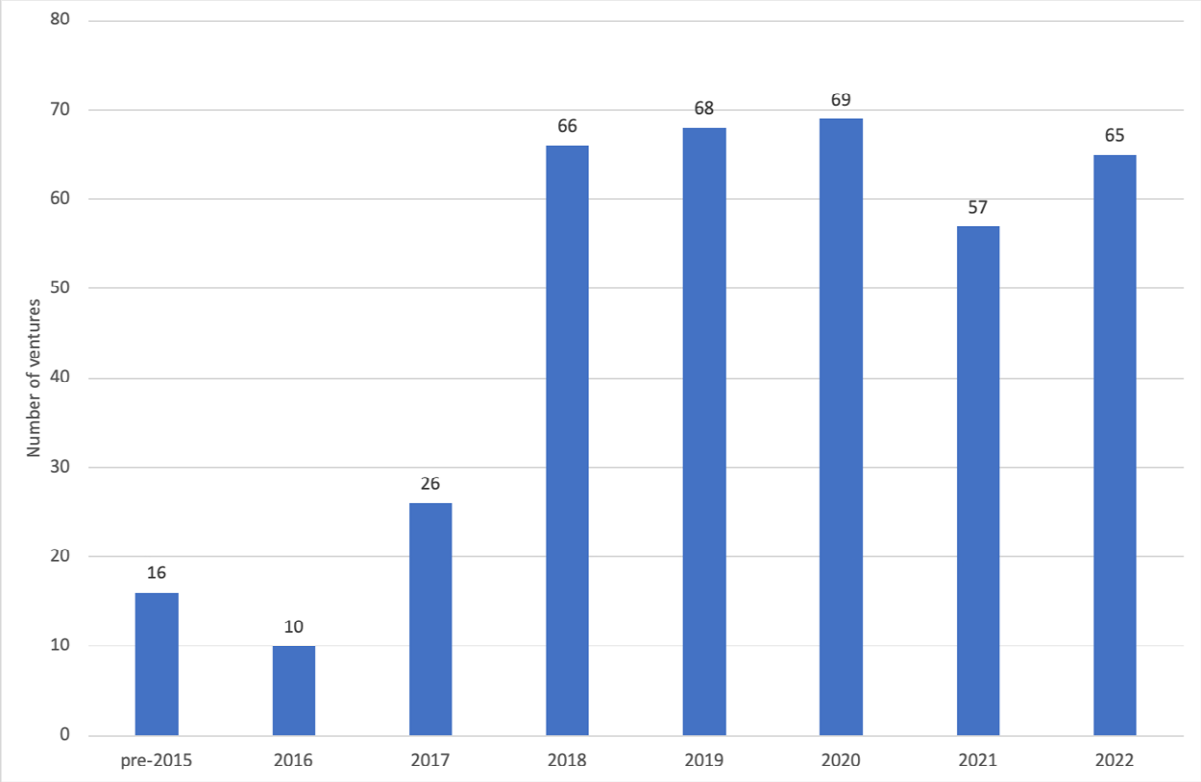
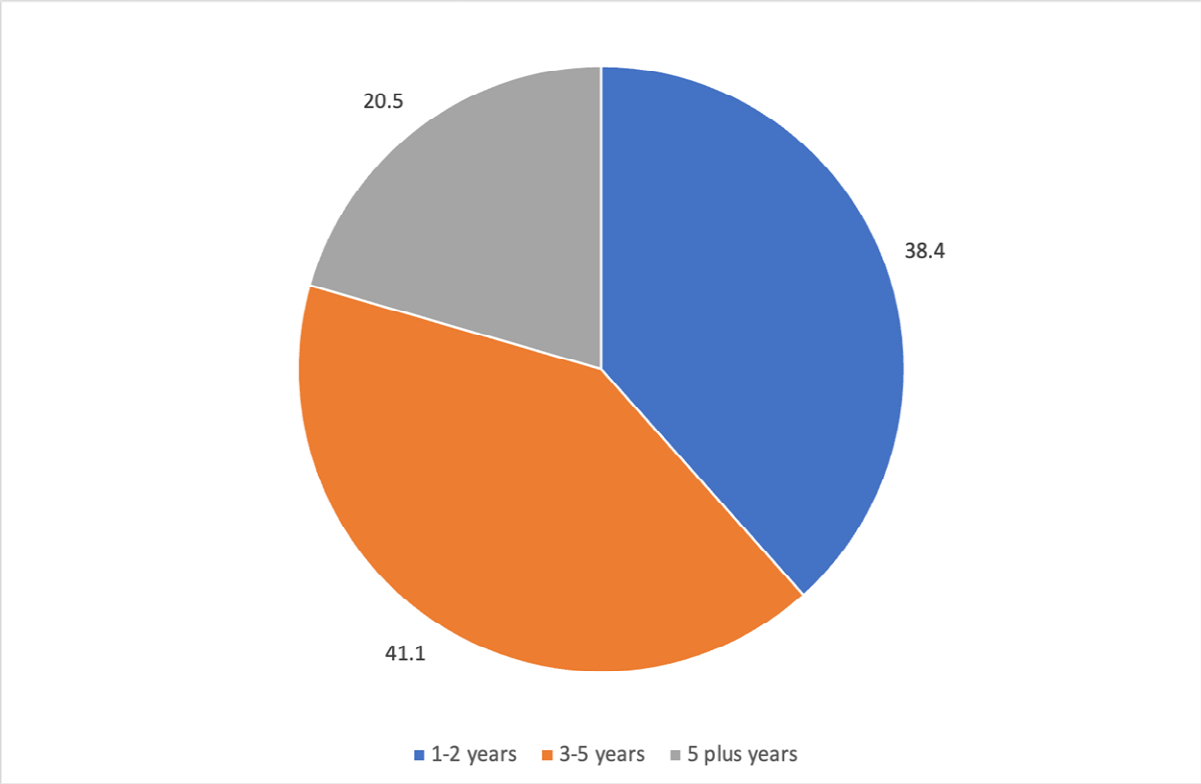
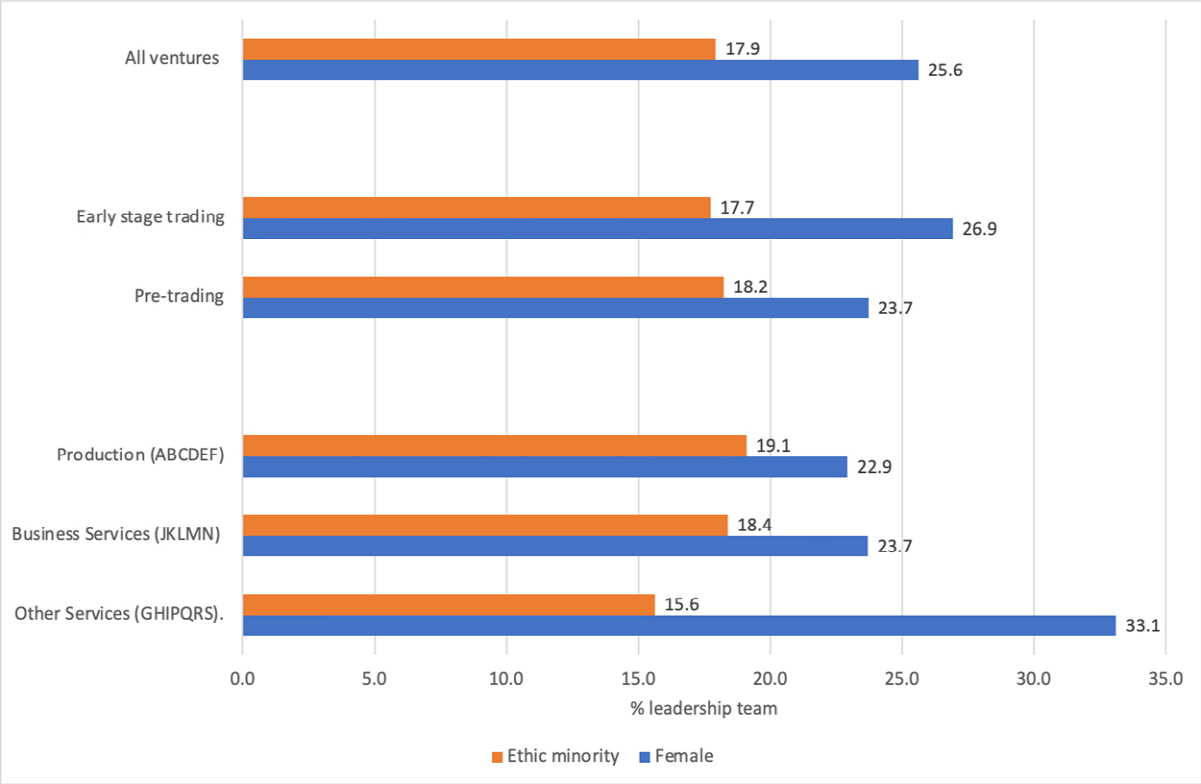


Figure 1.2: Length of development period of pre-trading ventures (N=297)



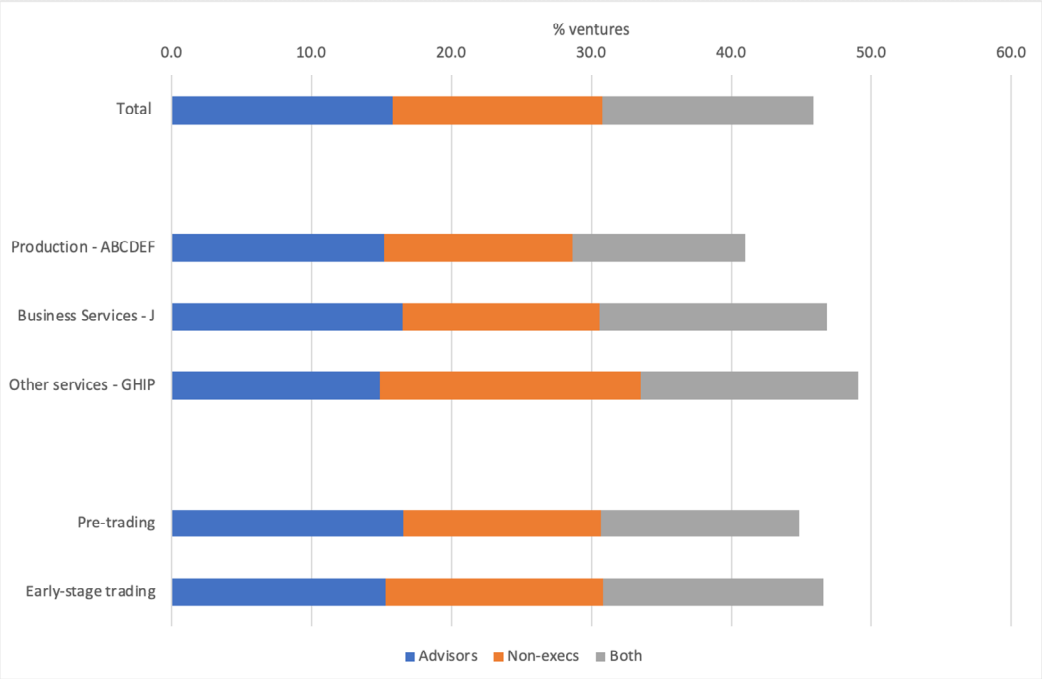
Almost all of the ventures included in the survey (98.5 per cent) were limited companies, something which applied both to pre-trading and early-stage trading ventures. Almost all of the ventures interviewed (99 per cent) also still had the founder involved in the firm. As part of the survey all ventures were also asked what proportion of the leadership team involved in the day-to-day running of the venture were female and from ethnic minority groups. On average, 25.6 per cent of ventures' leadership teams were women with 17.9 per cent from ethnic minority groups (Figure 1.3). These figures varied slightly between pre-trading and early-stage trading ventures and more strongly between sectors, particularly in terms of female involvement in ventures' leadership teams.

Figure 1.3: Female and ethnic minority share of ventures' leadership teams (N=716)



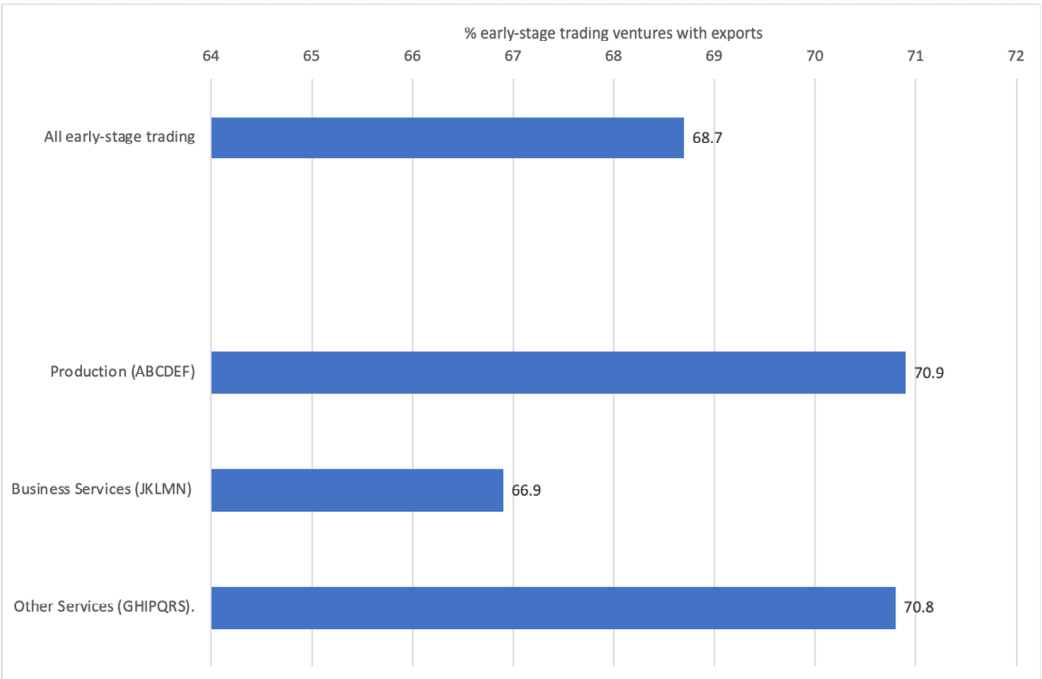
The survey also asked about another aspect of business leadership – whether ventures had board advisors, non-executive board members or both. Responses are summarised in Figure 1.4. Overall, 15.8 per cent of ventures had board advisors, a very similar proportion (15.0 per cent) had non-executive board members and 15.1 per cent of ventures had both. These proportions were relatively similar across sectors and stages of development (Figure 1.4).

Figure 1.4: Proportion of ventures with board advisors and non-execs (N=715)



Among those early-stage ventures which were trading exporting was common with 68.7 per cent of firms having export sales, a proportion which was slightly lower in Business Services (Figure 1.5).

Figure 1.5: Proportion of early-stage trading ventures with exports (N=426)



1.5 Profiling respondents

Alongside the characteristics of the ventures responding to the survey, we also asked some questions about the respondent themselves, their prior work experience and experience of engaging with and raising business finance. First, respondents were asked about their activity before joining the current venture. Around half of all respondents were previously employed with the remainder almost equally divided between running another business and full-time education (Table 1.1). These proportions varied relatively little between sectors and ventures' stages of development. Respondents were also asked about their involvement in the ownership and leadership of businesses before joining their current venture (Table 1.2). Again, over half of respondents had owned and led other firms, with 29.4 per cent of respondents having no prior engagement with either ownership or leadership of firms.

Table 1.1: Respondents activity prior to becoming involved in this venture (%) (N=664)

	Employee elsewhere	Running another business	Full-time education	Other	
Total	50.6	22.4	22.7	4.2	100.0
Production - ABCDEF	44.8	25.8	23.9	5.5	100.0
Business Services - J	51.3	22.4	22.6	3.7	100.0
Other services - GHIP	55.3	19.1	21.7	4.0	100.0
Pre-trading	47.6	19.7	26.4	6.3	100.0
Early-stage trading	52.7	24.3	20.3	2.8	100.0

Table 1.2: Respondents' prior leadership activities (N=724)

	Owned and led other firms	Led other firms	Owned other firms	None of these	Total
Total	56.9	9.3	4.4	29.4	100.0
Production - ABCDEF	57.8	8.3	7.2	26.7	100.0
Business Services - J	57.3	9.0	4.0	29.8	100.0
Other services - GHIP	55.2	10.9	2.4	31.5	100.0
Pre-trading	55.6	7.7	5.4	31.3	100.0
Early-stage trading	57.9	10.3	3.8	28.1	100.0

Of particular interest here is whether respondents had a background in raising external funding before the year before the survey. This was addressed in the survey with a question which asked: 'Over the last five years have you sought or used any of the following types of funding?'. Overall, around half of all respondents had either sought or used equity finance in the previous five years, a figure which was broadly consistent across sectors and stages of development (Table 1.3). Government loans/grants were more common, sought or used by around 75.2 per cent of firms, while bank lending had been sought or used by 37.4 per cent of respondents.

Table 1.3: Proportion of respondents seeking/using external finance in previous years (%) (N=727)

	Total		Production	Business Services	Other Services		Pre-trading	Early-stage trading
Commercial mortgage	3.2		5.6	2.1	3.0		3.4	3.0
Equity	53.6		55.0	52.6	54.5		53.4	53.8
Factoring	8.0		8.3	8.9	5.4		4.7	10.3
Govt. Loans/Grants	75.2		78.3	75.0	72.5		73.8	76.2
Bank etc. Loans	37.4		37.8	39.5	32.3		25.5	45.7
Peer-to-peer loans	5.9		7.2	5.0	6.6		4.4	7.0
Supply chain/JV funding	6.5		6.7	6.3	6.6		5.7	7.0
None of these	11.0		10.0	10.8	12.6		12.1	10.3

Note: Figures do not add to 100 as respondents could indicate multiple forms of finance.

1.6 Stakeholder and company case-study interviews

In order to obtain a more rounded assessment of the UK early-stage investment market, a series of qualitative, semi-structured interviews were undertaken with early-stage equity stakeholders and companies.

21 interviews were completed with UK early-stage equity market stakeholders (Table 1.4). These included a range of early-stage equity investors such as accelerators, angel networks and seed VCs. They also included S/EIS funds operated by angel networks, VCs and a crowd-funder. Equity market support included regional support programmes for investment readiness (using ERDF) and trade associations (UK Business Angels Association (UKBAA) and the British Venture Capital Association (BVCA)). Key public agencies operating VC support programmes were interviewed, including the British Business Bank, the Development Bank of Wales and Scottish Enterprise. The interviews offer good UK coverage, except for Northern Ireland.

Table 1.4: Profile of Stakeholder Interviews

Stakeholders	No. interviews	Regions/Devolved Nations
Accelerators	2	South West, East
Angel Networks	5	UK, London, East, Midlands
Seed VCs	5	London, East, Midlands
Equity market support	5	South West, South and North
Public Agencies	4	UK, Wales, Scotland

Typically, interviews were undertaken online and explored the following broad lines of questioning: respondent and organisation profile of activity in the UK early-stage equity market; opinions on the recent and current status of the UK equity market; particular observations from the organisation's investments or contacts with the UK early-stage equity investment market; the role of government and policy instruments; and, recommendations for improving the operations of the UK early-stage equity market. Responses were provided within the context of the initial headline findings from the survey, which reveal both the importance of equity as a key source of external financing for early-stage ventures, but also the difficulties in accessing finance, particularly for early-stage ventures.

Fourteen case studies were also undertaken with firms which had responded to the survey, and indicated their willingness to be involved in subsequent elements of the research. Case studies were selected to provide a broad representation of ownership, geography, revenue status (either pre-revenue or early-stage) and their success in accessing equity funding (Table 1.5). Full-length reports from each case-study interview are included in Annex 1 with summary versions in the main body of the report.

Table 1.5: Overview of case study companies

Case type	Count
Management team	
Women entrepreneurs	4
Ethnic Minority entrepreneurs	3
Experienced/serial entrepreneurs	4
Region/Nation	
Devolved	4
North England	4
South West/Midlands	3
South/East England	3
Revenue status	
Pre-revenue	8
Early revenue	6
Equity funding status	
Unsuccessful	9
Some success	5
Investment horizon	
Longer horizon	7
Shorter horizon	6
Closed	1
Total	14

SECTION 2: MARKET TRENDS

2.1 Introduction

This Section draws on the stakeholder interviews and other contextual evidence to provide an overview of recent trends in early-stage equity markets. The UK early-stage equity investment market has seen a switch of investment stage emphasis between business angels and VCs in recent years. Angels have increasingly formed networks to enable their investment in larger syndication. This is also strongly incentivised by tax-efficient EIS funds, which have led to the greater follow-on funding presence of angels in later seed and Series A early commercialisation rounds. Some angel networks indicated that they aspire to become VC funds and fund raise to establish further follow-on rounds into post-revenue scale-up investment.

