Northern Powerhouse Investment Fund Interim Evaluation Report

Research report

April 2022

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Executive Summary

SQW, supported by the Centre for Enterprise and Economic Development Research (CEEDR) at Middlesex University, Belmana and BMG Research, has been commissioned by the British Business Bank (the Bank) to evaluate the Investment Funds across the Northern Powerhouse, Midlands Engine, and Cornwall and Isles of Scilly. This report covers the interim evaluation of the Northern Powerhouse Investment Fund (NPIF) which took place between April 2021 and November 2021. The emphasis in this phase is on net outcomes and impacts, and an overall assessment of performance and value for money. This evaluation report builds on the early assessment of NPIF, which was completed between November 2018 and March 2019.

Key Findings

- £281m of NPIF finance had been deployed by June 2021, slightly ahead of target. This had supported 913 SMEs across all ten Northern Local Enterprise Partnership areas involved in the programme.
- The evaluation has confirmed the need for a programme of this nature, particularly to address the gap in equity finance in the North and challenges for SMEs in accessing microfinance.
- The programme has delivered finance to SMEs in the North that – for the large majority - would not otherwise have been accessed at all, would have been smaller in scale or taken longer to secure. In doing so, NPIF has helped to tackle the original market failures it was designed to address, increasing the quantum and diversity of finance available in the North.
- Overall levels of SME satisfaction with the programme were high. Wider, non-financial support provided by the locally-based Fund Managers was highly valued by SMEs, alongside finance.
- NPIF has supported SMEs to invest in strengthening the underpinning drivers of productivity, through improvements to skills, efficiency and innovation. It has also supported their survival, resilience and competitiveness.
- NPIF has raised SMEs' awareness, confidence and ability to secure private finance in future, and has already provided a bridge to follow-on finance for many SMEs as a result.
- These outcomes are leading to quantitative impacts on employment (including high value jobs), turnover, productivity and profitability (and for equity recipients, company valuations) across the majority of firms supported, although impacts on exports are weaker.
- The programme is delivering impacts above and beyond what would have been observed in the absence of NPIF. Robust econometric analysis using a matched control group demonstrates impacts from NPIF funding on employment and turnover. Using these econometric estimates alongside other inputs suggests that, by the end of 2021/22, the *net additional* GVA generated by NPIF is estimated at £77 million, with a Benefit Cost Ratio of 4.2.

Evaluation scope, objectives and approach

This evaluation focuses on the £400m Northern Powerhouse Investment Fund, which was formally launched in February 2017 with an investment period to 2023. Government announced a further £100m for the Fund in November 2020, although this is not covered by the evaluation. Government also announced a further £660m of investment in "NPIF2" in the 2021 Spending Review and the lessons identified in this evaluation are intended to help inform the design of NPIF2 and other regional finance interventions.

The evaluation adopted a mixed method approach. Figure 1 shows the main strands of the evaluation.

Figure 1: Summary of main strands of research

Data analysis	Consultations	Primary research with beneficiaries	Econometric analysis
• Programme monitoring data • Review of Quarterly Reports • Secondary contextual data	• Fund Managers • Governance representatives • External stakeholders	• Large-scale survey • In-depth case studies	• Beneficiaries and matched withdrawn/ unsuccessful applicants • Analysis of Business Structure Database

Programme overview

NPIF was first announced at Autumn Statement 2015 and was formally launched in February 2017, with the first investments made in April 2017. The Fund was designed to increase the supply of debt and equity finance to SMEs located in the NPIF[1] area, enable recipient businesses to grow and innovate, and create sustainable financial ecosystems across the North.

NPIF is a "fund of funds", overseen by the Bank in close partnership with the ten participating Local Enterprise Partnerships (LEPs), and delivered in each region by a series of contracted fund managers who are tasked with targeting funding towards 'ambitious SMEs'. The Fund offers: **microfinance** (loans from £25,000-£100,000); **debt finance** (loans from £100,000-£750,000); and **early-stage and later-stage equity** (from £50,000-£2 million).

Northern Powerhouse Investments Limited (NPIL) is the legal entity responsible for the Northern Powerhouse Investment Fund and is a limited company with the Secretary of State (BEIS) as the sole Member of the company. British Business Financial Services Limited (BBFSL) is the service arm of British Business Bank plc and has a service agreement to deliver and manage NPIF on behalf of NPIL.

[1]NPIF covers 10 LEP areas; Liverpool City Region, Lancashire, Manchester, Cumbria, Cheshire and Warrington, York & North Yorkshire, South Yorkshire Mayoral Combined Authority, Tees Valley Combined Authority, Leeds City Region, and Hull and East Yorkshire. The North Eastern LEP is not part of the NPIF – it has a separate fund of £120 million. The current NPIF LEP areas listed above reflect LEP boundary and name changes that have occurred since the formation of NPIF.

NPIL is the investor that enters into the underlying Limited Partnerships which are managed by the General Partners (the fund manager).

Northern Powerhouse Investments Limited has contracted with the following fund managers to deliver the funds.

- Business Enterprise Fund (BEF)/Finance for Enterprise (FFE) - £15 million Yorkshire & Humber and Tees Valley focused Microfinance fund
- Growth Company Business Finance (GCBF)/Merseyside Special Investment Fund (MSIF) - £15 million North West focused Microfinance fund
- Mercia Asset Management - £92 million Yorkshire & Humber focused Debt fund
- FW Capital - £92 million North West excluding Cumbria focused Debt fund
- FW Capital - £69 million Cumbria and Tees Valley focused Debt fund
- Mercia Asset Management - £97 million Yorkshire & Humber and Tees Valley focused Equity fund
- Maven Capital Partners - £97 million North West focused Equity fund

The Fund is nearing the end of its original 5-year investment period, but this has now been extended to the end of December 2023. This will then be followed by a 5-year realisation and repayment period. In addition to finance, the fund managers can provide “non-financial” support to a small number of potential applicants comprising up to 12 hours of advice to assist in the development of business plans or strategy.