In contrast, the British Business Bank respondents noted the increasing presence of seed VCs and their interest in being the first formal investors, particularly in tech ventures. Several respondents alluded to "*VC repositioning themselves to ensure they get an earlier slice of the pie, as angels are now less easily crushed into lower valuations and share values by VC investors at the Series A stage*." VCs are also being creative (including developing SEIS funds) in supporting and investing in tech launchpads to create their new venture pipelines and overall, as a representative of the Development Bank of Wales stressed "*The UK market now has a far wider variety of equity financing options, which have spread across the regions and devolved nations*." There is also evidence of a significantly greater willingness for angels and VCs to syndicate together, as both parties are seeing greater mutual benefits from this in terms of increasing round sizes and spreading their early-stage investment risk.

2.2 Strong public policy influence

S/EIS funds are increasingly being managed by angel network investors (e.g. Green Angel Syndicate, Seedtribe), VCs (e.g. newer VC entrants like Regenerate Capital), launchpad accelerators (e.g. Carbon 13), whilst SyndicateRoom is an example of an equity crowdfunding platform which has become an accredited EIS fund. EIS funds are contributing to increasing volumes of angel funding and are particularly useful in allowing angels to provide follow-on funding. They also provide strong certification to IUK of the increasing professionalisation of angel investor networks and their acceptance to the Investor Partnership programme and the British Business Bank Regional Angels Programme.

Those involved in the IUK Investor Partners programme pointed to "…*the improved pipeline of seed stage investment opportunities and technical quality insurance offered by IUK's grant ventures. We see them earlier and we don't miss them."* These programmes, and notably the devolved nations' Scottish Co-Fund and more recent Welsh Angel Co-Fund, offer public-private co-funding opportunities for accredited, more experienced investors with track records, which aim to increase the flow and scale of early-stage, high-growth potential venture investments. The UK Business Angel Association (UKBAA) also keenly advocates the Regional Angel Funds as contributing to levelling up, with 85% of investments into ventures outside of London and 37% in Scotland, Wales and Northern Ireland.

S/EIS is also perceived as a vital stimulus for the early-stage investment market. One early-stage VC remarked: "*We would not invest in more than a quarter of our portfolio without SEIS!*" However, another sustainable impact VC mentioned that the largest VC investor in cleantech stopped EIS investing when the rules changed in 2016 which failed to support this type of longer horizon investing – "*I don't know what the lost opportunity for cleantech was from these changes, it appeared counter to the needs to address Net Zero*."

One angel investment network representative was critical of the rise of angel EIS funds. These attract high-net-worth investors into later stage larger angel deals. This leaves a problem of lack of attraction and recruitment into angel networks of new smaller-scale angel investors who are the lifeblood of the very early-stage investment market.

VC seed, launchpad and accelerator investment has increased. This has been influential within the tech investment sector. Alongside the rise in the early 2010s of accelerators (e.g. Seedcamp, Bethnal Green Ventures), notably around London's Tech City – and often involving early corporate investment (e.g. Google, Microsoft). There has been a growth of seed VC investing supported by the British Business Bank's Enterprise Capital Funds which co-fund VC fundraising and aim to develop the skills, experience and sustainability of the early-stage investment market.

Predominately the growth has been in software tech (e.g. Passion Capital, Episode 1) working closely with very early-stage ventures. From this has sprung the more recent growth of lean start-up launchpads which bring together potential founders (using a mix of on/off-line cohort training and one-to-one venture start support) to develop business ideas, with early Proof of Concept funding being provided in the form of early equity – often organised around evergreen S/EIS funding structures overseen by VCs (e.g. Carbon 13 and ET Capital in Cambridge).

2.3 Devolved nations

The early-stage equity funding investment market in the devolved nations has performed well during the recent COVID period, where investors initially retrenched into supporting existing investment portfolios, but then returned to the trend of record levels of investment in early-stage ventures in the 2021 to mid-2022 period. Whilst there has been some drop-off in investment since, due to market realignment and caution over the UK cost of living crisis and steep rise in interest rates, there is a consensus that the early-stage markets remain robust due to the market-building activities in Wales and long-established angel markets and Scottish Co-Fund.

Wales has seen considerable early-stage investment capacity development due to the Development Bank of Wales (DBW) operations in the last five years. During this period Welsh taxpayer money has been invested into developing the Welsh Tech Seed Fund (WTSF) to co-invest £20m into early-stage equity (£50-350k), and the £8m Welsh Angel Co-Fund which operates alongside Angel Invest Wales, the publicly supported angel network which has grown the former Xenos private angel network almost seven-fold in the last five years to around 350 members. As respondents from DBW stated; "*There is a good supply of early-stage equity in Wales which is well connected and it is now possible for Welsh businesses to raise £2-3m equity investment.*"

2.4 Universities

Universities are providing increasing amounts of early-stage funding through their grant and seed VC programmes. A recent trend has been the collaborative VC fund development that has led to Northern Gritstone in the North of England and Set Squared in the South West of England. These collaborations increase the scale of funding and attractiveness for corporate and institutional investors who may be attracted to the high-quality R&D potential of research-intensive universities. One early-stage seed VC mentioned that: "*We only take on pipeline cleantech investments through top-performing UK universities. These offer the disruptive technologies and technical expertise that we can commercialise*." However, even with the enlarged universities' seed funding in the UK in recent years, there is an acknowledgement

that hardtech requires considerably larger volumes of investment to support commercialisation.

2.5 Current market difficulties

However, despite the recent 'froth' in UK early-stage investment across the regions where public and private investors have been attracted to earlier-stage seed investment into tech (notably Fintech and AI), the market has taken a downturn from mid-2022 and into Q1 2023. Whilst respondents agreed that the UK early-stage market ecosystem is now more resilient, with a wider range of types of equity finance and support networks, the worsening economic climate with rising inflation and interest rates, compounded by increasing international market frictions which restrict trade and limit access to skilled labour and financial investment, suggests that the higher risk early-stage investment markets would become much tougher over the next year. UKBAA and Beauhurst data indicates that angel investment fell by 20% in Q4 2022 (compared to the previous year) and in Q1 2023 it fell by one-third on annual comparison.

Programme managers and market experts mentioned increased signs of investor caution, increased levels of syndication to spread risk, smaller individual investments and retrenchment into supporting follow-on funding within existing investor portfolios, rather than riskier new venture investments. One investor stated that "*2023 is the year of the extension round.*" Early-stage investors (angels and VCs) explained that they were making adjustments. These relate to the much harder fundraising market where institutional investors and Family Offices are pulling out of early-stage investing, and the early-stage investors are focusing only on their best portfolio ventures. Because many S/EIS funds are evergreen requiring annual fundraising, this may contribute to a more rapid contraction in the market. Far fewer new investments will be made and increasingly early-stage investment is into existing portfolios where venture valuations are flat. One investor explained "*It is brutal, I'm making difficult decisions, turning away good propositions. Only the best portfolio businesses will survive*."

Whilst it can be argued that this is a market realignment after an exceptional boom period where valuations became overinflated, the impacts on UK markets are highly nuanced. For example, there is likely to be an increasing concentration of funding into the London-Oxbridge golden triangle, which typically accounts for two-thirds of equity investment. There may be regional exceptions, such as Scotland's robust long-established angel and public co-funding investment support network, and possibly the emerging publicly supported Welsh market might perform better, but other UK regions may struggle.

There may also be negative sectoral and equality, diversity and inclusion impacts. For example, UKBAA data suggests that women investors are more cautious than their male counterparts during recessionary periods – they were in 2020 at the outset of COVID-19 and again in the second half of 2022. This has a knock-on effect because male investors are more likely to invest in all male, or male-led ventures and because 'warm contacts' are the main way in which early-stage ventures gain investment. This last point was ably demonstrated by a VC manager's explanation of their current application funnel:

> "*Warm contacts are how we make 99% of our investments. We receive maybe 5,000 applications each year, mainly through our website, whilst around one-fifth of these are from our founders and investor contacts. We only aim to invest in 8 to 12 companies each year and only one investment since we started our EIS funds in 2015 has come from a cold call!*"

This potentially puts a lot of emphasis on public policy, since for example IUK and notably the Business Growth (Edge) programme for investment readiness offers a route into grant and equity financing through the Partner Investors Programme. Investor Partners, who include accelerators, angel networks and VCs, were very enthusiastic about this pipeline of investible new ventures, which offers strong signalling of IUK's technical quality certification. Private networks of women investors such as 'Fund Her North', Seedtribe and FiveThirteen were also mentioned as potentially making a difference.

SECTION 3: AMBITION AND INVESTMENT READINESS

3.1 Introduction

This section focuses on the scale of ambition of respondent ventures and their managerial and organisational capabilities and investment readiness. We first consider the ambition of respondent ventures. Do they aim to grow and exit? Or, are they seeking to build an international business? Second, we focus on the technological and innovation capabilities of firms before looking finally at their investment readiness.

3.2 Ambition

Respondents were asked about their objectives for the business over the next year. Table 3.1 summarises the proportion of respondents indicating that each objective was either 'important' or 'very important'. Profiles were similar across sectors and stages of development with around 95-90 per cent of respondents seeking to 'build a national or international business' (Table 3.1). Around two-thirds of respondents aimed to grow the business to exit, and a particularly high proportion of respondents 94.2 per cent aimed to build a more sustainable business.

Table 3.1: Business objectives over the next year - % respondents indicating objectives were important or very important (N=721)

	Total		Production	Business Services	Other Services		Pre-trading	Early-stage trading
To build a national and/or international business	88.5		89.4	88.1	88.6		85.8	90.4
To keep my business similar to how it operates now	12.2		12.8	10.4	15.6		11.3	12.9
To grow my business rapidly and profitably with a view to exit	68.8		71.9	69.8	63.3		68.7	68.9
To create a culture of employee engagement	85.7		85.0	88.1	80.8		81.1	88.8
To maximise the social or community value of the business	76.1		73.3	74.9	81.9		76.1	76.2
To build a sustainable business	94.2		95.0	93.4	95.1		94.9	93.7

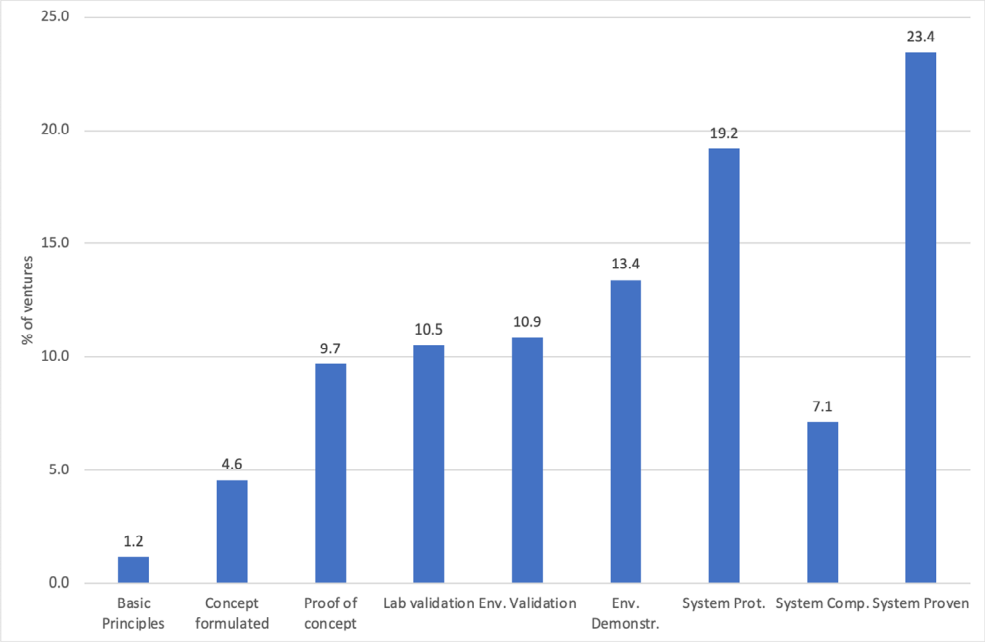
3.3 Technology readiness

Around 81 per cent of respondents indicated that their business is based around the development and application of a new technology. Where firms indicated that this was the case this was followed with a simple question relating to the stage of development which had been reached by their technology (Figure 3.1). Around 1:4 of respondents had a system-proven technology with many in the early stages of technology development.

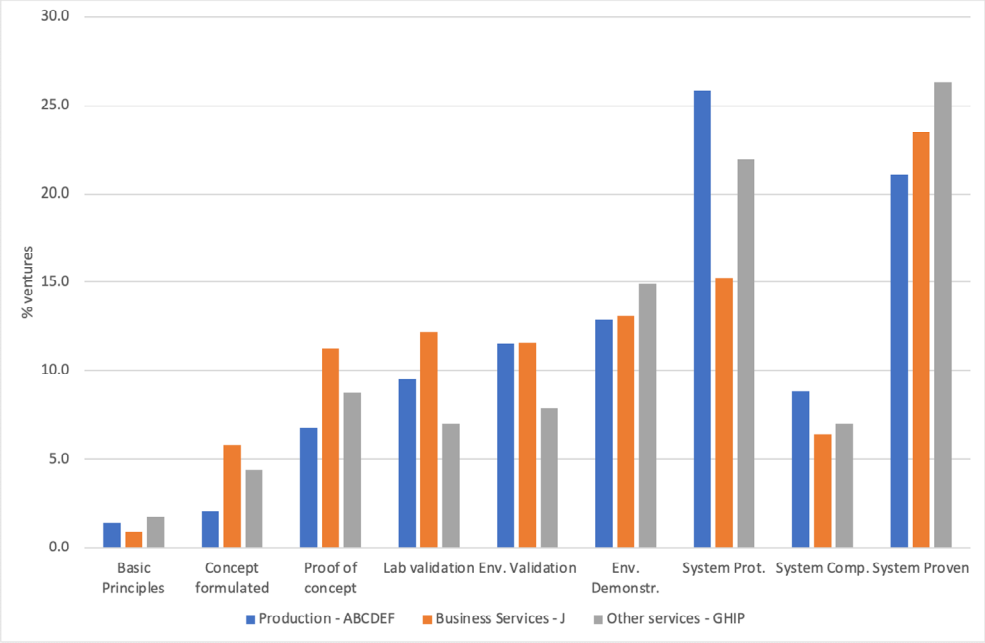
Profiles were similar across sectors (Figure 3.1c) but markedly different between pre-trading companies and those in the early-stage trading category (Figure 3.1c). A follow-up question about profitability proves interesting in terms of those firms which are currently operating profitably (11.0 per cent), with the bulk of firms across all categories seeing a move to profitability in 1-2 years (Table 3.2). A notably higher proportion of pre-trading firms see profitability more than three years away.

Figure 3.1: Technology readiness levels (N=596)

A. All respondents



B. By sector (N=596)



C. By stage (N=596)

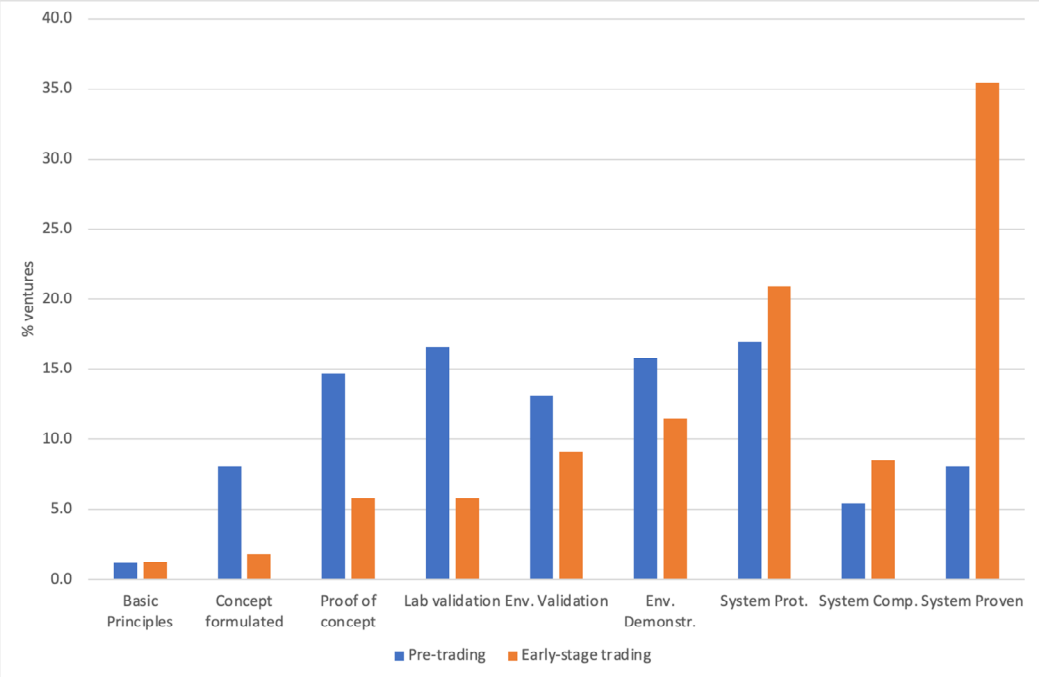
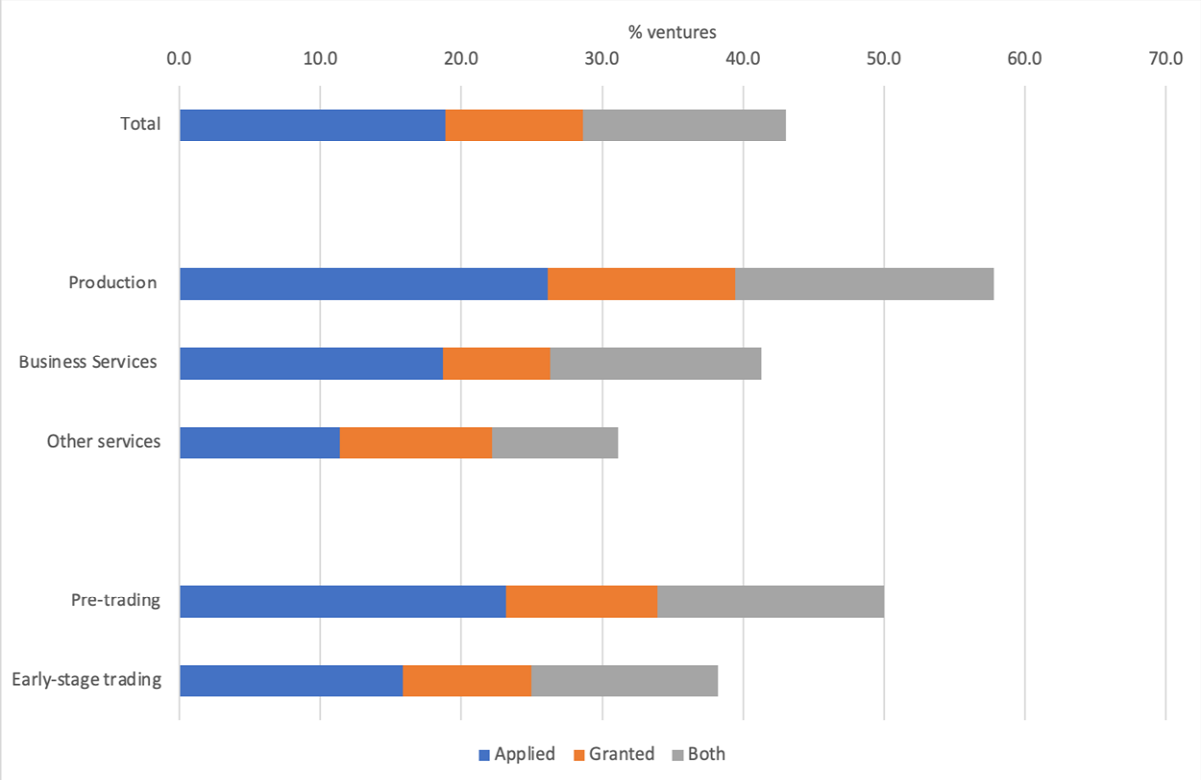


Table 3.2: Years to profitability (% ventures) (N=584)

	Years to profitability					
	Already profitable	1-2 years	3-5	6-9	10+ years	Total
Total	11.0	64.6	21.4	2.6	0.5	100.0
Production	10.4	70.1	18.1	0.7	0.7	100.0
Business Services	11.7	64.5	20.7	2.8	0.3	100.0
Other services	9.5	57.8	27.6	4.3	0.9	100.0
Pre-trading	1.6	66.2	25.7	5.5	1.2	100.0
Early-stage trading	18.4	63.3	18.0	0.3	0.0	100.0

Another aspect of technology which may be relevant to firms' ability to access equity is their holding or application for patents (Figure 3.2). Around 42 per cent of ventures had either applied for patents, had them granted, or both. This proportion was notably higher among product and pre-trading firms.