Rationale and context

The North has faced long-term, persistent and well-documented challenges in low GVA per capita, productivity and enterprise rates, and a low proportion of high growth and scale-up businesses. NPIF was developed in response to evidence that access to finance was a significant barrier to business development and growth in the North.

On the supply side for equity, the North suffered from less developed networks of equity finance providers and advisors in the region, and a general lack of awareness of potential investment opportunities from investors in London and the South East (i.e. information failures). This led to a weak private sector finance landscape, with local, regional and devolved Government funds disproportionately represented. On the demand side, information failures and investment readiness were also issues. SMEs lacked awareness of potential funding sources (especially equity) and ways to access finance, struggled to present their propositions to best effect, and (in the case of debt) lacked sufficient collateral or track record to secure finance. These supply-side and demand-side factors combined to create a ‘thin’ finance market at the time NPIF was introduced. These challenges were corroborated through the consultation and case study evidence.

“When you are looking to raise money, particularly post-seed, there is simply not much available in Manchester. It is possible, but not easy, to raise significant sums at that stage in London, but not in Manchester” (Equity finance recipient)

Inputs, activities and outputs

The full £400m originally allocated to NPIF has now been committed to the Fund Managers. This includes approximately £100m which was initially held back by the Bank and dependent upon performance, released to Fund Managers in April 2020.

Overall, demand for NPIF finance has been strong and the offer was well aligned with SMEs' needs. By June 2021, **£281.2m of NPIF finance had been deployed via 1,206 investments in 913 SMEs**. Of this, 55% was larger debt finance, 39% was equity and 7% was microfinance. Around one-fifth of SMEs had received more than one NPIF award, demonstrating how the programme has started to make follow-on investments. Investments had been made across the 10 LEP areas involved in NPIF, and broadly reflect the distribution of ERDF eligible businesses across the region. Cities have attracted a large share of funding, but one-fifth of investment had been secured by SMEs in districts that were rural or urban with a significant rural topography. **The total value of NPIF investment by mid-2021 was ahead of target**, with deployment rates holding up during the pandemic and since Covid-19 emergency funding ended. NPIF had also levered £322m of private sector finance, and qualitative evidence showed how NPIF has played an important role in giving other investors the confidence to invest. Looking forward, the evidence suggests that demand for equity will remain high, but demand for debt finance over the short-term (especially larger loans) is more uncertain.

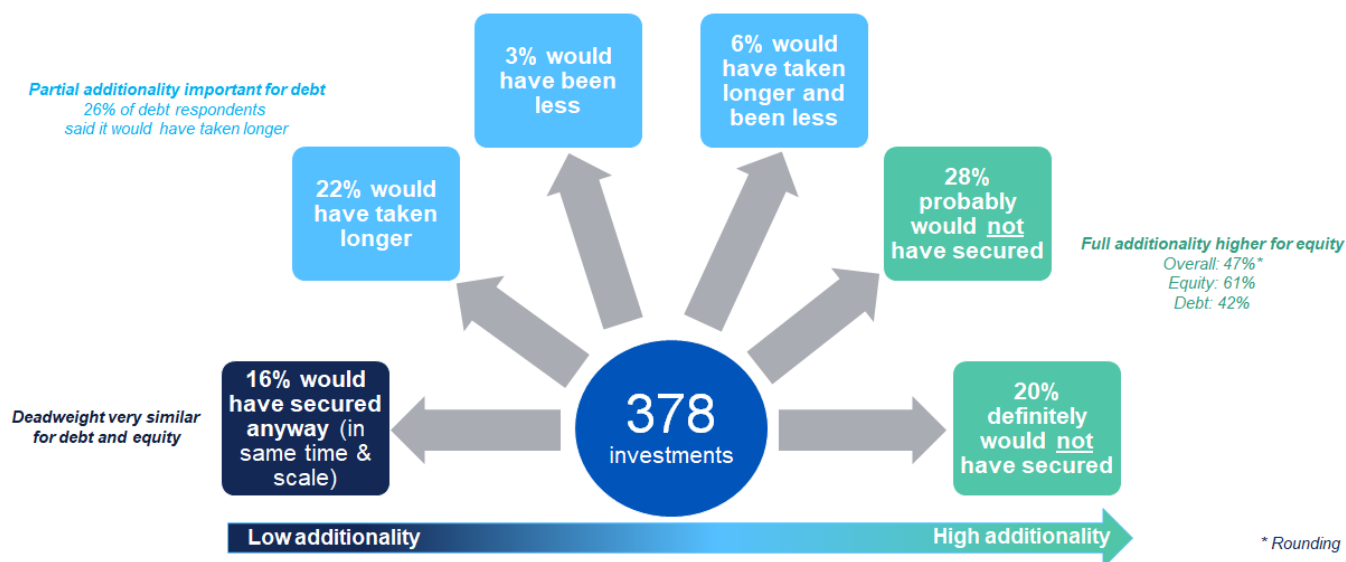
The Fund was also very close to reaching ERDF output targets for the number of firms supported with finance by June 2021, which was leading to strong performance against targets for jobs and innovation outputs. However, the programme has under-performed against output targets relating to non-financial support - given demand-side challenges identified in the evaluation, this should be considered going forward. The programme has also struggled to meet its target for 'new SME assists', primarily because of the British Business Bank's Start Up Loans programme which is also delivered by the NPIF Micro-finance Fund Managers.

NPIF funded businesses reported that 71% had women in the senior management team, 11% of management teams had a majority of women, and a further 18% had an equal number of men and women. Seventy four percent of businesses had senior management teams with no one from an ethnic minority background, while 4% had at least half of its senior management team members from ethnic minority groups.

Finance additionality

The programme has performed well in terms of finance additionality. Nearly half of survey respondents said they would not have got finance at all without NPIF (i.e. full additionality) and nearly one-third would not have accessed finance as quickly and/or to the same scale (i.e. partial additionality). On the latter, NPIF makes more difference to accelerating access to finance than increasing the scale. Deadweight is low, with only 16% of survey respondents arguing they would have secured finance anyway in the absence of NPIF. There are differences in finance additionality for the different types of finance: full additionality is much higher for equity than debt, and within debt finance, full additionality is higher for microfinance compared to larger loans. Accelerating access to finance is particularly important for debt.

Figure 2: Survey results on finance additionality: in the absence of the finance from NPIF, do you think you would have been able to obtain similar finance elsewhere?



The evaluation has also tested the extent to which SMEs considered alternative finance at the point they applied for NPIF. Two-thirds of survey respondents did seek alternative finance, but success rates were low, with limited (acceptable) equity offers and/or rejections from debt providers due to a lack of collateral/track record or risk.

Overall, this evidence supports the rationale for NPIF, in terms of the gap in equity finance in the North and challenges for SMEs in accessing microfinance in particular. Enabling firms to access finance more quickly is also critical for many firms (as well as being the only option/last resort for other firms), enabling firms to remain competitive and quickly take advantage of opportunities for growth. Without access to finance through NPIF, many opportunities for growth (as evidenced by the net impacts observed by NPIF beneficiaries) would have been missed.

“We could have got a few hundred grand here and there, but not the injection we needed in order to compete on a global scale. If you are going to create a successful enterprise based on a first-class piece of software, it requires a decent wedge of money” (Equity finance recipient)

Wider activities and processes

In addition to the NPIF finance itself, **Fund Managers also provide wider support which was highly valued by SMEs**, such as support to develop management teams, advice on sales/marketing and exits, access to investor networks, and additional support during Covid-19 to firms in distress. The evaluation demonstrates how SMEs have benefited from locally based Fund Managers who invest time to understand business needs and plans, and can tailor advice (and finance) in response. In the beneficiary survey, **levels of SME satisfaction with the programme were high**.

The Bank and NPIF Fund Managers have also undertaken wider awareness raising activities across the region, and the evidence suggests that the visibility, reach and embeddedness of the programme has

improved as a result. However, the evidence also suggests there is ongoing need to raise awareness of NPIF further, both in terms of the region's business base and amongst intermediaries.

"We really got along well with [the Fund Manager] as an investor and the deal they offered has really suited us. The valuation we achieved, amount invested and option to raise money in the future have all been so important, with [the Fund Manager] delivering everything really well" (Equity finance recipient)

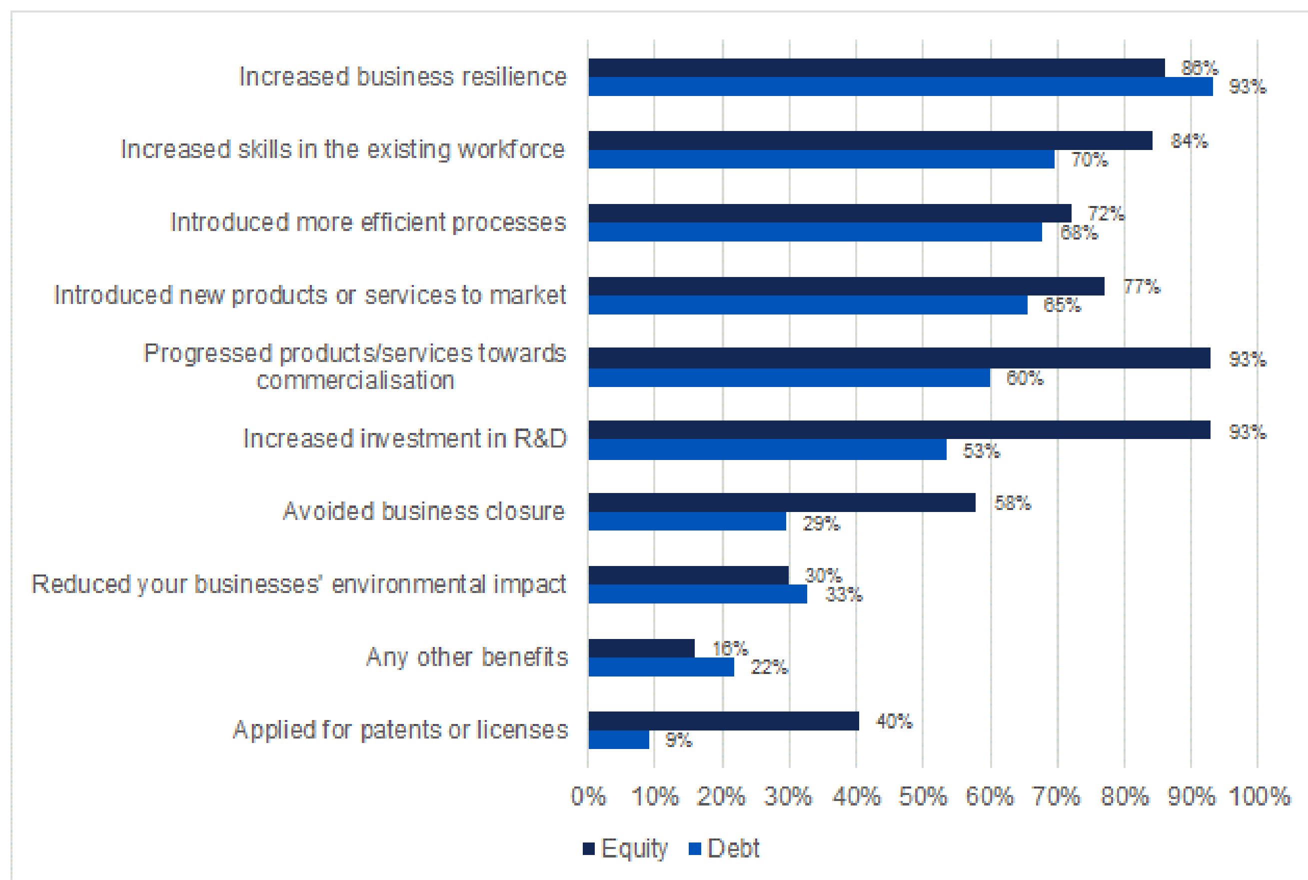
"[Through the NPIF scheme] we have been given not just access to a loan, but also a hugely beneficial support system. The team at [the Fund Manager] have gone above and beyond our requirements, and we couldn't have asked for more" (Debt finance recipient)

Feedback on the British Business Bank management and 'stewardship' of the programme was positive, where it has played an important role to balance the demands of stakeholders across the North and the objectives of the programme (and its funders).