Figure 3.2: Patents applied for and granted (% ventures) (N=727)



3.3 Investment readiness

This section focuses on some aspects of the investment readiness of respondent ventures. One potentially important element of this is the level of financial expertise and experience in the business. Both might be linked to ventures' ability to access external funding including equity.

In the survey, firms were asked whether they had a Chief Finance Officer (CFO) in the venture or whether finance was dealt with by other members of the management team. Responses are summarised in Table 3.3. Overall, 28.3 per cent of ventures had a CFO or specific finance resource with finance being dealt with by other members of the management or leadership team in the vast majority of cases. This pattern was largely consistent across sectors and stages of development although early-stage trading companies were marginally more likely to have a CFO or related resource (Table 3.3).

Table 3.3: Who deals with finance in the venture? (% ventures) (N=718)

	Have CFO or another person with specific finance responsibility	Finance is dealt with by other members of the team	Total
Total	28.3	71.7	100.0
Production	29.8	70.2	100.0
Business Services	26.7	73.3	100.0
Other services	30.3	69.7	100.0
Pre-trading	25.9	74.2	100.0
Early-stage trading	30.0	70.0	100.0

Experience in raising equity finance may also be an important determinant of investment readiness and as part of the survey firms were asked 'do you or another member of your senior management team have experience of raising equity finance before the last year?' Responses are summarised in Figure 3.3. Overall, 58.8 per cent of respondents had experience raising equity finance before the year before the survey, a proportion which was higher among pre-trading firms and those in business services (Figure 3.3).

Drawing from the qualitative case-study evidence (see Annex 1), Case H presents an example of the key management team resource characteristics of a successful early equity-seeking venture:

> Although pre-revenue, this is a relatively low overhead, shorter horizon investment (3-5 years to exit) knowledge-based B2B business service addressing IP. The business is close to market commercialisation and has an experienced management team of serial entrepreneurs who have sought and used external equity finance previously. They also know how to access IUK and City Region support networks and grants and make use of SEIS accreditation to attract seed investors. After receiving initial PoC and product development grants totalling over £100k, they have progressed over 2 years to receive a first round of £80k equity from an angel network, with a further £50k tranche expected later in 2023, which will contribute towards an Autumn fundraising of

£500k plus. This funding will help increase staffing from 6 to 200 and develop early commercialisation during the second half of 2023. A further £2m for commercial scale-up by 2025 should help prepare the business for a trade sale exit after 2026, when the business valuation should be £30m plus. This is a very clear vision for a business proposition with unique knowledge-based IP in the founding team. As the responding CEO stated, the team know how to access equity and that investors are looking for clear value and development of the business:

"*By receiving equity funding, you can mature your technology a lot quicker, you can develop it quicker, and you can build value. It's all about building value. So, you can increase the value of your business*."

In the survey it was also recognised that financial advice may also be sought outside the firm, and around half (49.7 per cent) of respondents reported seeking external financial advice in the year prior to the survey, with a further 27.4 per cent having sought external advice before the last year (Table 3.4). Pre-trading firms and those in the production sector were most likely to have sought external financial advice in the previous year.

Figure 3.3: Prior experience of raising equity finance (% ventures) (N=724)

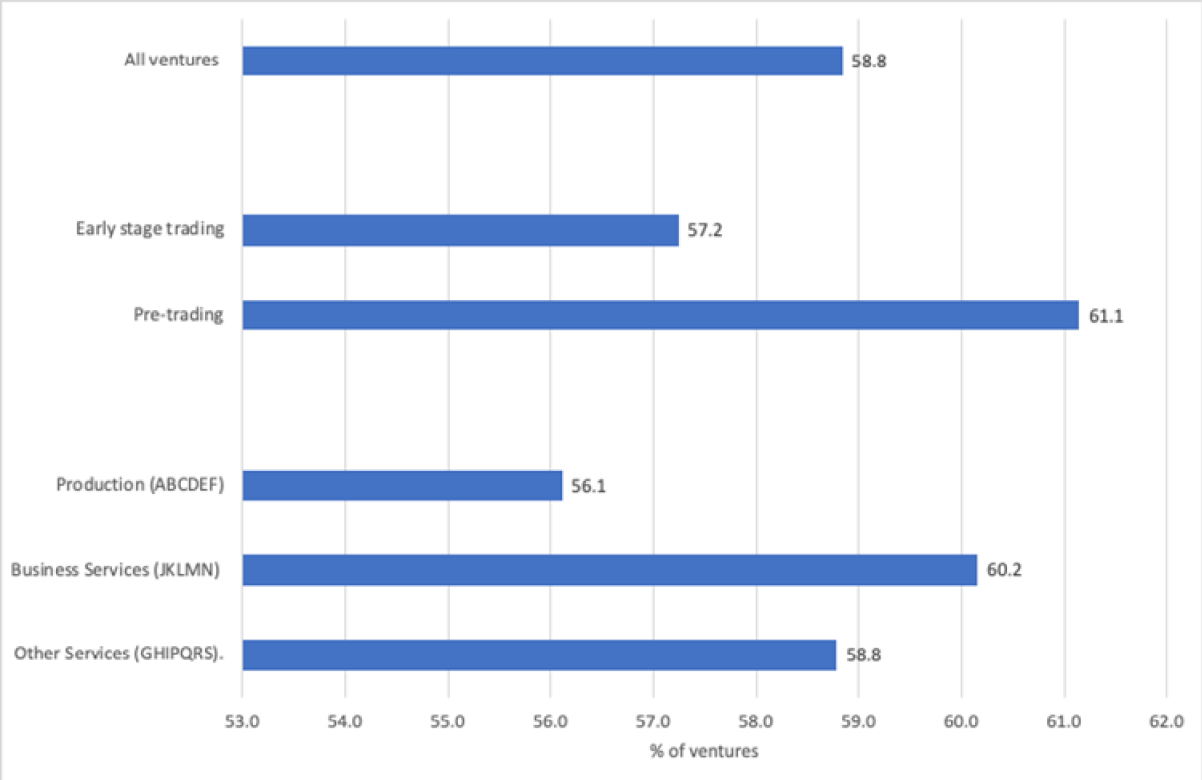


Table 3.4: Seeking external financial advice (N=718)

	Over the last year	More than a year ago	Never	Total
Total	49.7	27.4	22.8	100.0
Production - ABCDEF	53.6	29.1	17.3	100.0
Business Services - J	49.9	25.5	24.7	100.0
Other services - GHIP	45.1	30.3	24.7	100.0
Pre-trading |	53.9	26.8	19.3	100.0
Early-stage trading |	46.8	27.9	25.3	100.0

SECTION 4: THE EQUITY JOURNEY

4.1 Introduction

In this Section, we explore ventures' journey towards equity finance. We consider the role that equity plays in ventures' overall financial profile, the choice between equity and alternative forms of finance, and the details of firms' journey towards equity. Towards the end of the Section, we focus in more detail on the reasons provided by respondents when the search for equity fails and the business consequences of this outcome.

The section focuses on firms' experience in raising finance during the year before the survey. The survey was conducted between March and June 2023, a period shaped by high levels of price inflation, rising interest rates and significant international uncertainty. Survey results inevitably reflect this specific context, potentially limiting the appetite for firms to invest and the financing organisations to provide capital.

4.2 Use of external finance before the survey

Before considering firms' search for finance in the year before the survey, it is helpful to understand whether ventures were using external finance 12 months before the survey and what forms of finance were being used. Overall, around 62.6 per cent of respondents were using external finance 12 months before the survey, a figure that was notably lower among pre-trading firms (54.2 per cent) (Figure 4.1).

Table 4.1 summarises the types of external finance used by those ventures using external finance a year before the survey. Equity, the most commonly used source of funding among responding ventures using external finance a year before the survey, was used by 45.8% of firms. This proportion was very similar across broad sectors and for both pre-trading and early-stage trading companies. Bank finance and Innovate UK loans/grants were being used by around 1/3 of ventures, with one in six ventures also using finance from credit cards and directors' loans (Table 4.1). Bank finance (overdrafts and loans) amongst pre-revenue firms was proportionally half the level of surveyed early-stage trading firms, indicating that traditional debt finance is less likely to be an option where there is insufficient trading track record.

Figure 4.1: Using external finance 12 months prior to the survey (% ventures) (N=725)

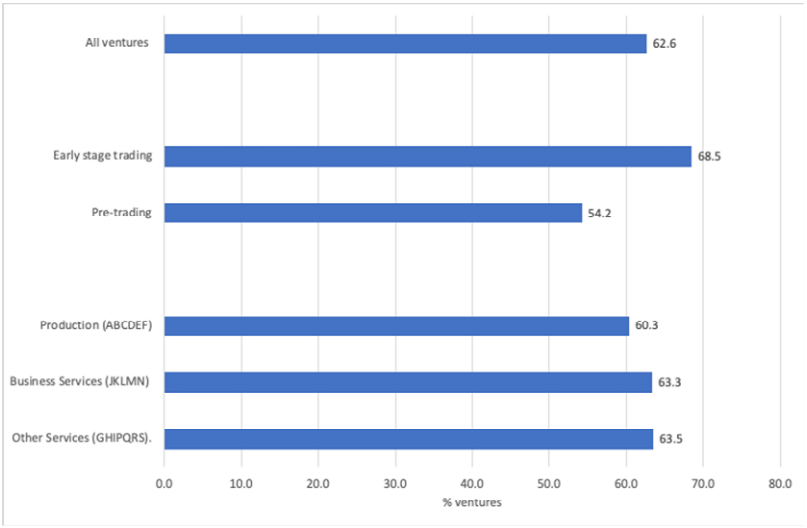


Table 4.1: Sources of finance 12 months prior to the survey (N=454)

	Total		Production	Business Services	Other Services		Pre-trading	Early-stage trading
Bank overdraft facility	10.4		13.9	9.6	8.5		6.2	12.6
Commercial mortgage	0.4		0.9	0.4	0.0		0.6	0.3
Credit cards	15.9		17.6	15.4	15.1		12.4	17.7
Equity Finance	45.8		39.8	46.3	50.9		46.0	45.7
Factoring/invoice discounting	0.7		0.0	0.8	0.9		0.0	1.0
Leasing or hire purchase	2.2		2.8	2.5	0.9		0.0	3.4
Loan from a bank, building society or other financial institution	31.1		36.1	29.6	29.2		18.6	37.9
Loan from family/friend	7.5		7.4	7.1	8.5		6.2	8.2
Loan from business partner/directors/owner	18.3		17.6	18.3	18.9		15.5	19.8
Loan from a Peer-to-peer platform	2.4		1.9	2.9	1.9		0.6	3.4
Innovate UK grants or loans	34.1		27.8	37.1	34.0		39.8	31.1
Other government or local authority finance grants	24.7		25.9	24.6	23.6		26.7	23.5
Other finance	5.9		7.4	5.4	5.7		6.2	5.8

4.3 Seeking external finance

Among respondent ventures, 49.2 per cent sought external finance in the year before the survey (Table 4.2) with the majority of those ventures seeking finance approaching funders multiple times. Firms in the production sector were notably less likely to seek external finance over this period compared to firms in other sectors. However, where production firms were seeking external finance, they were more likely to approach funders 5 times or more than any other group of firms. This may relate to the difficulty of the financing climate facing these companies or potentially the relatively large size of their capital requirements.

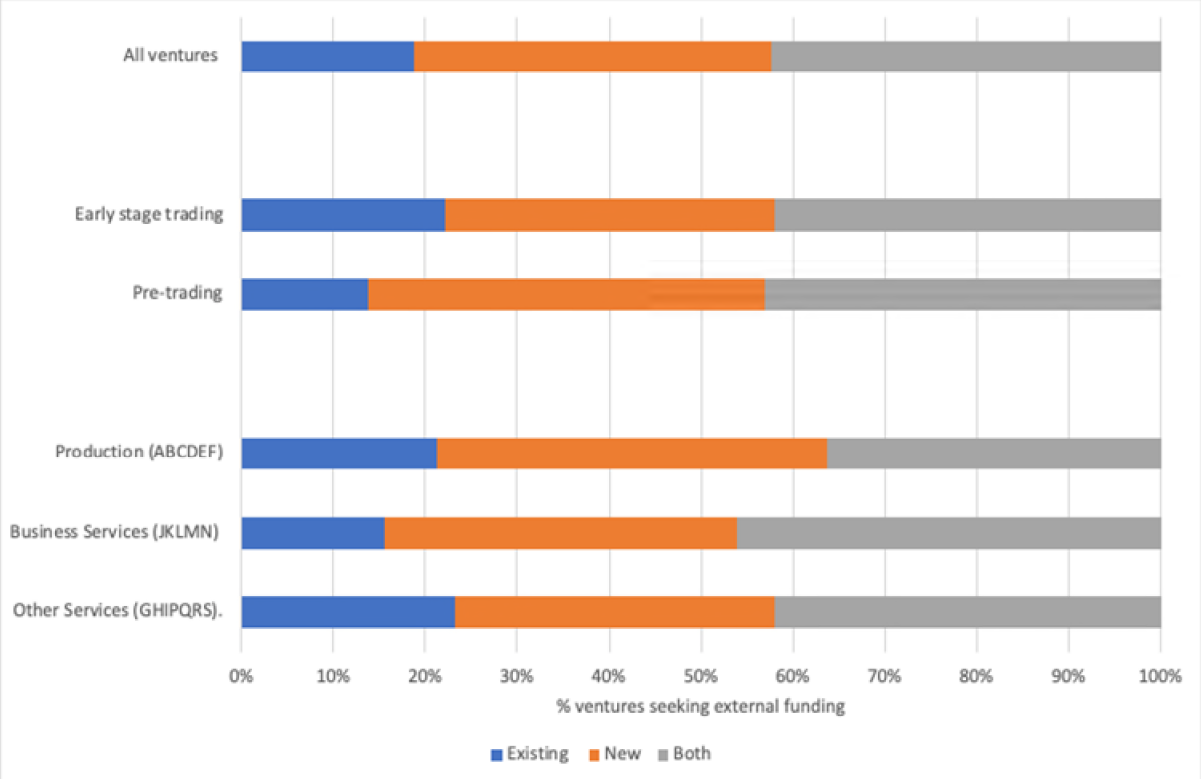
Qualitative case-studies A and B are both drawn from transport-related activities requiring hardtech, long-horizon and high capital investment prototyping production of innovative products. Both demonstrate that these types of businesses do not conform to the conventional angel or VC equity finance requirements. This results in lengthy, even several years, searches across multiple types of financing and involving many applications with a typical investor response being: "*Your business is too early-stage and come back and see us when your prototype has market traction*." Funding the prototype is a typical stumbling block.

Table 4.2: How many times did you seek external finance in the last year? (% ventures)

	None	Once	Twice	3-4 times	5 or more times	Total
Total	50.8	22.1	8.4	8.0	10.6	100.0
Production – ABCDEF	39.3	27.5	7.3	9.6	16.3	100.0
Business Services – J	53.8	21.5	8.6	7.0	9.1	100.0
Other services – GHIP	56.7	17.7	9.2	8.5	7.9	100.0
Pre-trading |	50.0	19.5	6.5	10.3	13.7	100.0
Early-stage trading |	51.4	23.9	9.7	6.4	8.5	100.0

Where ventures were seeking funding, the majority were seeking to diversify their funding providers with only around a fifth of those seeking funding only approaching existing providers. The remainder of the ventures either approached new funders or a combination of both new and existing finance providers (Figure 4.2). Pre-trading firms and those in Business Services were more likely to be aiming to diversify their sources of funds (Figure 4.2).

Figure 4.2: Who did you approach for funding? New or existing providers (% ventures) (N=714)



Among those respondents seeking finance, 64.9 per cent had sought equity over the last year with more than 53.1 per cent also seeking Innovate UK grant support (Table 3.3). Around 1:4 of ventures had sought bank loans or debt finance, a figure which was significantly lower among Pre-trading ventures (Table 4.3).

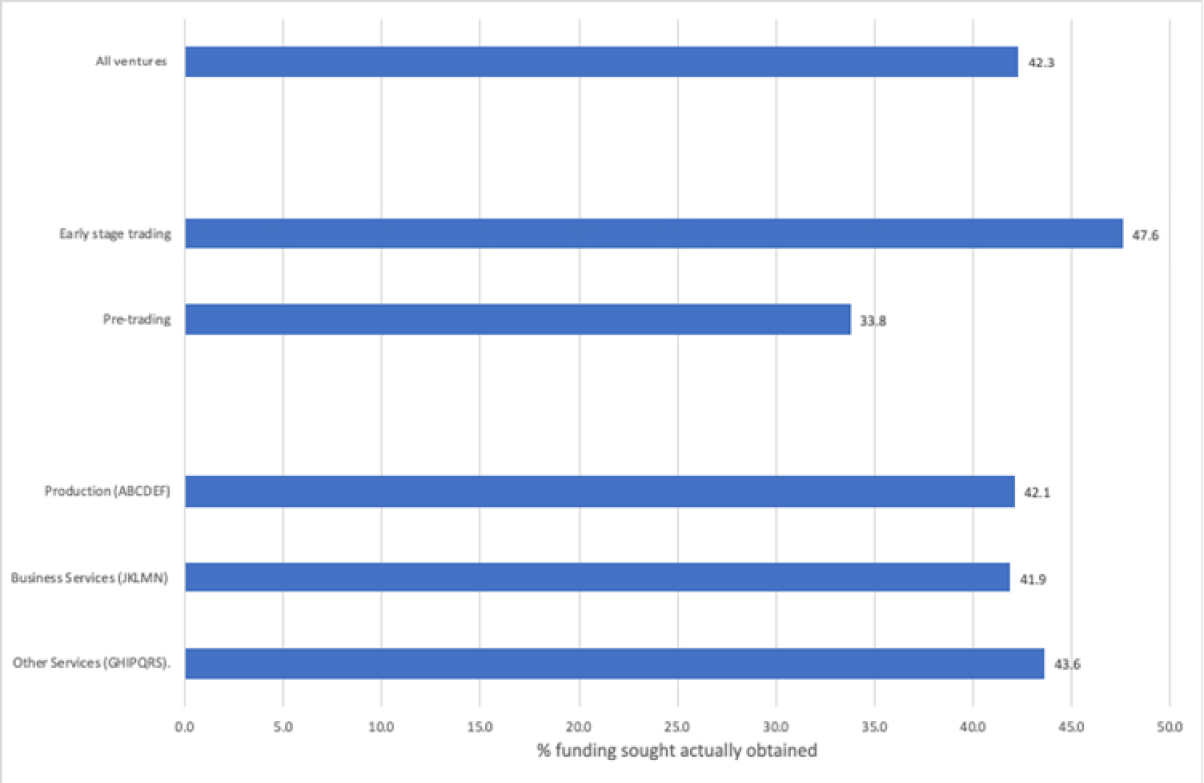
The qualitative case studies demonstrate the wide range of competitive grant finance available for earlier-stage pre-revenue firms, notably from IUK, City Regions (and previously from ERDF). Typically, these involve smaller IUK Proof of Concept (PoC) starter grants, or larger prototyping grants which can extend beyond £100k (Case D), but may not be fully utilisable without matching private investment (see Case A). Case E offers an example of how grant funding has supported a women-led venture to start up and develop innovative place-based deprived urban area economic regeneration solutions to develop more trade. The problem is bridging the gap between grant funding and early equity funding.