Outcomes and impacts

NPIF has led to a range of benefits for the firms supported, including improvements to skills, efficiency and innovation – all of which play a critical role in underpinning better productivity performance and economic growth in the North. The programme has also helped to both retain innovative firms with growth potential in the North and strengthen their foundations for growth and resilience to shocks in future. It has also contributed to low carbon agendas, enabling firms to reduce their environmental impact.

Figure 3: Outcomes observed to date by equity and debt recipients – survey findings (n=274; 57 equity and 217 debt)



NPIF has influenced SMEs' ability to secure follow-on finance: nearly half of survey respondents had secured follow-on finance (excluding NPIF), and NPIF had a large or moderate influence in securing most of this finance. The findings are also encouraging in terms of NPIF's legacy, raising beneficiaries' awareness, confidence and ability to secure private finance in future.

These outcomes are leading to **quantitative impacts on employment, turnover, productivity and profitability (and for equity recipients, company valuations) across the majority of firms supported**, and SMEs surveyed expect these outcomes and impacts to continue in the next three years. NPIF's equity investment (and to some extent debt) is leading to employment opportunities in senior occupations and high value jobs in the North. Impacts on international markets are weaker, reflecting the fact that firms surveyed served largely UK-based markets, and the wider context in which NPIF has operated (i.e. Brexit and Covid-19) which has hindered progress in this area.

Evidence from the survey and econometric analysis indicate **the programme is delivering impacts above and beyond what would have been observed in the absence of NPIF**. The econometric analysis of NPIF beneficiaries compared to a matched control group shows growth in employment and turnover was higher in the beneficiary firms and this difference was statistically significant at least in the first two years after investment. In other words, beneficiaries have seen higher rates of growth than unsupported firms, and this uplift is attributed to NPIF. Productivity growth was also higher for beneficiaries: the difference was not statistically significant in the first two years after support, but it's likely that productivity benefits have not yet had time to flow through.

"The investment has enabled us to grow and provided valuable contingency for the future. Being able to build capacity and complete R&D has supported a cyclical growth process, enabling us to enhance our offer whilst improving our reputation and ability to win more work" (Equity finance recipient)

Commercial performance

To date, the programme has performed well commercially. One-fifth of finance invested had already been returned to the Fund by June 2021, primarily from the microfinance and debt funds, and a small number of exits. The scale of arrears and write offs (by value) were both very low (<1% of investment). This suggests effective targeting, due diligence, and the value of wider support from NPIF's Fund Managers. However, some caution is needed given that limited time has passed since many NPIF investments, the flexibility on repayments offered by Fund Managers during Covid-19, and the availability of wider Covid-19 emergency funding to support businesses more generally, and the rate of write-offs should be monitored closely looking forward.

Fit and influence on the wider finance ecosystem

In broad terms, **NPIF has been well aligned with wider finance and support available in the region**. Even though some new financing mechanisms have come on stream since NPIF was set up, the evidence does not suggest NPIF duplicates support available elsewhere and NPIF has reportedly worked well alongside Covid-19 emergency funding more recently. That said, it has been a challenge to align NPIF with demand-side support in the region, particularly given the availability of investment readiness and wider business support is very variable and patchy across the region. Whilst the priority for NPIF has been to address the supply-side, weaknesses in demand-side support could impact upon the ultimate success of the programme, especially as NPIF is scaled up in the forthcoming "NPIF2".

It is still too early to fully assess the impact of NPIF in improving the wider finance ecosystem at this stage. On the supply-side, early indications suggest that it has increased the quantum of finance available in the region considerably and strengthened the co-ordination of finance (within and beyond the programme itself), but there is scope to improve how NPIF interacts with other stakeholders (especially financial intermediaries) in the region and influences the wider finance ecosystem (including encouraging other finance providers/investment into the region). On the demand-side, NPIF has helped to raise awareness of finance amongst SMEs in the region, although other factors have been at play here, including the influx of Covid-19 related finance. There were also mixed views on the extent to which NPIF has influenced intermediaries' behaviours.

Net impact and value for money

The results of the econometric analysis suggest that by 2020/21, NPIF had generated (an additional) 1,500 jobs and £275m in turnover to date in the businesses financed. This is equivalent to almost £150,000 in additional turnover per business per year. Triangulation with the business survey, which produced a similar result, provides some reassurance of the reliability of the estimates.

After adjusting for displacement and discounting future values in line with HMT guidance, we estimate that **to the end of 2021/22 the net additional GVA generated will be around £77 million**[2], The costs over this time are £18 million, giving a **Benefit Cost Ratio of 4.2.**

Once NPIF has invested the remaining funding, the total net GVA from the programme and the costs incurred will depend on the level of write-offs. **Our central BCR estimate by 2027/28 is 3.4,** based on an estimate of 5% write offs over the lifetime of the programme. At this stage write offs have remained low at around 1% of the investment value. Over time this may increase while the out-turn of the equity investments will not be known for some time. The analysis models the effects of write-offs reaching 3%, 5% and 10% of the total investment value by 2027/28, but even at the upper scenario, the BCR is 2.4.

Overall conclusions

Overall, NPIF has performed well against its original objective to generate economic growth through increasing the supply of finance in the North. The finance has been targeted at SMEs with growth potential and generated 'new'/additional growth by supporting firms who would not have secured finance at all/as quickly, by generating outcomes that boost the productive capacity of the region's economy, and by helping firms to bring new innovations to market. The evidence suggests that NPIF has made an important contribution in enabling outcomes and impacts observed.

The Fund has also made progress towards tackling the original market failures it was designed to address, increasing the quantum and diversity of finance available in the North, but encouraging wider investment into the region remains a challenge and demand-side issues are still evident across the North's wider business base. In assessing NPIF at this stage, we need to be realistic about the impact a £400m fund can have on the system as a whole over a relatively short timeframe, particularly given the scale, nature and longevity of the challenges faced in the North, but evidence suggests it is heading in the right direction.

Drawing on the evidence gathered and lessons learned in this evaluation, the British Business Bank should consider the following key points over the remainder of NPIF's lifetime, to ensure the programme's impacts are maximised:

- Greater clarity and communication of NPIF's priorities, investment strategies, target audience and associated risk profile. This may help to further strengthen relationships with local intermediaries.
- Greater clarity on the mechanisms through which wider market impacts are expected to occur, and linked to this, strengthen relationships with local intermediaries and disseminate information on the Fund's commercial performance (as it enters its repayment phase) to demonstrate the quality of propositions in the North to other private sector finance providers and influence their investment behaviours.

In addition, the following lessons and reflections could help to inform the design of future policy, including NPIF2. These have been informed by consultations with stakeholders as part of the evaluation, and SQW's reflections based on the evaluation findings as a whole.

[2] This includes the estimated impact businesses supported to date in 2021/22.

- The composition of the funds and the balance between microfinance, larger loans and equity: The latter should involve further market testing of demand. The availability of sufficient follow-on finance is also important, both within NPIF and through links to the wider finance market.
- Clarity on target audience/market: To date, NPIF has operated as a gap funder, but needs to make commercial returns, in part to repay the EIB loan and demonstrate to the wider market the commercial attractiveness of opportunities in the North. Given the scale of the finance gap in the North (especially for equity), NPIF has therefore been able to support relatively 'strong' propositions, which in turn has led to strong performance against impact measures and value for money. However, NPIF is also a regional programme and some local stakeholders questioned whether NPIF should readjust the balance between NPIF's commercial and economic development objectives, playing a greater role in taking higher risks as part of the market (especially for equity). Widening the reach of NPIF may be necessary given the substantial scale of funding committed to NPIF2, but will need to be coherent with the Bank's other regional finance activities such as the Regional Angels Programme which will provide early stage equity investment across the North. This might help to increase additionality of the programme further (i.e. by shifting more investments from deadweight/partial additionality to full additionality), but it might also have implications for commercial returns, write-offs and scale of impacts that will need to be considered carefully.
- Clarity on NPIF's fit in the wider landscape, and how it works in partnerships with relevant actors in practice: this includes building stronger relationships with local innovation assets and intermediaries to establish pipeline opportunities, demand-side support providers, and national players such as Innovate UK.
- Better capturing/maximising the contribution NPIF makes in relation to new agendas: for example, in terms of diversity and equality, and net zero. As a result of the new Programme being directly funded by HM Government adjustments to the programme's objectives, with new KPIs and incentives will be required in order to deliver against these agendas effectively.

1. Introduction

SQW, supported by the Centre for Enterprise and Economic Development Research (CEEDR) at Middlesex University, Belmana and BMG Research, has been commissioned by the British Business Bank (the Bank) to evaluate the Investment Funds across the Northern Powerhouse, Midlands Engine, and Cornwall and Isles of Scilly. This report covers the interim evaluation of the Northern Powerhouse Investment Fund (NPIF) which took place between April 2021 and November 2021.

Evaluation scope, objectives and research questions

This evaluation focuses on the £400m Northern Powerhouse Investment Fund, which was formally launched in February 2017 with an investment period to 2023. Government announced a further £100m for the Fund in November 2020, but this had not been invested at the time of the evaluation and was therefore out of scope. Government also announced a further £660m of investment in "NPIF2" in the 2021 Spending Review; this too is out of scope, but the lessons identified in this evaluation may be helpful to inform the design of NPIF2 and other regional finance interventions.

This interim evaluation report builds on the early assessment of NPIF, which was completed between November 2018 and March 2019. The interim evaluation explores the effectiveness of delivery processes, performance against targets (spend and outputs), and learning around what is working well (or not) and why. It also revisits evidence on the relevance of, and demand for, the intervention, alongside finance additionality. However, given the timing of this phase approximately four and a half years after the initial investment, the emphasis in this phase is on net outcomes and impacts, and an overall assessment of performance and value for money.

The research questions for the interim evaluation are summarised below. To note, the rationale, design and delivery questions were explored in more detail in the early assessment and were therefore covered in less depth in this phase; whereas the remaining questions were higher priorities in this phase, as set out below.

Table 1.1: Evaluation questions

Topic	Key Evaluation Questions	Prioritisation
Context, rationale and design	• What is the scale, nature and geography of applications and awards, and is this in line with expectations? • Are the Investment Funds relevant to meet business needs?	Lighter touch
Delivery	• How effectively have the IFs been aligned with the wider finance ecosystem offer? • How is the additionality of IF investment ensured? • How effectively and efficiently are the programmes being delivered, managed and governed? How could this be improved?	Lighter touch
Inputs, outputs and finance additionality	• How are the IFs performing against input and output targets? What are the reasons for under/over-performance?	Priority

	• To what extent is the funding additional and addressing the market failures? • What other sources of finance do applicants consider? • To what extent would applicants be able to secure other forms of finance? • What do SMEs use IF finance for?	
Outcomes and impacts	• What outcomes have been achieved for businesses involved in the programme, and to what extent are these additional? • To what extent has the IF levered follow-on investment? • What is the distribution of outcomes and impacts? • How are outcomes/impacts delivered, and how does this compare to assumptions in the ToC, and what can we learn about what works in terms of pathways to impact? • What is the contribution and relative importance of the IFs in enabling outcomes/impacts, compared to other internal/external factors? • What are the future expected outcomes/impacts? • To what extent have IFs been a commercial success, at the business and programme level? • What are the levels of repayment and arrears, and what drives arrears amongst SMEs? • To what extent are IFs adding value at the sub-national level in improving the wider finance ecosystem, addressing the finance gap, stimulating the supply and demand side of the market?	Priority
Overall assessment	• To what extent are IFs achieving their objectives and addressing market failures? • To what extent are IFs delivering value for money, compared to other programmes?	Priority

Source: SQW

Evaluation methodology

Overall approach

The overarching approach to the evaluation draws on mixed methods to collect data in order to test progress and performance against the logic models and theory of change set out in Annex A. Figure 1.1 shows the main strands of the evaluation.