Table 4.3: What types of finance have you sought? (% those seeking finance) (N=727)

	Total		Production	Business Services	Other Services		Pre-trading	Early-stage trading
Bank overdraft facility	15.2		13.9	13.6	20.8		13.5	16.3
Commercial mortgage	0.3		0.9	0.0	0.0		0.0	0.5
Credit cards	10.7		9.3	10.8	12.5		10.1	11.1
Equity Finance	64.9		60.2	64.2	73.6		68.2	62.5
Factoring/invoice discounting	3.1		4.6	2.8	1.4		1.4	4.3
Leasing or hire purchase	3.7		3.7	3.4	4.2		1.4	5.3
Loan from a bank, building society or other financial institution	24.7		26.9	22.7	26.4		17.6	29.8
Loan from family/friend	14.0		19.4	11.9	11.1		11.5	15.9
Loan from business partner/directors/owner	17.1		14.8	18.2	18.1		16.9	17.3
Loan from a Peer-to-peer platform	3.7		5.6	4.0	0.0		2.7	4.3
Innovate UK grants or loans	53.1		50.0	55.1	52.8		58.1	49.5
Other government or local authority finance grants	28.7		25.0	29.5	31.9		35.8	23.6
Other finance	9.6		8.3	11.9	5.6		13.5	6.7

On average ventures were successful in obtaining 42.3 per cent of the funding they sought in the year prior to the survey (Figure 4.3). Around this average value, success varied widely, however, with a significant proportion of firms (around 35 per cent) receiving below 10 per cent of their target and a further 30 per cent obtaining all the funding they sought. On average funding success was generally lower for pre-trading firms than for early-stage trading ventures (Figure 4.3).

Figure 4.3: Funding success: % funding sought actually obtained (N=296)



4.4 Seeking equity

Ventures who reported seeking equity were asked in the survey how many potential providers of equity they had approached during the last year (Table 4.4). By far the most common response was '5 or more' equity providers. This pattern which illustrates the repeated nature of ventures' search for equity was common across sectors and stages of development (Table 4.4).

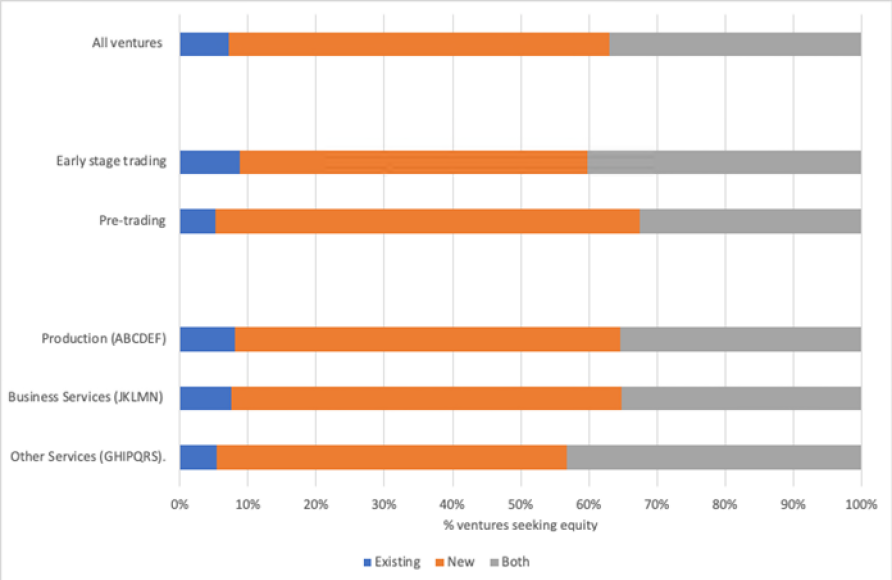
The search for equity also involved a wider range of new funders than the general search for finance. Overall, only around 7.2 per cent of ventures seeking equity sought new funding from their existing funders, the remainder of firms either approached only new funders (55.8 per cent) or a combination of new and existing funders (36.9 per cent). This differs markedly from the more general search for external finance in which existing funders were much more significant as the comparison of Figures 4.4 and 4.2 suggests.

Our qualitative case studies (see Annex) demonstrate that the search for equity funding is typically long and difficult. This is because initial equity seed funding rounds are often small and require multiple syndicated funders, such as combinations of business angels (Case F), but will probably lead to wider syndication with other types of investors, such as seed VC or Corporate investors.

Table 4.4: How many equity providers did you approach over the last year (% ventures) (N=714)

	None	One	2-3	4-5	5 or more	Total
Total	50.2	7.2	10.9	5.4	26.3	100.0
Production - ABCDEF	44.9	13.1	7.4	5.1	29.6	100.0
Business Services - J	50.1	6.0	11.4	5.2	27.3	100.0
Other services - GHIP	56.1	3.7	13.4	6.1	20.7	100.0
Pre-trading	47.1	9.3	10.4	8.0	25.3	100.0
Early-stage trading	52.4	5.7	11.2	3.6	27.0	100.0

Figure 4.4: Who did you approach in your search for equity? New or existing providers (% ventures) (N=335)



The most common equity providers approached were business angels or angel networks (60.2 per cent) and venture capital funds (57.8 per cent). Smaller proportions of ventures approached private equity firms (28.5 per cent) and other types of private and public/government providers (Table 4.5). Again, these proportions were broadly similar across sectors and stages of business development, although the use of accelerators and incubators was notably more common among pre-trading (21.6 per cent) than early-stage trading (10.0 per cent) ventures.

Here, qualitative Case A demonstrates the trend for accelerators to offer initial small-scale seed equity financing or, in the case of C13, management training and an opportunity to pitch for up to £120k of seed VC investment.

Table 4.5: What types of equity providers did you approach? (N=356)

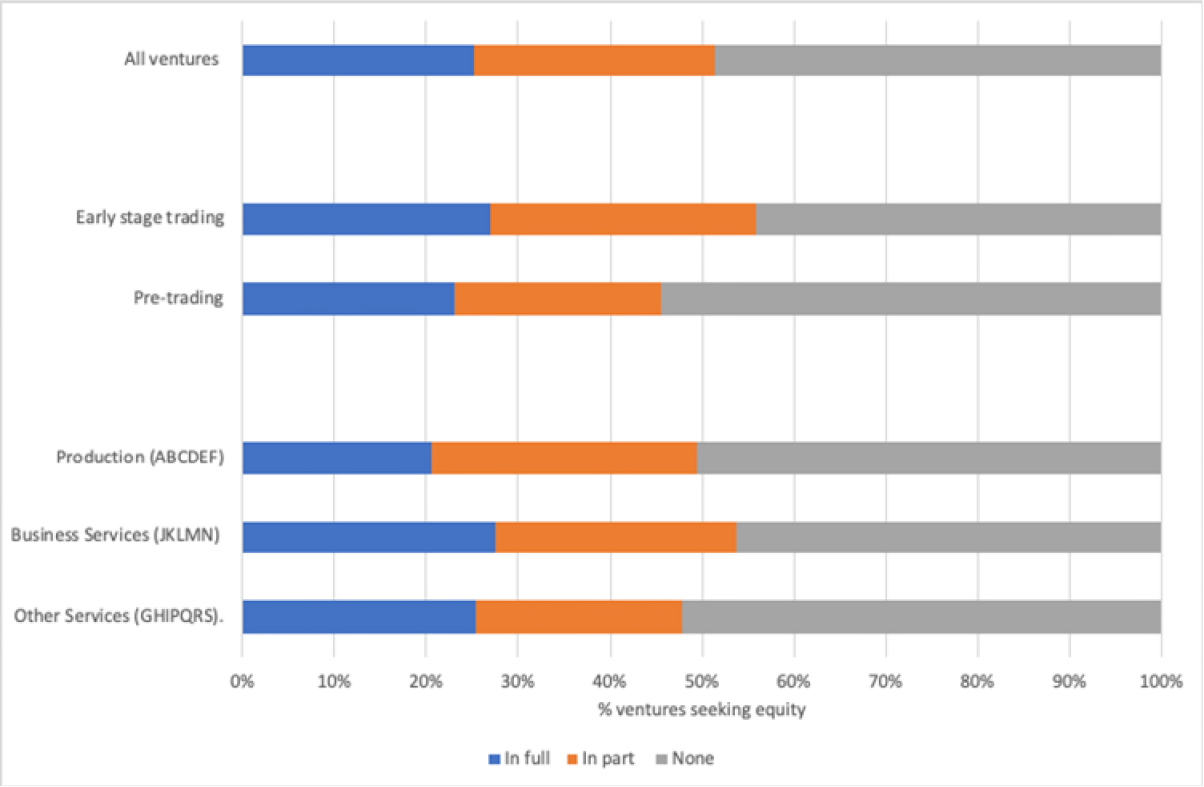
	Total		Production	Business Services	Other Services		Pre-trading	Early-stage trading
Business angel or angel network	60.2		57.4	57.7	70.7		59.3	61.0
Private equity firm	28.5		33.7	25.5	29.3		31.5	26.2
Venture capital fund	57.8		54.5	58.2	61.3		56.8	58.6
Public or government equity investor	15.3		14.9	14.3	18.7		16.7	14.3
Equity crowd funding	9.7		11.9	8.2	10.7		11.1	8.6
Accelerator, incubator	15.1		14.9	13.3	20.0		21.6	10.0
Other	8.3		8.9	9.2	5.3		11.1	6.2

Note: Figures do not add to 100 as ventures often approach more than one type of equity provider.

Overall, just over half of ventures which sought equity finance (51.4 per cent) were successful either in part or fully in obtaining finance having often approached multiple potential funders. Of those who were successful in obtaining some or all of the finance they were seeking, around 25.3 per cent of firms obtained all the finance they were seeking and a further 26.1 per cent obtained some of the equity they sought (Figure 4.5). Success rates were lower than average among pre-trading businesses which had the highest failure rate (54.5 per cent) of all types of firms.

Our qualitative case studies demonstrate that there is a major problem for earlier-stage ventures. Whilst many of these have established PoC and received grants to develop early-stage prototypes, they do not appear to be sufficiently market-ready for either angel or seed VC investors (e.g. see Annex cases such as D and E).

Figure 4.5: Full or partial success in seeking equity? (% ventures seeking equity) (N=296)



As part of the survey firms were also asked about the value of equity they sought and the proportion of that equity that they obtained. These questions were only answered by a relatively small proportion (around a third) of ventures which sought equity, and so responses need to be treated with some caution. Across the whole group of respondents, on average firms were successful in obtaining 40.0 per cent of the value of the equity they sought.

It is also important to note here that even where firms are successful in their equity applications they often face a drip-feed situation where the investors will invest in tranches when development hurdles are reached (see Annex Case F).

4.5 Understanding partial success in obtaining equity

Where ventures were seeking equity and had either partial or no success in obtaining the funding they were seeking we asked a series of questions to try and understand the background to the challenges they faced. The survey sub-group responding to these questions is relatively small (c. 95) and therefore the analysis in this section should be regarded as indicative.

Ventures were first asked at what stage of the application process their application was rejected. More specifically, ventures were asked: 'Thinking about the situation where you got nearest to getting equity funding at what point was the application rejected or discussion ended? Responses are summarised in Table 4.6, with rejection most common either at the stage of initial or multiple presentations with investors. Note however that for a significant proportion of ventures even where an offer is received this may be for part of the funding requested or that terms may be unacceptable.

Table 4.6: At what stage were equity applications rejected? (N=94)

At the stage of initial contact – never heard back after sending slide pack	6.4
After the stage of e-mail correspondence – never heard back after initial e-mail correspondence following slide pack	8.5
After the stage of initial telephone contact – never heard back after various telephone conversation(s)	4.3
After the stage of initial presentation of slide deck – never heard back after attending first meeting with potential investors	14.9
After the stage of multiple presentations/ meetings with the same investor(s) – discussions never progressed further than this.	29.8
After due diligence stage involving accountants and solicitors had started – discussions didn't progress to deal stage	6.4
At negotiation stage the funder offered part or staged funding	8.5
Received an offer but the terms and conditions were unacceptable	5.3
Don't know	16.0
Total	100.0

An open-ended (free text) question about why equity applications failed, generated a wide range of responses (Box 4.1) reflecting the individual stage of development of firms, incompatibility with potential investors' priorities and issues of geography, sector and potential discrimination.

Qualitative case study evidence (Annex) provides more explanation for the venture CEO respondents' perceived understanding of their equity application rejections. As our earlier vignette examples reveal, most cases fail to get funding where they are unable to demonstrate their market value, which is most commonly referred to by VCs as "*being too early in development and lacking market traction.*" The suggestion (supported by our investor and market stakeholder interviews) is that for angels and seed VCs, they typically like to see ventures in the later Technology Readiness Levels (TRL's 7-9) where products and services are close or already at the market in early testing.

For the longer horizon hardtech cases (e.g. A and B) and more disruptive technologies (see Case D) this can create frustratingly long equity investment search times and a heavy reliance on grant funding and founder "sweat equity" ('bootstrapping'). Thus, most fail to get past the pitching stage. However, the case studies also reveal some more nuanced CEO perceptions, which relate potentially to EDI and regional equity funding availability (see e.g., Case H) (See Box 4.2)

Box 4.1: Why did your search for equity fail?

- I presented to a room full of people and spoke with people who were interested in the product, but they said it didn't fit their investment profile.
- Low investor appetite.
- Too early in the business stage.
- Got no responses. Been told by people I've been working with it's a new product and the market at the moment is not receptive to new products
- Deployment plan to look to get funding in the next few months, to take us to that viable product, with that £4 million you don't receive in one go, will get milestones too early-stage in development.
- Not speaking to the right people.
- Our technology is leading-edge and not understood by mainstream experts.
- Received funding, just not the full amount.
- They were not sure as the timing is not the best as inflation and the cost of living is going up...they said they will get back to me but they didn't get back
- It's a tough time to release funds. The start-ups are not in sweet-spot. There's a lack of IP in the business.
- In the process - just started the journey which takes around 6-9 months.
- Not fitting the investment criteria, or not being given a chance to pitch.
- People are very risk-averse these days.
- Not doing sales yet and investors don't invest in hard ware business.
- 1. Too early-stage 2. Team are un-investible 3. No reason given 4. Last month I was offered £100,000 cash and £600,000 "in kind" for up to 50% of the business.
- We were a pre product and pre-revenue and there is a nervousness with Angel investment and insufficient traction.
- Timing and investor landscape uncertainty. Also, the sector we are in (Prop-tech) and the history of the company.
- The investors did not have enough expertise in the field.
- Too early in the stages. Getting first round of funding was the problem.
- It's because of the research organisations because were looking for revenue first before giving equity.
- We are based in North Wales, which doesn't get much attention from investors, and the local investment network consists of about 12 people. We struggle to source technical directors for the company.
- Change of personnel and just changing in investor outlook.
- Lack of understanding of the concept, felt it was outside the range of their experience, they wanted more proof of concept.
- Life Sciences pharmaceutical investment, high risk, high return. But the biggest problem is reconciling University/VC shareholder interests
- There is little appetite in the UK market for start-up tech that is perceived as risky.

Box 4.2: EDI and the availability of equity

Case E: Pre-revenue, women-led B2B and B2C local economy AI App

These serial entrepreneur women founders in the North of England have raised £200k in IUK and City Region grants to develop an AI App in conjunction with a city council to stimulate night economy trade in a deprived urban area. Whilst they have received a great deal of support, including from Fund Her North, to prepare applications and pitching presentations to equity investors, they have failed to receive funding. One CEO stated:

"*I spoke with so many investors, the things you put yourself through doing it. You just think, you really don't want to do this. Applying for equity finance is a full-time job, but you cannot do that because you have got to get traction*."

Despite assistance from Fund Her North, which tries to enhance networking between women founders and investors, the CEO was also clearly frustrated by their lack of success, exclaiming:

"*What is entirely missing is support for women to access female friendly investors and investments*."

Case D: Pre-revenue AI B2B Business Service

This ethnic minority led Pre-revenue company has accessed £400k of prototype grants funding from IUK and is close to launching an App to assist customers of public space businesses like shopping centres, stadium events etc. to locate required services. The CEO respondent referred to many VC applications being rejected due to being too early-stage:

"*It is like all of VCs have boxes, and one has to fill the boxes template but we never quite fit in those boxes*."

He was also critical of a government backed regional fund whose review and feedback was "unprofessional", insensitive with possibly with ethnic minority bias:

"*They were so rude, in the feedback they gave me, they said I'm not 'compatible'. How am I supposed to be 'compatible? The whole thing stinks."*

Case C: A Pre-revenue B Corp Fintech

This is a Pre-revenue for profit venture in Northern Ireland offering global Fintech solutions to the third sector. They have received over £120k in grants, mainly from IUK, but have yet to obtain any of the £800k seed equity funding required to bring them to market. The CEO believes that investors do not understand the market value of socially oriented ventures and how best to fund them:

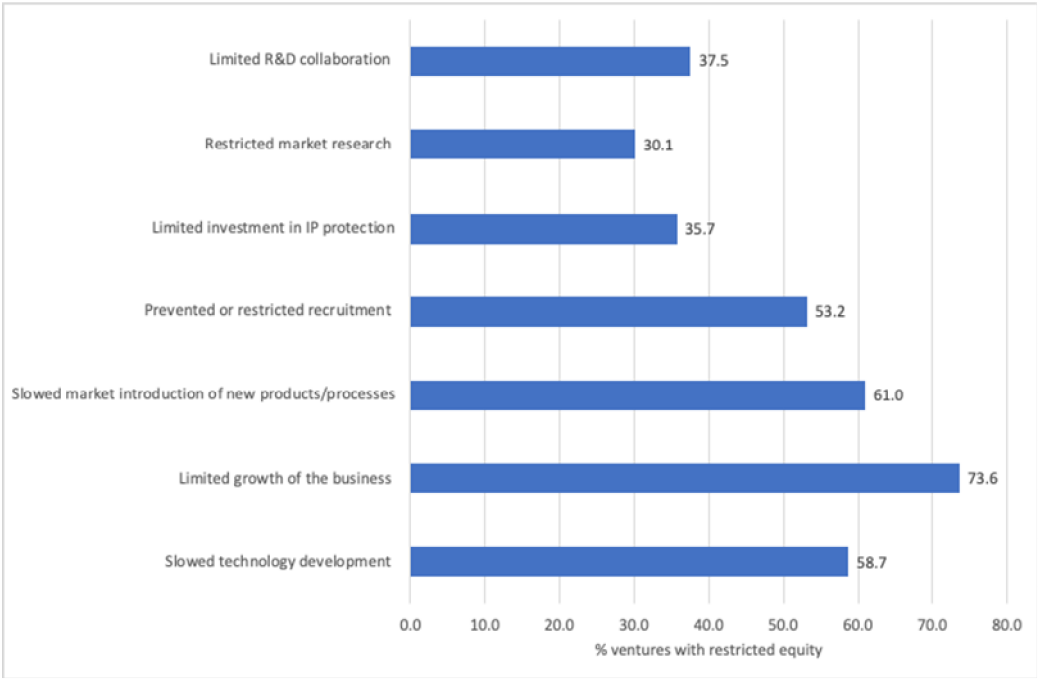
"*The biggest issue is insufficient imagination around developing blended finance. I think blended finance will be the future for our company because it is taking into consideration a lot of different thinking such as lending, investing, and donating*."

What implications did their inability to access equity have for the ventures concerned? This is the focus of Figure 4.6 for which firms were asked: 'What was the implication of not receiving the (required) equity funding you were seeking?'

Unsurprisingly, the failure to receive the equity investment required by the ventures can have a devastating impact. Nearly three quarters point to this limiting the growth of the business, whilst more than half refer to slower product/service market introduction, tech development and preventing recruitment. The CEO of case C explained that: "*The result of unsuccessful equity applications has been devastating for this start-up. We almost stopped operating*." The interim solution is to keep searching for funds, but this takes time and detracts from progressing the business and reaching the market traction that the equity funders require. For many of the cases (e.g. case C) they turn to writing more grant applications.

Our qualitative case studies highlight these issues, particularly where no equity investment is received. In several of the cases employment has gone down and former staff are contracted-in on a casual consultancy basis, which might be unpaid but retained on an offer of equity (e.g. case D where 4 FT jobs have been shed and case E). The most drastic example is case H which has stopped operating due to a failure to achieve Development Bank of Wales matched funding requirements.

Figure 4.6: Consequences of not obtaining all of the equity required (% ventures for which equity was restricted) (N=269)



4.6 Reasons for not seeking equity

Where ventures did not seek equity funding in the last year they were asked the reason(s) for this and responses are summarised in Table 4.7. The most common reason for not seeking equity were related to the early-stage of development of the business, with this reason being suggested by nearly half (48.7 per cent) of pre-trading ventures. An unwillingness to lose control of the business and a preference for other sorts of funding were important for around a quarter of ventures. Notably, relatively small proportions of ventures reported issues with information about equity funders or identifying equity finance providers (6.8-8.7 per cent).