Figure 1.1: Summary of main strands of research

Data analysis	Consultations	Primary research with beneficiaries	Econometric analysis
• Programme monitoring data • Review of Quarterly Reports • Secondary contextual data	• Fund Managers • Governance representatives • External stakeholders	• Large-scale survey • In-depth case studies	• Beneficiaries and matched withdrawn/ unsuccessful applicants • Analysis of Business Structure Database

Approach to this interim evaluation

This section sets out the research tasks that were undertaken in the interim evaluation. In addition to the workstreams below, emerging findings were discussed at a workshop with BBB and then presented to BEIS and HMT. The draft report was subsequently reviewed by BBB, HMT and Cabinet Office, and subject to the BEIS Peer Review process.

Data analysis

We have analysed programme monitoring data to characterise the profile of applicant firms and assess spend and output performance against targets. In addition, our analysis of secondary data has been updated to track change since NPIF was launched and provide an overview of contextual conditions that form the backdrop to NPIF performance over this period.

Consultations

In-depth consultations were held with 19 individuals from the following organisations to discuss NPIF's design/model, position and value within its SME target market, the effectiveness of delivery to date and how it could be improved, and outcomes/impacts of the Fund, both on the SMEs involved and the wider economy:

- Representatives from the NPIF governing boards including the Strategic Oversight Board (SOB) and Regional Advisory Board (RABs), which includes LEP members and the EIB, and HMT.
- All fund managers involved in the delivery of NPIF.
- Wider stakeholders, including local business support/access to finance providers and intermediaries.
- A workshop was also held with representatives from the Bank to present, test and calibrate emerging findings prior to drafting this report.

Business survey

A telephone survey was completed with 274 SME beneficiaries during August and September 2021. The interviews focused on finance additionality, follow-on finance, and outcomes and impacts arising as a result of NPIF support, and the extent to which this was additional. A census approach was adopted to maximise the response rate as far as possible.

Overall, the survey was completed with 35% of all beneficiary contacts made available to SQW by Fund Managers at the time of the evaluation[3], and 71% of SMEs that were contactable during the survey period (i.e., answered the phone).

The survey respondents accounted for 384 or 32% of all NPIF awards, and £99m or 35% of finance invested at the time of the survey. This covered 45% of all equity investments and 29% of all loans (by number of awards).

The survey was broadly representative of the population in terms of Fund Manager, geography and sector. However, equity recipients and firms in receipt of more than one NPIF award were slightly over-represented in the sample (for whom we observe greater impacts). That said, firms supported earlier in the programme period were under-represented (i.e., firms supported in 2017/18, a cohort where we might expect sufficient time has passed to observe more impact), which provides a counterbalance to the potential implications of over-sampling equity/multiple award recipients. The average NPIF investment per SME was also slightly higher than the population average, at £258k per firm (10% above average). Please turn to Annex B for further details.

Table 1.2: Awards coverage in survey, compared to population

	Survey[4]	Survey[5]	Population (to end of June 2021)	Population (to end of June 2021)
	Number of awards	%	Total number of awards	%
Number of microfinance awards	93	24%	350	29%
Number of loan awards	182	47%	612	51%
Total debt awards (sub-total)	275	72%	962	80%
Number of equity awards	109	28%	244	20%
Total number of awards	384		1206	

Source: SQW analysis of NPIF survey

Case studies

The case studies provide in-depth qualitative evidence of progression, outcomes and impacts, additionality, and contribution of the Fund. They are intended to be illustrative rather than representative

[3] Contact data was provided by Fund Managers for 789 SMEs, out of the 913 SMEs that had received NPIF finance at the time of the evaluation.

[4] In the survey population there were 57 firms in receipt of equity finance from NPIF and 217 in receipt of debt finance (including microfinance) from NPIF

[5] In the survey population there were 57 firms in receipt of equity finance from NPIF and 217 in receipt of debt finance (including microfinance) from NPIF

and have been selected in discussion with the Bank to provide a range of experiences in terms of finance type, finance additionality and leverage, outcomes observed, location and sector.

Table 1.3: Introduction to the case studies

Firm name	Description
Pimberly	A Software as a Service (SaaS) platform which focuses on product information and digital asset management. Founded in 2015, the firm is based in Manchester and currently employs 56 people. Pimberly secured £3m across two NPIF equity finance deals, which were delivered via three drawdowns of £1m in each of 2018, 2019 and 2020, with the early growth finance sought to further develop the product and onboard new customers.
Fit Cloud Technology	A gym management software company which enables gym owners, personal trainers and clients to interact with each other more effectively. Established in 2010, Fit Cloud Technology currently employs just under 50 members of staff and has two sites in Greater Manchester, plus several overseas offices including Tokyo, USA and South Africa, and. The company received two NPIF investments: a £250k loan in 2018 and a £1.25m equity investment in 2020. Both have financed the continual development of the software and expansion into new markets.
Castings Technology international (CTi)	A leader in foundry manufacturing and provider of high-quality services and technical expertise in the metal manufacturing and casting industry. Based at the Advanced Manufacturing Park in Rotherham, the firm currently employs just under 80 members of staff. CTi received an NPIF debt finance loan of £500k in 2021, with the finance used for a range of working capital activities, alongside capital and revenue investments to improve the firm's capabilities.
Citi Logik	A Leeds-based technology company that delivers predictive analytics and insight services to clients in sectors of transport and urban planning. The firm was founded in 2012 and currently has 17 employees, with the majority located in their Leeds headquarters. Citi Logik secured a £2m equity finance investment through NPIF across three funding rounds from January 2019 to August 2020, with the funding sought to support the firm's growth by improving processes and developing new services to diversify their income stream and customer range.
Knowledge Powered Solutions Ltd	A software company which specialises in providing Knowledge Management Software for organisations across various industry sectors. Established in 2004, the firm currently employs seven members of staff and is based in Birkenhead. The company has received two microfinance investments from NPIF: £51k in 2020 and £50k in 2021, with both investments providing working capital and financed the continual development of the new product and associated marketing activities.

Data-linking and econometric analysis

Belmana have undertaken data-linking and econometric analysis to assess the changes in performance of NPIF beneficiaries and unsuccessful applicants against matched counterfactual groups.

Data from surveys and administrative data was accessed through the ONS Secure Research Service (SRS), which tracks the performance of funded businesses' employment, turnover and other linked data

at firm-level and over time. Belmana were able to identify 634 beneficiaries of NPIF in the database. These were matched using Propensity Score Matching to “unfunded” firms, i.e., unsuccessful applicants and those that withdrew, to form a comparison group. Performance between the two groups was then compared through Difference-in-Difference analysis on employment and turnover. Further details on the methodology are presented in Annex C.

Context and limitations

The evaluation was undertaken during the Covid-19 pandemic, which is important context when interpreting the findings below. The decision was made in discussion with the Bank that SMEs participating in the survey would not be asked to quantify future anticipated impacts of NPIF, given uncertainties regarding Covid-19 recovery/future outbreaks and potential implications for the economy. Also, due to homeworking associated with Covid-19, the survey experienced challenges in reaching some SMEs with the phone numbers provided, which had implications for response rates.

It is also important to acknowledge the lag time to impacts are observable after investment, and reiterate that the evaluation took place approximately 4.5 years after the *first* NPIF investment (and so much less time had passed for many of the investments covered by this evaluation). As set out in the NPIF logic model, the programme’s intended intermediate outcomes (e.g. new jobs, firm survival, new products/services, and follow-on funding) were expected any time from 2-3 years after the NPIF investment through to 5-10 years after investment. Final outcomes (e.g. firm growth and diversity of funding options across the wider market) were expected 5-10 years after investment. We therefore need to be realistic about the extent to which it is possible to observe/evidence some outcomes/impacts at this stage. The evidence presented in this report is therefore likely to understate the ultimate impacts of the programme.

Report structure

This report is structured as follows:

- Section 2 provides an overview of NPIF, including rationale, market context and objectives, and summarises the contextual conditions and key changes since the Fund was introduced
- Section 3 provides an overview of the Fund to date, the effectiveness of delivery processes and how these could be improved
- Section 4 presents evidence on finance additionality, including alternative sources of finance considered
- Section 5 presents evidence on firm-level outcomes observed to date, including outcome additionality and follow-on finance
- Section 6 presents evidence on firm-level impacts observed to date and expected in future
- Section 7 outlines emerging outcomes and impacts for the fund managers and the wider finance ecosystem
- Section 8 presents emerging evidence on value for money (VfM), including cost per output and cost-benefit analysis
- Section 9 presents conclusions and recommendations from the interim evaluation

The report is supported by five annexes: Annex A provides the logic models for the Funds; Annex B presents further details on the surveys undertaken; Annex C provides data tables and detailed methodology for the econometric analysis; Annex D presents analysis of contextual indicators on the finance landscape; and Annex E presents the case studies.

2. NPIF and the finance context

This Section provides an overview of the NPIF programme, and its rationale and objectives at the time it was introduced. We also reflect on how the finance market has shifted since it began, not least in response to Covid-19 over the last 18 months, which is important context when testing how NPIF has been delivered and performed over this period.

Programme overview

NPIF was first announced at Autumn Statement 2015 and was formally launched in February 2017, with first investments made in April 2017. The Fund is designed to increase the supply of debt and equity finance to SMEs located in the NPIF[6] area, enable recipient businesses to grow and innovate, and create sustainable financial ecosystems across the North.

NPIF draws on funding from the European Investment Bank (EIB), the Department for Business, Energy and Industrial Strategy (BEIS), the Bank and European Structural and Investment Funds (ESIF)/European Regional Development Funds (ERDF) committed by each Local Enterprise Partnership (LEP) to the sum of £400m. It is also supported through BEIS Capital Departmental Expenditure. In the November 2020 Spending Review, Government announced a further £100m for the fund recognising its important role in the context of levelling up, bringing the total for investment to £500m.

The NPIF is a "fund of funds", overseen by the Bank in close partnership with the Local Enterprise Partnerships (LEPs), and delivered in each region by a series of contracted fund managers who are tasked with targeting funding towards 'ambitious SMEs'.

In the NPIF area the Fund offers:

- **microfinance** (loans from £25,000-£100,000),
- **debt finance** (loans from £100,000-£750,000), and
- **early-stage and later-stage equity** (from £50,000-£2 million).

The Fund is nearing the end of its 5-year investment period, which will then be followed by a 5-year realisation and repayment period. In addition to finance, the fund managers can provide "non-financial" support to a small number of potential applicants comprising up to 12 hours of advice to assist in the development of business plans or strategy.

Rationale and context

The North has faced long-term, persistent and well-documented challenges in low GVA per capita, productivity and enterprise rates, and a low proportion of high growth and scale-up businesses. NPIF was developed in response to evidence that access to finance was a significant barrier to business development and growth in the North.

[6] The North Eastern LEP is not part of the NPIF – it has a separate fund of £120 million

On the supply side for equity, the North suffered from less developed networks of equity finance providers and advisors in the region, and a general lack of awareness of potential investment opportunities from investors in London and the South East (i.e., information failures). This led to a weak private sector finance landscape, with local, regional and devolved Government funds disproportionately represented. Travel costs (including time) were higher for investors coming to/travelling across the North, not helped by lower business density and poor transport infrastructure. Also, due diligence costs were comparatively high for (typically) smaller equity deals in the region. In terms of debt finance, banks and other mainstream finance providers were not always meeting the demand for loans for start-up companies due to lack of collateral, credit history and/or trading history, and the low margins associated with low value loans. Even more established businesses were struggling to secure mainstream debt finance due to similar issues and/or being outside of a bank's defined assessment categories to scale up and to grow. Furthermore, relatively low housing wealth in some parts of the region influenced availability of collateral for accessing finance. Across both types of finance, there was also a wider externality rationale for NPIF, whereby private sector investors do not capture market and knowledge spill overs – social benefit is greater than private – leading to overall under-investment.