This is perhaps a sign of the maturing of the UK seed equity market, including better regional coverage, but is also likely to reflect the high proportion of respondents that had come through IUK investment readiness pitching and grant funding channels (which we would expect to be better networked towards finding potential equity investors). In this respect it is notable, for example, that qualitative Case B's CEO referred to not being familiar with equity funding and that Scottish Enterprise provided an investor database which initially helped them to find potentially matching types of seed equity investor.

Table 4.7: Reasons for not seeking equity (% ventures) (N=309)

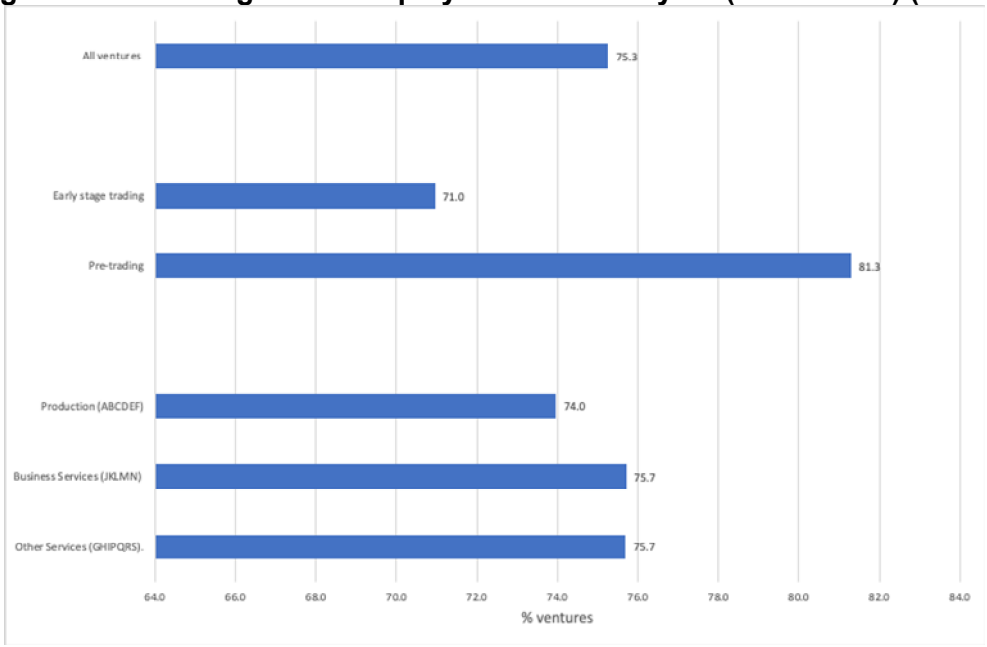
	Total		Production	Business Services	Other Services		Pre-trading	Early-stage trading
Didn't know about equity funding	6.8		11.3	3.7	9.1		3.5	8.8
Don't know how to find equity funders	8.7		15.5	3.7	13.0		8.7	8.8
Did not think my businesses was sufficiently developed to attract equity funding	37.9		39.4	41.0	29.9		48.7	31.4
Did not want to lose control of the business	24.3		23.9	23.6	26.0		14.8	29.9
Preferred to fund growth in a different way	26.5		19.7	29.2	27.3		16.5	32.5

Note: Figures do not add to 100 as ventures could nominate more than one reason for not seeking equity.

4.7 Plans to seek equity in the next year

All survey respondents were asked whether they were likely to seek equity funding over the next 12 months. Around 75 per cent of respondents suggested that they would be seeking equity funding, a proportion which was notably higher among pre-trading companies (81.3 per cent).

Figure 3.7: Planning to seek equity over the next year (% ventures) (N=727)



SECTION 5: DETERMINANTS OF FINANCE AND EQUITY-SEEKING: MULTIVARIATE ANALYSIS

5.1 Introduction

In this Section, we report some preliminary multivariate analysis drawing on a range of the influences on equity and finance-seeking behaviour reviewed in earlier sections. The aim is to identify which factors carry the most weight in shaping whether or not firms seek finance, seek equity, and succeed in getting the external finance they sought. Brief technical details relating to the analysis are provided in Box 5.1.

Box 5.1: Econometric approach

We base our analysis on three simple cross-sectional regression models, with the nature of the estimated model determined by the dependent variable. Model 1, relating to whether or not firms sought external finance, has a binary dependent variable taking value one if the firm sought external finance. Here, we use a simple probit model. Model 2, relating to whether or not firms sought equity, again has a binary dependent variable taking value one if the firm sought equity. Again, we use a simple probit model. Model 3, relates to firms' success in gaining external finance, measured as the percentage of the required finance which firms actually obtained. Here, we use a tobit model with upper and lower sensory. In each case, models suggest correlation rather than causality given the cross-sectional nature of the data we are using.

5.2 Econometric results

Sample descriptives are summarised in Table 5.1, suggesting that 49.5% of respondents sought external finance in the year prior to the survey, while 31.8% sought equity. Among those firms which sought external finance, firms obtained an average of 42% of the equity they required.

In each of the estimated models, we include four sets of determinants. First, we include binary variables to indicate whether or not firms had either board advisors and/or non-executive directors. Both we would anticipate would be positively correlated with firms' ability to seek external finance and equity. Second, we include variables indicating whether firms had previously used external finance and equity in their business. Again, we would anticipate that these would be positively correlated with seeking finance and equity in the current period. Third, we include a series of variables indicating whether firms had had contact with a range of different forms of support organisation in the year before the survey. These include university technology transfer offices, Chambers of Commerce UKRI, and Innovate UK. Again, we would anticipate that contact with each of these external sources of support would be positively correlated with seeking external finance and equity. Finally, we include several other business characteristics: the female and ethnic-minority share of the management team; whether the business is pre-trading or early-stage trading; sector; and, whether or not the firm is located in London or the South East.

Table 5.1: Sample descriptives

Variable	Obs	Mean	Std. dev.
Sought external finance (% firms)	719	0.495	0.500
Sought equity (% firms)	727	0.318	0.466
Percentage of external finance obtained (%)	296	42.309	42.539
Board advisor (% firms)	715	0.309	0.462
Non-executive director (% firms)	715	0.301	0.459
Previous equity use (% firms)	727	0.536	0.499
Support from: University TTO (% firms)	646	0.310	0.463
Support from: Incubator/accelerator (% firms)	646	0.534	0.499
Support from: Science park (% firms)	646	0.286	0.452
Support from: Scientific Society (% firms)	646	0.107	0.309
Support from: UKRI (% firms)	646	0.580	0.494
Support from: Growth hub (% firms)	646	0.389	0.488
Support from: Consultants (% firms)	646	0.362	0.481
Support from: Innovate UK (% firms)	646	0.844	0.363
Support from: Chamber of Commerce (% firms)	646	0.133	0.340
Female share (% management team)	716	25.612	31.905
Ethnic-minority share (% management team)	703	17.929	32.461
Pre-trading business (% firms)	727	0.410	0.492
Early-stage trading business (% firms)	727	0.590	0.492
Production sectors (% firms)	727	0.248	0.432
Business services (% firms)	727	0.523	0.500
Other services (% firms)	727	0.230	0.421
London and the South East (% firms)	727	0.407	0.492

Regression results are reported in Table 5.2, with marginal effects reported in Table 5.3. Model 1 in Table 5.2 relates to whether or not firms sought external finance. Three factors prove statistically significant: having a track record of prior use of equity; support from Innovate UK; and, the firms' sector of operations. Firms with a track record of previous use of equity, are 14.6% more likely to seek external finance, while firms receiving support from Innovate UK were 14.4% more likely to subsequently seek external finance (Table 5.3). Model 2 in Table 5.2 relates to firms' search for equity. Here, five factors prove important: previous use of equity; whether a firm has received support from an incubator or accelerator; whether a firm has received support from consultants or Innovate UK; and, the sector in which the firm operates. Here, also note, that firms located in London and the South East were more likely to seek equity than firms in other UK regions. Firms having a track record of using equity were 27% more likely to seek equity in the current period. Receiving support from an incubator increased the probability of seeking equity by 6.9%, with support from consultants increasing the probability by 10.9%, and that from Innovate UK by 13%. Being located in London and the South East, increases the probability of seeking equity by 7.1% (Table 5.3).

Model 3 in Table 5.2 relates to firms' success in obtaining the external finance they sought. Here, it is notable that the sample size is relatively small as it relates only to those firms which sought external finance in the year before the survey (and also answered the question about the proportion of finance obtained). Two factors proved significant: a track record of prior equity use, and being an early-stage trading business rather than pre-trading. Having a track record of previously raising equity, is associated with an increase in the percentage of finance obtained off 26.0%, while being an early-stage trading business is associated with an increase in the percentage of finance obtained of 23.1%. Perhaps surprisingly, neither sector, location or various forms of public support proved significant in the percentage of equity which firms succeeded in obtaining.

Table 5.2: Coefficient estimates

	(1)	(2)	(3)
Dependent variable	Sought external finance (0/1)	Sought equity funding (0/1)	% finance secured
Model	Probit	Probit	Tobit
Board advisor (% firms)	0.042	0.136	-13.516
	(0.117)	(0.121)	(11.988)
Non-executive director (% firms)	0.149	0.191	5.030
	(0.120)	(0.123)	(12.253)
Previous equity use (% firms)	0.386***	0.869***	26.045*
	(0.118)	(0.131)	(13.645)
Support from: University TTO (% firms)	-0.145	-0.130	12.200
	(0.125)	(0.134)	(13.912)
Support from: Incubator/accelerator (% firms)	0.015	0.222*	-5.914
	(0.119)	(0.128)	(13.552)
Support from: Science park (% firms)	-0.061	-0.074	16.862
	(0.129)	(0.138)	(15.263)
Support from: Scientific Society (% firms)	0.065	0.070	3.803
	(0.182)	(0.186)	(18.942)
Support from: UKRI (% firms)	-0.078	0.044	-19.517
	(0.119)	(0.127)	(12.803)
Support from: Growth hub (% firms)	0.011	-0.101	-3.021
	(0.118)	(0.127)	(12.403)
Support from: Consultants (% firms)	0.145	0.350***	1.198
	(0.114)	(0.119)	(11.893)
Support from: Innovate UK (% firms)	0.379**	0.419**	-15.537
	(0.158)	(0.180)	(19.488)
Support from: Chamber of Commerce (% firms)	-0.207	-0.185	6.125
	(0.157)	(0.172)	(18.398)
Female share (% management team)	0.002	-0.000	-0.112
	(0.002)	(0.002)	(0.178)
Ethnic-minority share (% management team)	0.000	0.001	-0.143
	(0.002)	(0.002)	(0.182)
Early-stage trading business (% firms)	0.028	-0.048	23.052*
	(0.109)	(0.117)	(11.723)
Business services (% firms)	-0.320**	-0.246*	7.194
	(0.129)	(0.139)	(13.134)
Other services (% firms)	-0.424***	-0.149	4.706
	(0.154)	(0.164)	(16.102)
London and the South East (% firms)	0.025	0.230*	-12.962
	(0.111)	(0.120)	(11.733)
Observations	613	619	272
Pseudo R^2	0.046	0.147	0.014

Notes: Reference groups are pre-trading business in the production sector. Standard errors are in parentheses *** p<.01, ** p<.05, * p<.1.

Table 5.3: Marginal Effects

	Model 1: Seeking external finance		Model 2: Seeking equity		Model 3: Success in obtaining finance	
	Marg. Effect	Std. Err.	Marg. Effect	Std. Err.	Marg. Effect	Std. Err.
Board advisor (% firms)	0.016	0.044	0.042	0.038	-13.516	11.988
Non-executive director (% firms)	0.056	0.045	0.059	0.038	5.03	12.253
Previous equity use (% firms)	0.146	0.043	0.27	0.037	26.045	13.645
Support from: University TTO (% firms)	-0.055	0.047	-0.04	0.042	12.2	13.912
Support from: Incubator/accelerator (% firms)	0.006	0.045	0.069	0.039	-5.914	13.552
Support from: Science park (% firms)	-0.023	0.049	-0.023	0.043	16.862	15.263
Support from: Scientific Society (% firms)	0.025	0.069	0.022	0.058	3.803	18.942
Support from: UKRI (% firms)	-0.029	0.045	0.014	0.04	-19.517	12.803
Support from: Growth hub (% firms)	0.004	0.045	-0.031	0.04	-3.021	12.403
Support from: Consultants (% firms)	0.055	0.043	0.109	0.036	1.198	11.893
Support from: Innovate UK (% firms)	0.144	0.059	0.13	0.055	-15.537	19.488
Support from: Chamber of Commerce (% firms)	-0.078	0.059	-0.057	0.053	6.125	18.398
Female share (% management team)	0.001	0.001	0	0.001	-0.112	0.178
Ethnic-minority share (% management team)	0	0.001	0	0.001	-0.143	0.182
Early-stage trading business (% firms)	0.011	0.041	-0.015	0.036	23.052	11.723
Business services (% firms)	-0.121	0.048	-0.077	0.044	7.194	13.134
Other services (% firms)	-0.16	0.057	-0.048	0.052	4.706	16.102
London and the South East (% firms)	0.009	0.042	0.071	0.037	-12.962	11.733

SECTION 6: KEY FINDINGS AND POLICY IMPLICATIONS

6.1 Key survey findings

Early-stage equity can play a significant enabling role in firms' commercialisation strategies. This Phase 1 report is based on a survey of equity-engaged, early-stage entrepreneurs and businesses, case studies and interviews with equity providers conducted between January and June 2023. The sampling frame for the survey was compiled from company lists provided by a range of equity providers, business support organisations, and through a data-sharing agreement with Innovate UK. This has resulted in a relatively large proportion of respondents having some prior contact with Innovate UK, something which is not typical of the general population of businesses. This may also be reflected in the finding that 81 per cent of respondents indicated that their business is based around the development and application of a new technology, while around 42 per cent of ventures had either applied for patents, had them granted, or both.

Respondents to the survey were categorised as pre-trading or early-stage trading. The bulk of firms across all categories see a move to profitability in 1-2 years, although a notably higher proportion of pre-trading firms see profitability more than three years away. Around half of all respondents had either sought or used equity finance in the previous five years, a figure which was broadly consistent across sectors and pre-trading/early-stage trading.

28.3 per cent of ventures had a CFO or specific finance resource with finance being dealt with by other members of the management or leadership team in the vast majority of cases. Overall, 58.8 per cent of respondents had experience raising equity finance before the year before the survey, a proportion which was higher among pre-trading firms and those in business services.

Financial advice may also be sought outside the firm and around half (49.7 per cent) of respondents reported seeking external financial advice in the year prior to the survey, with a further 27.4 per cent having sought external advice prior to the last year.

Seeking external finance

Overall, around 62.6 per cent of respondents were using external finance 12 months before the survey, Equity was the most commonly used source of funding among responding ventures being used by 45.8 per cent of firms.

Among respondent ventures 49.2 per cent sought external finance in the year prior to the survey with the majority of those ventures seeking finance approaching funders multiple times.

Only around a fifth of those seeking funding only approached existing providers. The remainder of ventures either approached new funders or a combination of both new and existing finance providers.

Among those respondents seeking finance, 64.9 per cent had sought equity over the last year with more than 53.1 per cent also seeking Innovate UK grant support. Around 1:4 ventures had sought bank loans or debt finance, a figure which was significantly lower among pre-trading ventures.

On average ventures were successful in obtaining 42.3 per cent of the funding they actually sought in the year prior to the survey. Around this average value success varied widely, however, with a significant proportion of firms (around 35 per cent) receiving below 10 per cent of their target and a further 30 per cent obtaining all the funding they sought. On average funding success was generally lower for pre-trading firms than for early-stage trading ventures.

Seeking equity

Ventures who reported seeking equity were asked in the survey how many potential providers of equity they had approached during the last year. By far the most common response was '5 or more' equity providers. The search for equity also involved a wider range of new partners than the general search for finance. Overall, only around 7.2 per cent of ventures seeking equity sought new funding from their existing funders, the remainder of firms either approached only new funders (55.8 per cent) or a combination of new and existing funders (36.9 per cent).

The most common equity providers approached were business angels or angel networks (60.2 per cent) and venture capital funds (57.8 per cent). Smaller proportions of ventures approached private equity firms (28.5 per cent) and other types of private and public/government providers.

Overall, just over half of ventures which sought equity finance (51.4 per cent) were successful either in part or fully in obtaining finance. Of those which were successful in obtaining some or all of the finance they were seeking, around 25.3 per cent of firms obtained all the finance they were seeking and a further 26.1 per cent obtained some of the equity they sought. Success rates were lower than average among pre-trading businesses which had the highest failure rate (54.5 per cent) of all types of firms.

Where ventures had either partial or no success in obtaining equity, they were asked at what stage of the application process their application was rejected. Rejection was most common either at the stage of initial or multiple presentations with investors. Note however that for a significant proportion of ventures even where an offer is received this may cover only part of the funding requested, or that terms may be unacceptable.

The main consequences of not obtaining equity funding were said to be slower market introduction of new products/processes, slowed technology development and limited business growth.

The most common reasons for not seeking equity related to the early-stage of development of the business, with this reason being suggested by nearly half (48.7 per cent) of pre-trading ventures. An unwillingness to lose control of the business and a preference for other sorts of funding were important for around a quarter of ventures. Notably relatively small proportions of ventures reported issues with information about equity funders or identifying equity finance providers (6.8-8.7 per cent).

All survey respondents were asked whether they were likely to seek equity funding over the next 12 months. Around 75 per cent of respondents suggested that they would be seeking equity funding, a proportion which was notably higher among pre-trading companies (81.3 per cent).

Multivariate analysis

Three factors prove statistically significant in relation to seeking external finance. Ventures with a track record of previous use of equity, are 14.6% more likely to seek external finance, while firms receiving support from Innovate UK were 14.4% more likely to subsequently seek external finance. Production services (typically with greater capital requirements) were also more likely to seek funding.

Five factors prove statistically significant in relation to seeking equity. Firms having a track record of using equity were 27% more likely to seek equity in the current period. Receiving support from an incubator increased the probability of seeking equity by 6.9%, with support from consultants increasing the probability by 10.9%, and that from Innovate UK by 13%. Being located in London and the South East, increases the probability of seeking equity by 7.1%.

Two factors proved significant in shaping firms' success in seeking external finance. Having a track record of previously raising equity, is associated with an increase in the percentage of finance obtained off 26.0%, while being an early-stage trading business (with greater trading track record) is associated with an increase in the percentage of finance obtained of 23.1%. Perhaps surprisingly, neither sector nor location proved significant in the percentage of finance which firms succeeded in obtaining.

6.2 The early-stage UK patient capital market: interview insights

Respondents highlighted the UK early-stage patient capital investment problem, and stressed the point that sustainable investing is still not sufficiently supported for UK early-stage financing. Investors explained that they are typically looking for software tech, where there are fewer rounds and likely to be more rapid progressions to the market and high multiple (closer to 8-10x) returns.

Investors also typically prefer B2B or B2B2C, rather than direct B2C business models, because they are simpler to assess. Deeptech hardware investment is far more challenging. It requires deeper pockets, and larger investments over longer periods of valley of death pre-revenue. These extended exit horizons and lower returns are unattractive to most investors and even for many impact investors.

Some angel impact investors, who invest to support potential global changing technologies, are prepared to fund a small number of cleantech. However, these represent only a small proportion of the niche impact investors like the Green Angel Syndicate (GAS) and FiveThirteen networks (circa 600 investors) and perhaps surprisingly, they are rarely the first investors. Cleantech in particular is problematic, where it is hardware and disruptive deeptech which is not well understood and even specialists like GAS want to see market traction.

A series of important recommendations for improving the early-stage investment markets were made – drawn from a wide range of investors and stakeholders. These apply to the strengthening of the UK early-stage equity high-growth potential venture market overall, including regional levelling up and EDI and also to the patient capital problem:

- Continue to support S/EIS and ensure it is locked into long-term policy to ensure early-stage market stability.
- Provide enhanced tax incentives through e.g. S/EIS for patient capital – including key incentives for green environmentally positive activities - and R&D to assist with re-balancing the investment risk-reward ratio.

- Enhance public-private co-financing programmes for angels and VCs to cover the loss of EIF and ensure that these funds apply environmental credentials (with do no harm (DNH) as a minimum requirement) regional focus and EDI. It was noted that British Business Bank is enhancing the Regional Investment Funds and this needs to be stepped up.
- IUK is playing an increasingly important role in developing Investment Readiness programmes through the Business Support (Edge) programme. This is vital and the linkages between IUK, grants and Investor Partners are very important to creating a more fluent and effective early-stage funding escalator connecting grants with equity.
- Public sector investment readiness programmes are critical in linking ventures to finance and can play an important role in addressing levelling up and EDI. French Tech offers a potential model for support and investments consistently across national regions.
- More substantive and progressive grants like the BEIS Energy Entrepreneurs Fund are required to support longer-horizon cleantech and disruptive hardtech. These need to offer follow-on grants and co-finance early with accredited angels and VC to create a blended tech and commercial finance support programme.
- Support the momentum behind university collaborative seed funds which might help unlock more corporate and institutional investment into earlier stages.
- Unlocking institutional pension funds is a game changer for early-stage investment. Just 1% of these funds invested into UK early-stage markets with a focus on patient capital would transform the market.
- Develop international collaborative cross border investing (Ireland has been suggested as a strong case), particularly to overcome shortfalls from EIF and to ensure a more effective long horizon early-stage investment market which avoids thin market pitfalls and is able to follow investments overseas to optimise returns and likely retention of UK IP and employment.

ANNEX 1: BUSINESS CASE STUDIES

Annex Table 1 provides a summary of each of the 14 business cases interviewed. It demonstrates that these were all early-stage equity seed finance-seeking businesses. They are drawn from a wide range of sectors and UK localities and were purposively selected to include diverse funder/manager characteristics, including women-led businesses and ethnic minority-led and serial entrepreneurs.

All had sought equity in the 12 months before the interview. More than half (8) of the businesses have received grants, mainly from IUK, but a majority (9) have failed to obtain any equity funding and success often takes time and is not always rewarded by as much funding as initially sought. Notably one case has closed because, despite previous grant funding and the offer of matching funding from the Development Bank of Wales, equity funding was not found in time.

Annex Table 1: Description and Characteristics of the Business Cases

	Description	Pre/ Rev	Sector	Stage	Seek/ receive	Region	Women/ BAME
A	Attending C13 accelerator to attract first equity	Pre	Transport	Seed	Seek	SE	n/a
B	IUK grant funded seeking first equity	Pre	Transport	Seed	Seek	Scot	Women
C	Social enterprise IUK grant funded seeking first equity	Pre	Fintech	Seed	Seek	NI	n/a
D	IUK grant funded seeking first equity	Pre	AI Business Services	Seed	Seek	NW	BAME
E	Serial women founders seeking first equity	Pre	AI App	Seed	Seek	Y&H	Women
F	Serial entrepreneur using angel seed equity	Pre	AI Business Services	Seed	Received	NW	n/a
G	Using seed equity, seeking further seed	Early Rev	Waste Management	Seed	Seek	SW	Women
H	Closed, grant funded, failed to equity match WDB funds	Pre	Education	Seed	Seek	Wales	BAME
I	IUK grant and part equity funded, seeking more seed	Pre	Aerospace	Seed	Some	SE	n/a
J	BEIS(DESNZ) grant funded, awaiting agreed seed	Early Rev	Energy	Seed	Some	EM	n/a
K	IUK grant funded seeking first equity	Early Rev	Heath	Seed	Seek	NW	n/a
L	Serial entrepreneur raised seed VC	Early Rev	Waste Management	Late Seed	Received	SE	n/a
M	IUK grant funding led to angel equity	Early Rev	Energy AI	Seed	Received	Wales	n/a
N	IUK grant funded seeking first equity	Early Rev	AI data	Seed	Seek	SW	Women/ BAME

Case A: Pre-revenue, Transport, Early Seed equity seeker

Summary

The venture demonstrates the lengthy gestation period and high capital investment cost of sustainable hardtech ventures. It also demonstrates a potential disconnect between Innovate UK grants and equity finance, which attendance at the C13 accelerator is trying to bridge towards a first formal round of seed VC.

1. Case Profiling

A transport sector business founded and based in the South of England with three directors. All three directors have several decades of logistics industry management experience, including the founding CEO, Projects Director with financial management skills and Director of Business Development with market network skills. The team are developing innovative environmental freight consolidation solutions relating to modular 'coolbox' solutions for food distribution. The CEO has SME management experience in the horticultural logistics sector and understands the scale and size of the retail food market. The venture idea started 8 years ago when they recognized the environmental problem of chilled food delivery and the "…*fantasy of final mile e.g. e-cargo bike solutions*" which could not accommodate wholesale food volume requirements. They recognized that a modular approach could be efficient, and automated and also lead to consolidated delivery processes which reduce road traffic. The business is still pre-revenue. The founders have no prior experience in raising equity finance, although the Projects Director comes from a financial management background and the business has yet to raise any equity finance. They have, however, received considerable external assistance, including Innovate UK investment readiness, grants and accelerator training from C13, which is preparing them for an initial seed equity funding round.

2. Venture concept

The venture concept formed out of the Transport Catapult and Westminster University, where the modular coolbox was designed. The idea is to serve the B2B wholesale food distribution markets and provide a flexible solution for transporting chilled and frozen products in a more environmentally friendly way. Currently, these products are distributed via fixed-size units in vehicles which typically run their cooling via diesel generators. This transportation process is inefficient and highly polluting (not Euro emissions regulated).

3. External support and networking

The venture solution assisted via IUK grant funding and collaboration with the University of Westminster is their modular pod system which enables 100% emissions reduction and almost 25% more weight space for carriage. This could reduce fleet operations by around one-fifth and could also benefit from further freight consolidation practices which the modular system could facilitate. The pod is self-energized through a battery and can hook up to solar energy. IUK have supported them with a progressive mentoring scheme which enabled them to improve their business case and clarify their equity financing requirements and financial projections, as well as develop their pitch deck presentation. Subsequent work with the C13 accelerator has highlighted the importance of demonstrating their low carbon credentials, notably by calculating their operational savings.

4. External finance journey

The business has been largely self-funded apart from IUK grants. They have raised nearly £2m in grants, but these require 20-30% private matching contributions, so they are not able to use all of the funds unless the founders put in their own money, as they are a very early-stage business. They are currently looking for £500k and have applied to a London Borough's

green business accelerator programme where 10-12 places will go to over 200 applicants. They are also on the C13 accelerator cohort. This does not fund them but could lead to investment from a seed VC. It is a 10-week-long cohort, offering highly professional management training which could lead to a pitching opportunity for up to £120k.

They looked at R&D tax credits, which are useful, but found these very bureaucratic and it took over a year to get their claim through.

They have explored corporate investment and had discussions with Sainsbury, Tesco, Hello Fresh, but potential investors ask what innovation is going to save us, and until carbon is taxed appropriately it is difficult to make the financial case. Legislation is likely to be a key driver in the success of their business.

The CEO recognizes that they are still in the early stage of their seed equity funding to develop a testable prototype for the industry. IUK pitching support led them to present at the Connected Places Catapult in Spring 2023 and sent a pitch deck to around 300 potentially suitable investors including accelerators, angels, seed VCs and corporate investors.

5. Current performance of the Venture

The venture is still in a pre-seed developmental stage, seeking a first formal round of £500k seed equity finance to develop a prototype. The current search is in its first year, although it should be noted that the business concept has taken 8 years to develop and raised substantial grant funds.

Case B: Pre-revenue, Transport, Early Seed equity seeker

Summary

This pre-revenue, seed-stage green transport solution venture has relied heavily on founder equity and a small amount of IUK prototype grant funding over the last five years. Business development was delayed by COVID-19 and their e-bike rental scheme was exempt from SEIS. Their seed equity search for hardtech prototype investment has taken several years. Despite external support from Connected Places Catapult and Scottish Enterprise, they are too early stage for VC and have yet to obtain any external equity funding.

1. Case Profiling

A husband and wife founding team, based in Scotland with two employees. The venture was established in 2017 and aims to provide a stand-alone renewable solar energy-powered e-bike solution for shorter-range inner city bicycle rental. The project started before COVID-19 but has been delayed by its impacts on R&D collaboration, but also spurred on by the need to address healthier living and transport solutions. They have worked closely with Scottish Universities (including Aberdeen and Strathclyde) to develop the tech engineering concept. They have a team of six people who also address finance, sales and marketing and have established key UK-based industry partners who are working on the e-bike manufacturing. The business has received external assistance from Scottish Enterprise and a mid-Scotland Science Park and is now at the stage of requiring a first formal seed equity round to build their team and produce a prototype.

2. Venture concept

The venture has a strong people/planet and place dimension, designed with a mission to assist national grid renewable energy solutions within urban locations and also employ ex-offenders. The sustainability concept is inspired by the increasing requirement for efficient e-bike rental solutions within urban areas, which will support the grid network. This is achieved through their patent pending wireless e-bike docking station which has solar panels and battery storage and will support, rather than put additional strain on the national grid supply. This has the benefit of being a renewable energy solution. Furthermore, the docking station will contain lockers with helmets, to comply with any future legal safety requirements. The venture addresses the increasingly strong pressures to reduce road traffic in urban areas, including ‘ULEZ’ (ultra-low emissions zones) and workforce travel levies. It is a competitive market, but globally the sector is set to double in the next 3-5 years, and they offer the most complete solution for urban councils and employers.

3. External support and networking

External assistance has been vital to the development of the venture thus far. Scottish Enterprise provided an investor database which helped start their investment search before COVID-19, but the Pandemic slowed down progress as they were not able to work with prototype collaborators from Strathclyde University. Initial finance searches revealed that the venture was too early-stage for VCs and that their valuation-to-equity ratio was insufficient. Eventually, after surviving on founder ‘sweat equity’ and five grant applications they received an IUK Fast Start prototype grant. They then relocated to a mid-Scotland science park where they have received some assistance from the local council, Scottish Enterprise and Michelin. One of the advantages of making early contact with potential investors is that this led to their industry connection with a UK e-bike manufacturer.

4. About your external finance journey

Initial equity finance searches exposed the founders' lack of knowledge and experience of the market, as they quickly realized that VCs were interested in their concept, but were not prepared to invest in such an early-stage business, without having a prototype to bring to market. They also recognised that even for their initial £250k seed investment round they would have to offer 20% equity. The venture is now at the stage where having received IUK grant funding to develop their prototype, they are now seeking the initial seed investment round.

One problem has been that the business model of e-bike rental does not comply with UK S/EIS regulations (which are exempt to rental companies). This has deterred investors, as has their social mission to support ex-offender employment and to offer 5% of any profits to charity. The search for seed equity is now well underway and the company have worked with the Connected Places Catapult to develop and deliver pitches and have pitched to several VCs, including internationally, as these are exempt from EIS and therefore less concerned with such tax benefits.

From a sustainability perspective, impact investors are looking for clear low-carbon credentials and this provides an added challenge of projecting market scale and also CO_2 reduction impacts. The founders have also encountered some constraints from investors in teams of ageism, although it should be said that the overall team of 6 has a wide range of ages and ethnic minority members.

5. Current performance of the Venture

The venture is still searching for an initial seed round of £250k, to locate a protype solar e-bike rental store in a city location. They then plan to move to a full Series A round of £2.5m which would be sufficient for them to grow the business in the UK before expanding overseas. They plan prototype roll-out in 2024 and full development with up to 80 employees by 2028, by which time they could have 20,000 e-bikes with income of £18.5m and EBITDA (before tax surplus revenue) of £11.8m.

Case C: Pre-revenue B Corp Fintech Seed equity seeker

Summary

A 'B Corp' socially oriented SDG mission-driven Fintech enterprise from Northern Ireland seeking first formal equity finance, following on from modest early seed stage local and IUK grant funding. The CEO shared concerns about the lack of investor appreciation for the profitability of their socially oriented enterprise model and the need for improved forms of blended finance.

"*The biggest issue is insufficient imagination around developing blended finance. I think blended finance will be the future for our company because it is taking into consideration a lot of different thinking such as lending, investing, and donating*."

1. Case profiling

Established in 2019, this company aims to start trading in July 2023 (just one month after this interview). This self-appointed 'serial entrepreneur' has been in business for over 34 years. During this time, he established several start-ups and, after selling the last one and taking some time, he started this venture. The company have two full-time employees, including the CEO. The entrepreneur explains that if they develop as planned, they will need to take on new people for marketing, business development, customer service, data analysis and software development. Most people who work for this company are subcontracted, as it is hard for them to keep the team running without a regular income stream to pay for employees. The background of the other paid director is in software development. They also have a group of advisors, whose primary skills are in philanthropy, banking and finance. They see themselves as a social enterprise that tries to promote the UN Sustainable Development Goals (SDG) agenda among young people, an agenda that is very close to the company's ethos.

2. Venture Concept

The platform that the company developed currently has around 1.8 million charities on one side of it, the entrepreneur explains. They analyse their data using the software they have developed, including financial information, and from government data and communities. For the time being they are aiming at donors that support organisations and communities. They think that a 'responsible business approach' is the right way forward as a business model. The company wants to develop responsible financiers, credit unions, etc., who want to support such organisations through lending and borrowing. "*We see ourselves as an inspiring B-corp. So, while we are set up as a for-profit business, all our employees will get shares."* They have also set up several foundations that, when they start trading, will be funded by a percentage of their profits and income.

3. External support and networking

The company have managed to get funding from a small organisation called Investing Eye (around £20k) - a government agency in Northern Ireland, and Innovate UK (almost £100k in 2021). The CEO explains that since then they have applied several times for Innovate UK grants, but with no luck. They will keep applying for IUK grants.

They have had a couple of projects where they have been unsuccessful and they have learnt from that experience. The parameters are clear, they are very competitive, and they have to offer the right type of funding, not necessarily grants. They must improve the proposition, increasingly refining them, and position themselves for a follow-on investment round.

4. External finance journey
The result of unsuccessful equity applications has been devastating for this start-up. They almost stopped operating. They now have S/EIS approval. They just keep up the pace where possible and grant funding is always helpful. However, the CEO is aware that more strategic investment is needed. "'*What we need is blended collateral money and we want society to have a much broader approach to financial issues*."

"*The biggest issue is insufficient imagination around developing blended finance. I think blended finance will be the future for our company because it is taking into consideration a lot of different thinking such as lending, investing, and donating*."

At the moment they are seeking £800k investment based on a £12m valuation of the company. They have not received any equity finance so far. However, they are on target because they have projections for new customers in the coming months who can be worth up to £600k per annum in revenue.

5. Current/future performance of the venture
The company plans to exit investments within 3 to 5 years via an IPO or trade sale. Whether the company remains within the UK after exit will depend upon the buyer. The entrepreneur suspects the company will remain in the UK. They have a memorandum of association which stipulates that they want the company to continue being a B-Corp.

They can only employ more people when they start trading. They believe that there is as much money to make in a socially oriented for-profit enterprise as with any other business.

The current asset value is difficult to determine but is estimated at close to £1m.

They forecast £1m plus revenue within the next 12 months. This should enable them to employ between 20 to 50 people and as many as 100 in 3 years with upwards of £20m revenue. Investors do not sufficiently recognise that socially oriented enterprises can be profitable. As a B Corp the company promotes the merits of socially oriented enterprise in meeting UN SDGs.

Case D: Pre-revenue AI B2B Business Service Seed equity seeker

Summary

This pre-revenue company has 3 years of prototype development grant funding totalling £400k, mainly from IUK. Their first equity seed funding round search for £1.25m (20% share) to develop early market capability this year has been tough. They are too early-stage for VC and the CEO is concerned about ethnic minority bias and separately, the poor review process that they received from a state-backed regional investment fund.

"*They were so rude, in the feedback they gave me, they said I'm not 'compatible'. How am I supposed to be 'compatible? The whole thing stinks*."

1. Case profiling

The company was established in 2020 by this 'serial tech entrepreneur', as the CEO refers to himself. They spun out of another company established in 2002 that operated in the Wi-Fi sector. The new company, specialising in indoor position and navigation systems, is about to start trading.

The entrepreneur graduated from Loughborough University Business School, and has a Masters in Technology and Engineering. His head of development (working 3 years with the CEO) recently completed a PhD on AI in core areas of 'simultaneous localisation'. The management team also comprises developers, mentors, and advisors from Innovate UK in the North West and a technological adviser from IUK Edge. They currently have three full-time employees (down from 7) but will need to rebuild the team over the next few months as they expect to scale up soon.

2. Venture Concept

The venture concept relates to a Milton Keynes shopping mall announcement that they spent £3m in building a new computer terminal in the shopping centre to help customers find their way around the building. The CEO visited the mall and found the new system very expensive and inefficient – he got lost within the premises and had to queue to see the building plan. "*I thought, for sure there must be another way to do it*." This led to his prototype through securing a collaborative Innovate UK R&D project to understand how to bring indoor localisation into house performance computer environments. "*Basically, by looking at or anticipating the kind of technology used in autonomous vehicles, we asked how can we bring it indoors?"* This was a 3-year project to develop the first prototype, or guiding system, as an App.

3. External support and networking

That led to a further R&D grant funding application to IUK to improve tracking position and tracking accuracy indoors. Solving this problem could help to monitor our 'patients' (customers) remotely, with their movements, and understanding of well-being, with Artificial Intelligence. Finally, through the transport accelerator, they were part of, they had the chance to talk directly to customers, end users, disabled people, elderly, and vulnerable people, and found that the product they are developing would be very useful for people with real problems, e.g., using public transport, problems with crowds, planning journeys and receiving assistance. So, they partnered and tested the product with Transport for Wales, which brought together all the technology accumulated into a test case, to build and use the technology. They now have the sensors and App to test virtual reality for navigation. They are ready to enter the market, and not just the transport market, but for a wide range of buildings and public indoor spaces.

4. External finance journey
Most financial support received has come from IUK grants. The first grant was for about £67k, the second for £65k. The third grant they had was for £250k, two years ago (completed, March 2022). This was the West Midlands Factory Project, for a train operating company, where they tested their products and technologies. They also received £5k funding from Europe, IDF Funding (£5,000), and a small local partnership support, for various activities e.g., a Masters student, who does some marketing for them. They collaborate with different universities (UCL, Birmingham, Cranfield, and Bedfordshire University - where they sponsor a PhD student). They have also collaborated with Connected Places Catapult - The UK's innovation accelerator for cities, transport, and place leadership.

The company is currently in the process of applying for equity finance. The entrepreneur is working on applications, but conversations around equity have been very difficult: "*It is like all of VCs have boxes, and one has to fill the boxes template but we never quite fit in those boxes. The main problem with VCs is that they often say you need 'market traction', you need more evidence you are hitting the high street. There is not a problem because if you have traction then you have customers. The problem is that we constantly need more market traction.*"

The entrepreneur had a very bad experience with Mercia – a government-backed fund, and their VCs. The review and feedback process was unprofessional and they concluded that he was 'incompatible'. The CEO asked "*What does this mean? I understand they prefer to invest in people they like, so we are not compatible. There is a problem of biases that people have in mind but that it is not ethnic minority. People do not recognise their biases. We need to work harder to find the right investor for our business. My chances of getting equity funding as a tech company are 1%. Factor in my ethnic minority background and my chances are reduced to a third of that 1%, but this is the reality*."

"*They were so rude, in the feedback they gave me, they said I'm not 'compatible'. How am I supposed to be 'compatible? The whole thing stinks*."

The lack of equity investment slowed their growth plans down. Lack of investment also increased their risk.

They value the company at £8m and are looking for £1.25m for 20% equity share. The exit plan, if they get the model right, is to raise further follow-on rounds over the next three years and prepare for exit in 5 years, with a valuation of upwards of £50m (£100m is possible).

The business is internationally scalable but will focus on the UK first. "*If we do well in the UK, that will open up a range of opportunities in the international market.*"

5. Current/future performance of the venture
The business currently has 3 employees and should grow to 20 plus, particularly through marketing requirements. They have 3 patents (1 granted, 2 in process). They have developed solid technical R&D to establish their USP for the UK. International development will be expensive. This year they project potentially a minimum £500k turnover from selling products and by the end of 2024 they should reach £1m per year in product sales.

Case E: Pre-revenue, Women-led Local Economy AI App, Seed equity seeker

Summary

Two women serial entrepreneur co-founders have used £200k IUK and City Region grant funding to develop an AI App, in conjunction with a local business voucher scheme in West Yorkshire, to generate a local economic multiplier scheme to increase trade in a deprived urban location. They have received a wide range of investment readiness, mentoring and networking support and accessed Start-Up loans, but despite many applications for seed equity they appear to be too early-stage and without sufficient market traction. The funders are disappointed that as experienced women founders, they have not received investment.

1. Case profiling

The company was established in 2018 and is pre-revenue. It was completely depleted by the Covid-19 pandemic at the time it was launched and is only now in the process of taking on its first customers. After setting up and running many start-ups, this serial entrepreneur worked for an international travel company specialising in organising international events in the hospitality industry. In 2018, she was approached by John & Partners because "*They could see I had that background of business failure and bounce back and I can see how these companies are struggling in the hospitality sector. What is entirely missing is support for women to access female-friendly investors and investments*."

2. Venture Concept

This female entrepreneur lives in Westfield (near Leeds), a city which is economically deprived. It has great places to eat and is well known for its nighttime economy. The Council was asking how to attract people to the city to work and spend money in Westfield. She thought that playing an App might work. She had already developed an App with a connection to the hospitality industry. "*So, we created a scheme for businesses to invest in the area, in the local economy, by staff eating out.*" This was in response to the UK Government's announcement of a fund of £195m for ideas to stimulate the economy and the hospitality sector. She submitted a £100k Innovate UK Smart Grant proposal to build the prototype during the pandemic. It was her first success in raising external funding, having failed 4-5 times previously. This enabled a trial of the product in Westfield. There was the additional challenge of how local agencies outsource from local suppliers, to build some functionality and drive back impact and indicate what incentives would work.

The most innovative/scalable aspects of their concept relate to the use of AI. They submitted the IUK grant applications because they received the voucher programme (Lloyds Bank vouchers) which supports local trade in a small way. There were also two further developments because AI technology progressed since they started. First, supply chain AI, to create sustainability and support the hospitality sector to become carbon neutral. They found that their commercial model - they sell vouchers for £10 and give £10 to the venue - effectively customers spend £20 and get £10 off, created a multiplier in the local economy, but offered no revenue to them. They also work with the corporate sector, Lloyds Bank, CSG, Screwfix, are big organisations which are interested in knowing how they impact locally. This meets their environmental and social governance requirements. Thus, to form the business model they are looking to provide an annual report to show the sponsors' local economic impact. They also seek sponsorship through the programme as a way to create more revenue and have introduced 150 companies in West Yorkshire.

3. External support and networking
The £100k IUK Smart Grant was the first external funding they secured. Then, after being misled by some financial advisors, they managed to secure £50k additional funding from Leeds City Region Enterprise Partnership, for the development of the site. The entrepreneur reflects that they still could not get funding to support the marketing and the sales side of the business, which is what they need right now.

4. External finance journey
She won a £50k grant IUK National Women and Innovation Award that enabled a further year of work, but the lack of equity investment has been problematic. She spent a lot of time trying to get investment ready and has not yet received any investment. The constant feedback is "*It's too early for investment, you need to have commercial traction*." They also received Investment Readiness and Women in Innovation knowledge transfer network IUK support, including two mentors. One was from Silicon Valley and the other was a famous engineer from Screwfix. They offered so much advice, and then Fund Her North also encouraged female entrepreneurs and female-friendly investors to come together. In terms of what types of finance and equity were considered, the entrepreneur explains: "*I considered everything. We used the Start-up Loan, but then we couldn't top that up because we don't have sales*."

"*I spoke with so many investors, the things you put yourself through doing it. You just think, you really don't want to do this. Applying for equity finance is a full-time job, but you cannot do that because you have got to get traction*."

Ideally, the venture requires £100k of equity for a 15% share in a valuation of £750k. She spoke to an events company, and their advice as a corporate investor was the same: "*It is too early. You need traction, you need customers."* The exit strategy is to build a UK company and then expand internationally in the US and Europe, possibly through franchising. She envisages a valuation of over £20m within 5 years.

5. Current/future performance of the venture
The two women founders are the only full-time employees. Two other people work with them on an equity basis. They have an AI software partner, heavily subsidised, trying to get further IUK grants. The company does not generate income and employment has shrunk due to lack of funds in the last year when they have been searching for equity finance. Asset value is circa £12k (this does not include intangible assets). Projections over the year depend on funding and undertaking market trials. It is hard to say. They remain disappointed that despite assistance from women's enterprise support groups, there has been no effective linkage to women investors and the company is yet to receive equity investment of any sort:

"*What is entirely missing is support for women to access female-friendly investors and investments*."

Case F: Pre-revenue Seed funded B2B AI IP Business Service

Summary

This North West-based pre-revenue venture has an experienced serial entrepreneur team that is highly experienced in raising equity. After receiving around £100k in IUK and City Region grant funding they have gone on to secure an initial seed round of £80k from business angels and will seek a further £50k from these investors in Autumn 2023. SEIS is perceived as helpful for investors. The management team know where to access equity finance, how to present their value proposition and demonstrate how an investment will build further value. This is the key, but they recognise that accessing equity may be more difficult for less experienced entrepreneurs in sectors which are more capital-intensive, mid-range technologies.

"*By receiving equity funding, you can mature your technology a lot quicker, you can develop it quicker, and you can build value. It's all about building value. So, you can increase the value of your business*."

1. Case profiling
The company was established in 2021. They are still in development and Pre-revenue. The CEO explains that they should hit the market in about a year (June 2024). There are six members of the management team who are subcontracted when needed to help with project development. They are looking for more paid full-time staff towards the end of this year. The CEO has a PhD in Physics from Cranfield University but asserts that, despite his technical and academic background, he is "*a very commercial person with over 20 years' experience of the commercial aspects of business*." Another team member works for various companies and has raised considerable funding for spin-out companies. In the management team, there are also people with a more technical profile such as programme managers, technical managers and software engineers.

2. Venture Concept
The venture concept is that, as part of various start-up companies, they look at intellectual property (IP). They aim to commercialise IP more efficiently, using AI and machine learning platforms. They know the benefits of IP, so that is how they have been developing the idea over the last couple of years.

3. External support and networking
The company has received 3 main sources of external (funding) support. Initially, in 2021, they successfully applied for an Innovate UK Grant. They also received a Liverpool City Region grant to develop their product 8 months ago. Furthermore, there are 'Assist' grants from the Local Authority where you can partner with an organisation that helps you to develop your product. Under Assist you do not get the funding directly, instead it goes to the organisation that helped you to develop your product. This was 3 months ago. They have so far received a total of circa £200k, combining grants with various other sources.

4. About your external finance journey
Initially, they received in kind, informal support from a co-founder who worked on this part-time and put a lot of his own time into the project. They have only recently, in March 2023, received some equity funding. This came from a number of business angels, investing circa £80k. They are on course to get another round of funding for a small amount (£50k) in September/October 2023. They then plan another equity round by the end of next year (2024). This will require up to £3m. Consulted about the 'search time' involved in raising investment, it was acknowledged as "*quite a difficult question to ask*" by the CEO. "*This is because I can find the location where to find money quite easily now. It is not difficult. So, it is quite a small amount of my time, but*

what is very time-consuming is actually writing the proposal, putting it together to apply for the equity fund." The CEO highlighted that early-stage funding is typically difficult to get. "*A lot of funders tend to fund later stages of technologies and revenue-driven technologies. There is not a lot of early-stage funding, especially in relation to mid-range technologies*." The entrepreneur notes that all the investment they are trying to raise is based in the UK. It was achieved under SEIS (Seed Enterprise Investment Scheme) and EIS schemes, where the investor gets tax relief on their investment. Business angels are the most likely to invest because they can receive S/EIS tax incentives.

Consulted about the result of obtaining equity finance, the CEO reflects. "*By receiving equity funding, you can mature your technology a lot quicker, you can develop it quicker, and you can build value. It's all about building value. So, you can increase the value of your business."*

5. Current/future performance of the venture
The CEO explains that they are on target in relation to the investment that they require. They only take investments that they need and do not get over-invested. "*We only take investment as required at that time."*

The Exit strategy relates to 3 to 5 years. They estimate that the value of the business at exit will be £30m plus. The exit could be an IPO, but is more likely to be via a trade sale. It is difficult to say if the business will remain in the UK after exit. They hope so, but it depends on UK market conditions and the buyer. Their service product will be used globally.

During the last year employment has increased from 2 to 6 people working on the venture. They are looking to increase to about 20 people next year.

They do not have patents, they look at patents differently, being based on know-how technology, with a unique USP (rather than patents). *"If you have a great idea and try to develop it, the worst thing is to try and patent because you tell everybody what it is and what it is all about. The strategy needs to be right for that.*"

Projections over the next 12 months include another investment round this Autumn to raise between £500-£750k. After that, probably towards the end of 2024, they are looking to raise up to £2m. To do this, they are looking to launch a product in April 2024 and will probably build a minimum viable product at that time. Company asset value is currently circa £1m.

"*The secret to accessing funding is to build a very good value proposition. If you are seeking funding you need to understand the market opportunity and competitiveness, but also how you are going to build value if you take on finance. So, you have inflexion points within your business, which you have to get through to get to the next round of funding. You cannot expect to raise a huge amount of funding without meeting these hurdles. You do see a lot of people raising a hell of a lot of money at an early stage, £2-£3m! You are going to have to dilute a lot, all that you have to say is that this is a very high valuation, which, you know, you value the business at the right level at the start and then over value*."

Case G: Early Revenue, Women-led Waste Management later Seed equity seeker

Summary

A South West, women-led, waste management business offering important environmental waste management software and hardware efficiencies. After rapid R&D progress through early investment seed investment rounds totalling almost £300k, COVID-19 halted progress. Fundraising has been unsuccessful since and was not helped by the recent impacts of Government policy and rising inflation. Failure to obtain £1m of further R&D and commercial development equity funding has led to one job loss and is preventing sales growth.

"The truth is only a tiny proportion of funding from women goes to equity. Our preference is for 'impact investors', those who also have social and/or environmental aims."

1. Case profiling
South West of England based and established in January 2018, this women-led company specialises in waste management and resources. The respondent founder Director has nearly 25 years of experience in the waste management sector. There are also two NEDs, one is a female co-Founder who comes from a corporate background (marketing, strategy, business change) and the other NED is a waste management expert, specialising in compliance. The management team is completed by a sales director and an operations director.

2. Venture Concept
The business idea started from seeing plastic litter left close to the ocean. In its first iteration, it was a litter App where you can photograph litter and geotag trace it. Through the App we were thinking about building a learning model to identify the products and branches that litter involves and a points system to prevent that litter going into our estuaries and beaches and into the sea. Initially, the App was difficult to monetise. They then talked to local people and found that local urban litter generally comes from poor trade waste collections. This meant waste simply went back into the streets and (e.g. plastic bags) are opened by seagulls and homeless people. This also attracts litter itself, so the aim became to improve waste collection. Rather than put litter in plastic bags, their approach is to provide special QR coded bins that enable local businesses to collectively aggregate their waste and ensure improved recycling. This involves bespoke scalable software which provides their USP.

3. External support and networking
From the beginning, the company has received support from various sources including Stockwell Partnership founder training and investment readiness programmes (e.g. start-up support; investment raiser; executive scheme; HR and finance director; senior leadership; pitch deck; prototyping hardware and software; and introduction to investors). They also received support from Innovative Edge. They have just undertaken an IP audit, funded by the IP Office. The entrepreneur explains that they benefit in terms of access to support by being located in a Science Park. SETsquared university partnership has been one of the most practical forms of support received, due to their location and because they organise an annual investment showcase which is very useful, as they take local companies to London to meet potential investors.

4. About your external finance journey
Company financing began with a £15k accelerator grant in May 2017. This swiftly led to a first equity investor £30k convertible loan in September 2017. The next funding round for £240k for 18% share (including another £30k convertible loan) came in August 2018, after a 6-month search. A further full round of investment came in January 2020 for £100k (for hardware

development). Then COVID-19 happened and delayed their progress for a couple of years and the £100k investment was reduced to £25k, including a new angel investor. They then decided to raise £1m in September 2022. This took much longer to raise. Consulted about time invested in preparing funding applications, the entrepreneur responded: "*I spend most of my time writing bids, it is the bulk of my work. I probably spend half of my time chasing funding."*

They considered other options such as banks, but banks will not lend to them. Borrowing has not been an option. Neither HSBC nor Funding Circle Business Loans could fund them. Funding Circle wanted 50% of the company, which was not acceptable.

The entrepreneur reflected on their current lack of equity fundraising:

'*We have been to see many people who may invest in our business, but up until now, we have only raised £2k overdraft with HSBC, which was increased to £20k. We have applied three times for women innovation awards, but haven't got it once. The truth is only a tiny proportion of funding from women goes to equity. Our preference is for 'impact investors', those who also have social and/or environmental aims*."

5. Current/future performance of the venture

The result of not raising the equity investment requested is that it slowed them down. It slowed down growth. "*We had thought, based on prior experience, we could raise the funds by Christmas. All the documents were ready for applications, but that was 10 months ago now! Our working capital is very tight, we can't afford stock. I had to make one of the salespeople redundant*."

Company growth is very much suffering as a result of not obtaining finance. There was potential to double in size at least every year, but all the positive benefits of that are pending growing requirements for capital. They require money in the bank to cover their working capital, and they are struggling with that. More salespeople are required, but they cost money and take time to develop. To grow fast they require 6 salespeople to scale-up at least six times. However, they do not currently have a marketing person because there are no funds to pay them. Most importantly they do not have the hardware and do not have all the internal operational efficiencies. The biggest risk for the company in this situation is that other people may start to do what they planned.

Their main learning experience is that "*If somebody would just say yes! Our valuation changed a lot, from upwards of £5m … down to £2.85m, it is thanks to the bloody awful minibudget and inflation! It is a peculiar environment, it is a frustrating process - it takes much longer than expected to raise funds. It is interesting because, if somebody says yes suddenly everybody is interested, but nobody wants to be the first person in to say yes."*

They had aimed for a 3-year exit strategy, but realistically it is at least 5 years. They plan a trade sale with a £10m valuation. The company is currently trading at £100k per year and has 5.5 FTE employees, having lost 1 full-time staff member in the last year. They calculate current asset value as under £100k. If they get at least £500k investment for R&D they could generate £1.2m and more than double employment in the next year.

Case H: Welsh Pre-revenue, Education Language App, failed equity seeker, closed

Summary

A Welsh Language learning App venture, supported by £40k grant financing from Bangor University Accelerator, local authorities and Development Bank of Wales (DBW) services. Two different seed-stage efforts to raise equity funds have failed, suggesting that Welsh angel support is a small investment pool. More recently their failure to secure £300k of DBW-matched funding during the last year has led them to stop the business when they ran out of funding. They feel let down, because the business was ready to take off into international markets, but matched funding with sufficient support from WDB was not available:

"*They [WDB] want to buy equity, but they don't want to be the draftsman*."

1. Case profiling

The company was established in 2018 and is Pre-revenue. The entrepreneur however explains that *'Technically, they started trading in January 2022'*. The twin co-founder management team met at Bangor University while studying for an MBA. The respondent founder's background is in Marketing, working in an international company in Shanghai for two years. He holds a degree in Marketing and Masters in International Business, and is multi-lingual. In April the company ran out of money through lack of investment, when they had 5 employees. The company use AI data to automatically create language courses that would not otherwise be viable and available.

2. Venture Concept

The entrepreneur explains that he self-taught a couple of languages to different levels (such as Mandarin, Welsh, and Russian). In so doing, he noticed that there was a general pattern for how language is structured. The vocabulary for example always seems to follow a frequency distribution. The grammar also tends to follow one. He saw a potential way of using micro-statistics data to optimise the process of language uptake, especially for curriculum creation. This approach focuses on the really useful most used words first, then students can progress more quickly. He created an efficiency code for a language learning App.

They discovered that the data collected (e.g. frequency data, vocabulary data, grammar data, translation data, phonetic data, etc.) was useful for making other language tools also – which they then developed. They collected data for about 2,000 different languages, including some minority languages. They realised that there is a market for minority language tools, since few people/organisations promote these and there are rarely online courses available for them. At this point the company ran out of funding.

3. External support and networking

The founders were at Bangor University and received support from their accelerator. This provided small grants (all under £5k) which were used to buy a laptop, obtain office space in the local Science Park where the University Accelerator is located, etc. The company has also received several small grants from Welsh local Councils. They also won a Science Park Welsh Start-Up Award. The founder stated: "*In my opinion, there was plenty of support getting ready to the point of funding application.*"

4. External finance journey

Support has come through the Bangor University Accelerator, Business Wales and the DBW. "*However, as soon as we started to go out to look for equity finance that support all flew away."* Office space was subsidised by the Science Park, because the university Accelerator was

assisting them and they paid for two students to work with them. This package of funding was about £40k in total.

There are stages where the business has tried to apply for equity finance. Early on in the business they tried to get some seed funding.

"*We had a basic idea, the kind of model to build and we had a team ready to go, so we went to the investment bank, and used an investment network to apply for equity finance. That didn't work out, because we had one guy who was interested, who said yeah, I'll do it for £150k based on a pre-valuation of £1m and a 15% share. But then he was 9 months pretending, doing something else, he was too busy. He also tried to poach my developer. So, it was all a waste of time*."

"Then later on we had a kind of loan financing option - a £50k business loan offer, but we got to the point where we were nearly ready to go and the product wasn't quite finished. We were ready to scale, we wanted to launch because we had identified customers who almost definitely would get in. We then tried to raise a round of £300k to cover the final R&D and early commercialising. The investment bank suggested they would match fund up to £150k. So, what we were looking for actually was £150k equity financing, matched funded by the development bank. However, the development bank wouldn't say yes, or no, until we had somebody lined up, which is very annoying. But they kept saying if you get somebody lined up, we will invest. They want to buy equity, but they don't want to be the draftsman."

5. Current/future performance of the venture

The company was deeply impacted by not getting the equity investment requested and stopped operating. Potentially they were ready with the application back in September 2022. "*Then we discovered quite quickly that we are in Wales, and Wales gets like 3% of the total equity funding in the UK. So, you are under-funded in Wales*." The Welsh Development Bank in theory is there to support good business propositions to get investment. They simply ran out of grant funds. "*There is only so long you can work without an income and I have a wife who wants me to find a job*!"

The founder's concluding observations about Welsh investment were:

"*The investors we saw were primarily locals, a syndicate of people who were coming back from working in England. They were people who want to invest in their homeland. The business advisors in Wales are not necessarily qualified to provide equity business advice. It took a year to put this investment proposition together*."

The business exit strategy had been to work towards an Equity Buy Out. The business would have had considerable export potential – perhaps upwards of 70% of sales. Their IP strategy was to keep it secret as this is the only way to protect IP.

Case I: Pre-revenue Aerospace Tech part seed equity funded

Summary

A pre-revenue space tech venture, with strong academic and technical academic and industry experience credentials. Based in the South of England, the three founders have received extensive accelerator mentoring and IUK Edge and small grant early prototyping funding. During the last year, the founders have registered an international patent and successfully raised £250k first formal equity seed funding. This has been a long and hard process and they are continuing to fundraise to reach the £1.5m they require to fully launch the business. If successful they will generate strong revenue in 2024 from US and Japanese customers. The founders have a very grounded approach to equity fundraising:

"*Be tenacious. Keep, keep trying, and expect failure. Don't give up. Most of the things you are applying for, you won't get them."*

1. Case profiling

The company was established in April 2021. They started trading, but they are still pre-revenue. Three co-founders are employed by the company. As a management team, they all studied aerospace together at Imperial College, London. They have strong 'academic credentials'. After graduation, they spent time working in industry. The interviewee worked in an electronics company. One of the other founders worked in a company that makes aerospace structures and satellites, whilst the other co-founder worked as a software engineer. They were all working part-time in their founding venture until the last year, as they had other jobs which funded the start-up. Then they raised enough money in 2022 to cover their full-time salaries in the venture.

2. The Venture Concept

All of the founders have a strong interest and connection to the aerospace industry, particularly in relation to developing launch vehicles for space vehicles and satellites. There are many companies trying to develop similar launch vehicles to take small-scale structures into space. However, they have identified a potential gap in the market, by making these vehicles more recoverable when they come back to earth, so that they can be re-used many times. The founder states: "*Our principle is everything that goes up also comes down."*

Consulted about their business, this entrepreneur said: "*We are rocket scientists, effectively, we make propulsion systems*."

3. External Support and Finance Journey

The first support that they received came from Westcott Business Incubator and Accelerator in Buckinghamshire. This was funded through the European Union Regional Development Funds (ERDF) – now ended after UK exit from the EU.

Then they secured support from ISA Business Incubation Centre in Oxfordshire. They have one year left of expert mentor advice provided by the incubator. Subsequently, they received £30k from Innovate Edge funding to work on prototypes. The most recent support that they received was two months ago from Innovate UK.

Raising equity was a very long process, the entrepreneur reflects. They originally sought £600k, and only raised £250k, after a huge time-consuming effort. However, the founder now believes they are on target with their business development: "*I think we are on target in relation to our investment, we have got to the actual delivery point, we are ready to proceed and hit the market*."

4. Current/future performance of the venture

The venture is yet to receive revenue, but they expect good revenue next year in 2024, particularly because they have customers in the US and Japan. The company's asset value at the last quarter is around £70k and they are yet to make any substantial purchase.

The venture is seeking more external funding in 2023 and aims to raise a total of £1.5m. They hold a patent which was registered in October 2022. This gives them both UK and international protection.

The key lessons that the founders have learned from their venture and external financing searches and fundraising experiences are: "*Be tenacious. Keep, keep trying, and expect failure. Don't give up. Most of the things you are applying for, you won't get them.*"

Case J: Early-revenue Biomass Energy Solutions, awaiting first seed equity

Summary

This East Midlands biomass energy solutions venture has international consultancy revenue and a five-member founding team which includes industry, tech and financial experts. They have progressed rapidly since 2019 through BEIS grant funding to the point of raising a first formal equity round of almost £2m to build a prototype wood waste Biomass plant. Equity funding has been difficult because only overseas markets and investors are interested in their product. They are on the cusp of receiving overseas investment from a corporate investor who will build the prototype overseas. The business will most likely exit via a trade sale overseas.

"*Unfortunately, there is not much going on in this country, frankly, that is not particularly encouraging for us. The problem with requiring £2m is that institutional investors are not interested in that low level. It seems to me that is exactly the sort of gap that the government should be looking to fill*."

1. Case profiling

The respondent is one of the five Founder Directors of this 'born-global' East Midlands company established in 2019, and that began trading overseas from inception. The company, which specialises in the Biomass sector, employs 6 people (the Founder Directors and one administrator). The management team is formed by the five Founder Directors. The interviewee worked in IT companies, Venture Capital, and then spent time in Southern Africa raising money for businesses including the Biomass business. Another Director is a forester by background and worked in Drax UK Power - the largest consumer of wood pellets on the planet. They also include a hardware design engineer who designed the prototype to solve an issue they had with Biomass production and which they now have patented. The interviewee explained that the problem with wood pellets is that it is increasingly expensive and environmentalists are increasingly unhappy with the idea of burning wood to generate energy. They needed to move away from wood into non-wood Biomass. "*We basically set out to try carbon solutions for that [biomass energy] market*."

2. Venture Concept

The most innovative aspect of the venture concept is that they developed a quicker and more efficient 'steamed explosion' process, which is used to produce cellulose and paper.

3. External support and networking

The founders have tried to raise money to take their business 'to the next stage', going from ideas on a piece of paper through to building a prototype in the lab, which is funded by BEIS. Now they are at a stage where funding is required to activate the commercial side of the plant. The BEIS grant was awarded in 2021 and it was the first external support and funding that the company received. This was part of BEIS Biomass Feedstocks Innovation Programme. Since their establishment, the company have secured a government 'back-to-back loan' and then the BEIS grant. They have also received generous advice and support alongside this financing and the founders' personal (informal) finance. The founder interviewee stated, "*I cashed my pension in, in order to put money up so I'm staked one way or another*.'

4. External finance journey

The external finance journey of this company is relatively short. Apart from personal funding they secured a government loan and then a grant from BEIS in 2021 which resulted in the design and manufacture of their prototype Steam Explosion Reactor Assembly (SERA).

The company is currently (June 2023) in the middle of negotiating a round of equity investment. They have signed a subscription agreement for an investor to take a 30% share of the company, but the investor has not yet delivered the funds. The equity investment is just over £1.5m (for a 30% share) and there is also a loan for circa £400k. The overall funding package is almost £2m. The investor is a foreign company with an existing interest in the Biomass sector. The entrepreneur explains that "*Unfortunately there is not much going on in this country, frankly, that is not particularly encouraging for us*."

The current first formal equity funding round is to build the full-size plant inside a company based in Hertfordshire. That alone will cost £1m. The remaining funds are required to upgrade their R&D lab (£100k) and then other operating costs.

Concerning the funding search, the founder stated:

"We considered everything that we came across to raise equity finance. Basically, the message that we kept getting (from the investors) was - it [the concept] is very interesting, we understand there is a gap in the market there, and we understand you have a potential solution to, so get off and do it, and then come back to us."

"*The problem with requiring £2m is that institutional investors are not interested in that low level. It seems to me that is exactly the sort of gap that the government should be looking to fill. The £2m was exactly the money we originally asked for. But the thing is it has been going on for such a while that prices are going up, and of course, raw material prices. So, we need the funds to be realised*!"

5. Current/future performance of the venture

"The problem of not receiving the money from the equity investor is that, effectively, we are running out of money' (laugh). *Some investors want to see the prototype but we cannot show them this. That is where we are at, and that is a problem for us. Because, of course, everyone wants to be second in line, nobody wants to be first. There we go. Had we found another investor we would probably not be looking to take the money from this particular investor*."

The most likely exit strategy is via trade sale. There are several large companies in the wood pellets sector that supply good quality technology that may be very interested in this technology. Turnover to the year ending July 2022 was £207k, 100% from exports, as there is no interest within the UK. Their main markets are in forestry waste areas of North America, Northern Europe and the Philippines. Employment has remained stable at 5 founder directors, plus 1 administrator. They may hire one or two people for the new lab to be constructed. Technology readiness is at mid-range stage of prototyping. There have also been IP/Patent advances in the last 12 months with the award of a formal grant as a patent in March 2023 which is for the system as a whole. There are 9 sub-patents also identified, but they may not apply for them all, as some are better not to disclose. The registered patent they have is just for the UK. (£100k is the international cost).

Case K: Early revenue Health Tech seeking early equity

Summary

North West region health tech venture established 2018, funded by the founder's investment and a £30k IUK grant. They have undertaken extensive searches and applications for VC equity in the last year, but investors do not understand the scientific and technical merit of their mental health App. They have established a training centre to generate some revenue and applied for a substantial grant to fund improved scientific research. Once this is achieved in the next year, they will require substantial seed equity investment to develop their sales and marketing.

"'We just do not fit in the box." This case showcases the experiences of a start-up entrepreneur who has spoken to over 60 VCs, trying to raise funding for his unusual business.

1. Case profiling

The company was established in 2018 and builds on a mental health care technology created in 2008 by a person that the entrepreneur knew and with whom they almost became business partners. The technology (an audio programme) uses hypnosis and therapy to treat eating disorders and other health problems. The CEO has a PhD in Chemistry and made a lot of money as a recruitment head-hunter. He thought of building an App (a streaming service), instead of using MP3 audio as his friend had done during the last decade. They currently have 6 directors and two NEDs, offering a range of financial, technical, medical market and digital marketing skills.

2. The Venture Idea

This became a 'passion project', the entrepreneur explains. He spent over £250k of his own money to develop a new App and the overall business idea. It has nearly bankrupted him. He does not know how he is going to pay his bills in the coming months. The main barrier is that they could not develop sales and marketing for the business. Also, investors did not want to invest in them because the product has too much VTC (Video Teleconferencing – audio, video and Internet protocol) technology. They have been stuck, as a combination of technical concerns and insufficient scientific medical evidence has held them back.

The App was released in 2022, but sales were lower than expected. They have 190 subscribers, but this was not enough to pay staff salaries. The App won an award (*£30k)* through which it was recognised as a 'medical device'. The App is now a 'medical device' used as a therapy to release traumatic emotions.

The founder CEO explained; "*The App allows you to reduce the emotional load of an intrusive thought or memory, and as such it can be widely used to treat all sorts of health disorders. It can be used for compulsory behaviours, like drinking, and not just emotions."*

3. External support and networking

Funding for the venture has so far amounted to the founder's investment and the Innovate UK grant administrated by CPA (£30k).

They have approached more than 60 VCs and nobody would touch it – not even those who liked the sound of it:

"*We just did not fit in the box. Most of the time you receive no feedback as to why you have been declined and generally where provided it is because there is not enough science to support the concept. We have got more scientific support now and if we get this research grant*

we are currently applying for, this will give us immediate scientific credibility. But it is a very competitive process."

Last year they opened their training and accreditation business unit. Now people can come to them and pay for training and they can analyse the use of this technology as a therapy. So next year when they are more established, they may start chasing equity funding again. They are also able to train people in administrating tools.

4. External finance journey
The venture is currently applying for a research grant to study NHS mental health care practices. The grant is for a total of £1.5m to distribute among the partners of the consortium, from universities primarily.

No investors have demonstrated an interest in their concept so far. This has a huge negative impact on their growth patterns. In principle, nobody has a salary and this has affected their staff mental health. Because the business is progressing so slowly the funder is nearly bankrupt.

There is a danger that they may never get their product into the market because competitors will be in the market and it will be more difficult to get a market share. There are challenges, but the longer it takes to get to market, the harder it is going to be. Investors do not understand our concept.

5. Current/future performance of the venture
For the next 12 months, the venture will focus on establishing the training and accreditation business unit, which can bring some form of revenue into the business. They need this just to survive at present. Turnover is currently £4,500 per month. They aim, however, to generate £300k per year in revenue, but this is not achievable with marketing funding. It is not possible to patent their technology, but the audio is protected by IP law.

Case L: Early revenue Electrical Waste Management successful late seed equity raise

Summary

A South of England electrical waste management venture, based on US IP, with experienced entrepreneurial founders from electronics tech and financial backgrounds, has successfully raised two substantial rounds of seed and Series A equity in the last four years. Their experience and understanding of what investors look for has been invaluable, particularly during the difficult investment period of the last year, when they were raising a late seed/Series A £1m round.

"*Focus on the basics, it is a very simplistic piece of advice, but focus on what people invest in, investors are not just money men – they invest in teams and product and service value. Check market entry barriers, raw material for integration, the margins. Those are the key aspects the investors look at*."

1. Case profiling

This South of England company was established in April 2017 and started trading in 2020. The CEO interviewee holds a PhD in Chemistry from Birmingham University. He worked in the industry for several decades, in sales, marketing and strategy. Then he joined a mining technology business and went on to assist in a successful AIM listing. A friend from Shell then invited him to participate in a start-up. At the time he was also introduced to a person by his brother-in-law who joined the founding team and motivated him to join this opportunity. The start-up venture is the first organic recycling company specialising in electronic waste and the company employs 3.5 FTE people. Their US-patented IP system allows them to salvage rare metals from electronic waste. They enable customers to comply with e.g., the European Waste Electrical and Electrical Equipment (WEEE) Directive.

2. External support and networking

In 2019 the three founding entrepreneurs secured £850k which was used to recruit a highly qualified management team for the company. During the difficult times of the pandemic, they continued developing their concept and testing. They started to fundraise for the next round of equity investment in July 2022, seeking £1m for a 20% share (£5m valuation). They are now about to close the round, almost a year later. The venture received support from Innovate UK and University grants and other sources.

3. External equity finance journey

Initial funding in 2018, of circa £850k was obtained without any problem. Investors came from a syndicate of early-stage VC, including a primary international Nordic accelerator seed VC, several London-based VC, a Family Office and Private Equity and included a mix of impact and traditional investors.

The founding team are highly experienced with industry and tech experience and presented a strong case. The CEO, who has previously raised equity funding was also instrumental in raising the equity funds. Currently, the venture is seeking £1m. This time around it is a more difficult process of negotiation, which has taken 10-12 months negotiating to realise. They will probably require a further £2.5m in 2024 – but the extent of this requirement is not fully known yet.

4. Current/future performance of the venture

The company is currently in revenue and receives 90% of turnover from exports. Turnover grew in the last year from £50k to £100k, but this annual growth figure was not as much as they had expected. With the injection of the current second stage 'Series A' early revenue development round they believe that in 2024 the annual turnover will be £500k and that employment will increase by 2.5 FTEs to 6 FTE jobs. They also believe that their current £5m valuation will increase to £14m.

5. Lessons learned

"*Focus on the basics, it is a very simplistic piece of advice, but focus on what people invest in, investors are not just money men – they invest in teams and product and service value. Check market entry barriers, raw material for integration, the margins. Those are the key aspects the investors look at*."

"*Brexit has been a major problem for the UK. We wish it had never happened. We are a small company with a few EU partners. Brexit has just created problems, delays and complexities, with VAT, transport, etc*."

Case M: Early revenue, early equity-funded Energy sector AI data management

This initially self-financed Welsh energy sector business, established in 2020, built on the prior industry experience and connections of the two founders. The founders had 'skin in the game' and had gained some initial market traction with their data collection and AI machine learning consultancy to assist plant maintenance and decommissioning. Whilst the founders were not experienced in applying for equity, support from IUK EDGE and feedback from two failed grant applications led to the pivoting of the company proposition and a successful first equity business angel round of £220k to develop early commercialisation.

"*The IUK grant funding feedback was instrumental in the repositioning of the company for a successful business angel funding round application*."

1. Case profiling

The company was established in 2020 and started to trade immediately. The company emerged from the two co-founders' ideas. Both worked together in the oil and gas sector and left the same company to set up a business that will help other complex high-hazard businesses, typically oil and gas, chemical refining, nuclear, and industrial brown site decommissioning. The company offer better access and construction conservation insights from the data that they collect using advanced sensing, AI and machine learning analytics.

Talking about his business concept, the respondent CEO entrepreneur claimed that the most innovative aspect of their business concept is the ability to integrate complex data sets and then apply both structured and non-structured machine learning algorithms to their data collection.

The two managers fill the CEO and CTO roles. There is also a small leadership team of three other people: a data science specialist, a chief software engineer and a technical director. All are employed within a company which currently has 23 staff.

2. External support and networking

Initially, marketing advice was received from Innovate UK EDGE, which was paid in kind by consultants who came and worked with them and provided scale-up advice. It was a good free service and they are unclear what it might be valued at. It led to two unsuccessful bids for Innovate UK Smart Grants. However, they were successful in raising SEED investment round funding with angel investors. They raised £220k, which was used to build a dedicated product development team.

3. Learning from failure

"*The IUK grant funding feedback was instrumental in the repositioning of the company for a successful business angel funding round application*."

The feedback that they received from Innovate UK was generally that their application, which related to a particular innovative product, was not in the right sector. Therefore, their product was innovative, but was not focusing on their core areas which are renewable energy for example, or delivering Net Zero. At the time they had been seeking a large grant with 70% IUK and 30% self-financing, but grant application feedback helped them to position a successful application for business angel finance.

4. External equity finance journey
The company has recently completed one initial fundraise from angel investors. This involved approaching about 50 high net worth (HNW) individual investors, who were either recommended or who were known to them. A lead business angel investor was found and this led to a syndicate of six out of the 50 angels forming to raise a total of £220k, with a total equity share (4.4%) calculated on a company valuation of £5m.

The respondent CEO suggested that in about a year, the company will actively seek a more substantial follow-up 'serious' scale-up equity investment round.

5. Current/future performance of the venture
The company currently has 23 staff and an annual turnover of £550k. They are growing and forecast that in the next year they will turnover £1.2m.

Projections:

Employment is expected to increase during the next year by 3 full-time staff. The company asset value is very low and IP is difficult to protect. "*It is very difficult to protect software*." Looking further ahead they predict that in two years they can further double turnover to £2.5m, if they can raise scale-up investment. A realistic valuation of the company should be in the region of £7 to £10m at the time of the next fundraise.

The founders would like to exit in 3-5 years' time via a trade sale. This would be to an organisation that works in their sector that can bring added value to their concept.

Case N: Early revenue social enterprise data analytics unsuccessful equity seeker

Summary

A South West of England social enterprise formed in 2021, led by a black woman entrepreneur, undertaking digital impact polls. Support from IUK EDGE and its location in an incubator, leading to extensive social networking opportunities, has been invaluable. Use of an experienced grant writer was instrumental in successful IUK large grant applications to build their software. Equity funding has not yet been accessed:

"*There is a gap in the market to better support innovative start-ups in the UK, and this is a structural problem… Obviously individual entrepreneurs may navigate through this structural issue… you have loans or you have venture capital, but there is nothing in-between for steadily growing small businesses. I mean, SMEs should be supported by an industrial policy*."

1. Case profiling

Established in 2018 this community interest company (CIC) social enterprise started trading in April 2021. The company develops social impact analytics for entertainment, marketing, research and training. It currently comprises a Managing Director (the interviewee, who is a woman and who is also black) and two technical full-time employees.

The company have benefited from moving into a business accelerator where they have developed contacts and "…*built a network, creating sustainable (digital) communities, where we are trying to do things we used to do, but in an online format*" she explains.

In January 2021 a previous customer of the entrepreneur came to see her and asked her what have you been doing. "*I said I'm doing digital polls for social impact*." Soon after this encounter, they received a contract to undertake a project on digital impact polls and that is what they have been doing ever since. They are now providers of social impact analysis.

2. Venture Concept

Consulted about the most innovative aspect of her business, the entrepreneur responded:

"I think it is the people, and I think they all are very lateral thinkers. And they are all able to see technological developments in one part of society and understand youth cases in other parts of society, particularly because a lot of our clients work on international development finance and so on. They can see how these tools can help them not only to measure impact but also by developing the evidence-base they require."

3. External support and networking

The respondent explains that she has secured so many support services that she does not know where to start from:

- Innovate EDGE (2020-2021) though which she accessed expert business advisors (in-kind) time. The role that one of these advisors played in suggesting and encouraging the entrepreneur to apply for a specific funding programme, which she did and succeed, was critical.

- Expert Impact – A network of social entrepreneurs. They received free mentorship through this programme.

4. External finance journey
They have accessed external funding after being rejected twice in the past. Subsequently, the entrepreneur applied for substantive Innovate UK Smart Grants (£420k and £300k). The grants were used to build a diversity data platform for small businesses and are about to be finished.

For the second successful grant application, they used a grant writer from a renowned agency. "*Without this support we wouldn't have got funded*", the entrepreneur highlighted.

"*We have taken on loans, and I put a lot of personal funds in this business. And yet, we applied from many grants as well. Applying for grants is a nightmare, it takes so much time*."

The company also started applying for equity investment in the last year, but it did not work out. They have just applied to the Black Founders Fund (£75k), which is a new equity fund for black founders. They also applied to the European Innovation Council (EIC) Accelerator for £1m.

Reflections on women, social enterprise and equity funding:

"*I do not think that being a CIC social enterprise has been an issue in attracting funding, neither that I am a woman, nor that I am black."*

"*But if I had to do it all again I wouldn't go for the CIC status because even when you can receive investment credit and to receive it in the CIC - I have to create very complicated financial structures to facilitate these investments - still nobody wants to put money directly into the CIC structure. The problem is the asset lock, nobody cares if it is a social enterprise or not*."

"*Winning the Smart grant was a huge boost to my confidence, it was a career milestone, but I'm still struggling. Very few people will recognise what an achievement it is to get the Smart Grant for people like me*."

5. Current/future performance of the venture
Annual turnover has doubled in the last year to reach £250k. There are two full-time employees alongside the entrepreneur and she is considering hiring more staff. They will require a developer and a consultant. Half of turnover is to the US market. The company valuation is not high currently and they have little by way of asset value. IP is not suited to software protection. They use 'Trade Mark' to protect their IP.

The entrepreneur reflected on the lack of state support to finance lower, steady-growth start-ups:

"*There is a gap in the market to better support innovative start-ups in the UK, and this is a structural problem which should be tackled through an industrial policy. Obviously individual entrepreneurs may navigate through this structural issue. As I said, you have loans or you have venture capital, but there is nothing in-between for steadily growing small businesses. I mean, SMEs should be supported by an industrial policy*."

ANNEX 2: LIST OF STAKEHOLDER CONTRIBUTORS

Public agencies
British Business Bank
Scottish Enterprise
Development Bank of Wales
Angel Invest Wales

Private Investors
Ascension
SyndicateRoom
ET Capital
Regenerate
Midven/UKI2S

Minerva
Cambridge Angels
Green Angel Syndicate
Seedtribe
FiveThirteen
C13

Market support
Oxford Innovation
SETsquared
Connected Places Catapult
British Venture Capital Association (BVCA)
UK Business Angel Association (UKBAA)
Bloom incubator

ERC
Enterprise Research Centre

Centre Manager
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Warwick Business School
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Centre Manager
Enterprise Research Centre
Aston Business School
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UKRI Economic and Social Research Council
UKRI Innovate UK
wbs Aston University
Queen's University Belfast
Department for Business & Trade
Department for Science, Innovation & Technology
British Business Bank
Intellectual Property Office

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