On the demand side, information failures and investment readiness were also issues. SMEs lacked awareness of potential funding sources (especially equity) and ways to access finance, struggled to present their propositions to best effect, and (in the case of debt) lacked sufficient collateral or track record to secure finance.

These supply-side and demand-side factors combined to create a very 'thin' finance market at the time NPIF was introduced, whereby markets worked less effectively due to smaller number of providers and deal activity. The equity ecosystem in the North was particularly underdeveloped at the time.

These challenges were corroborated through the consultation and case study evidence. Consultees commented on the thin finance market across the North, with the shift to remote delivery and centralised credit scoring lending by banks which has "left customers floundering" in the North and the lack of equity finance across the region. Consultees have observed shifts in the finance market since NPIF began, notably with more activity from challenger lenders, mainstream banks and the likes of Funding Circle. However, consultees argued that (a) the gap in equity finance remains substantial in the North, with weak intermediary and angel networks, (b) algorithms typically used by alternative funding options do not address the challenges outlined above, and (c) banks were expected to withdraw from the market again going forward, as they focus on protecting existing portfolios and trying to recuperate existing lending, suggesting the rationale for intervention in the North remains valid looking forward. In the case studies, we found evidence of firms struggling to secure finance because of their relatively short history and limited collateral, rejections from banks who lacked the appetite to invest in loss making firms (either because they were start-ups or had recently invested for growth), or because of the lack of early-stage equity finance options in the region. For example, Pimberly, who received NPIF equity finance to grow their firm in the North, argued:

"When you are looking to raise money, particularly post-seed, there is simply not much available in Manchester. It is possible, but not easy, to raise significant sums at that stage in London, but not in Manchester"

Programme objectives

The main objective for the Fund was to increase economic growth by ensuring a healthy supply of and access to finance for scale-up and potential growth SMEs in the North. Each type of finance was expected to deliver a different route to this overall goal:

- Microfinance was designed to support the growth, quality (through higher financial capital) and survival of young businesses in the region.
- Later stage debt finance was aimed at more established businesses that may be capital constrained to support business growth through facilitating expansion plans, funding the development of new products and enabling entry into new markets.
- Early and later stage equity finance was designed to support innovative High Growth Firms (HGFs) that were too high risk to be supported by debt finance, lacked collateral and had unstable cashflows. Equity finance provided access to capital in order to fund growth, but also provides significant additional management capability through investors knowledge, experience and connections.

The Investment Funds have also been designed to maximise net additional outcomes and impacts by minimising deadweight/maximising additionality in the finance provided and outcomes achieved. To ensure that NPIF focused on market gaps where SMEs struggle to obtain similar finance from traditional sources, SMEs were required to demonstrate to Fund Managers that they were unable to obtain the requested finance through mainstream/commercial investors/lenders. The Funds also sought to minimise displacement within the North (and ideally the UK) through 'new' growth and exports, and minimise substitution within the firm[7] and leakage of benefits outside of the target geographies.

In addition to business growth objectives, the programme was also expected to deliver a series of longer-term policy objectives to create a better functioning and sustainable finance ecosystem across the North:

- On the supply side, this included increasing the number private finance providers (and associated value of investment), increasing the diversity of funding options for SMEs, and increasing the capacity/skills/understanding of fund managers in the North.
- On the demand side, the programme also sought to raise awareness of finance amongst SMEs and intermediaries across the region.

At an operational level, the programme was also intended to meet target financial returns for the British Business Bank and Fund Managers, including through interim repayments on loans.

Please turn to Annex A for detailed logic models for each type of finance, and a theory of change for the programme as a whole.

Contextual conditions

Demand-side indicators: the North's business base vis-à-vis the UK as a whole[8]

The region[9] covered by NPIF was home to just over half a million firms in 2020, which represented 17% of all firms in the UK. Since NPIF was launched in 2017, annual growth in the number of firms in the

[7] i.e. encouraging businesses to utilise finance to grow/improve their business (now/in future), rather than using the finance to substitute another activity already taking place (with no net gain overall).
[8] Sources: ONS. Notes: Data on innovation active firms only available to 2018; Global Entrepreneurial Monitor (GEM) data on Total Entrepreneurial Activity is not available at sub-regional level
[9] Region refers to the North excluding North East LEP area, unless stated otherwise

region has increased slightly (with a CAGR of 0.3% pa) although this lagged behind regional performance in the five-year period prior to 2017 (CAGR of 4.4%), and the UK average growth rate since 2017 (of 1.0% pa).

That said, the region is also home to innovative, high growth firms. There were just over 2,500 high growth firms in the region in 2020[10]. Even though the number of high growth firms has fallen slightly since NPIF began, similar trends were observed nationally and **the proportion of firms in the North West and Yorkshire and Humber that were 'high growth' (4.4% and 4.1% respectively was broadly in line with the UK average (4.3%)**. **Many parts of the region also perform strongly in terms of the presence of innovation active firms**: for example, between 2016 and 2018, the proportion of firms that were innovation active matched or exceeded the UK average in all but three Northern LEP areas[11].

The BVA BDRC SME Finance Monitor provides data on SMEs' use of finance at an administrative regional level (i.e. North West, North East and Yorkshire and Humber). This shows that around one-third of SMEs in the northern regions are "happy to use finance to grow" in 2020 (broadly in line with the UK average) but this has changed very little since 2017. Only about 8-10% of SMEs identified access to external finance as a major obstacle to growth (again, in line with the UK average of 9%) but this has increased since 2017. However, the evidence is mixed: other evidence reports 'significantly weaker' demand for finance amongst start-ups in parts of the North compared to the UK average and a lack of knowledge/awareness about finance[12], and ongoing challenges in the ability of SMEs in the North to access finance, including smaller-scale loans that can be used agilely to meet immediate investment priorities[13]. A survey of financial intermediaries also highlighted underdeveloped networks as a key barrier to SME demand for finance (for Yorkshire, Humber and Tees Valley in particularly), especially for SMEs outside of the main cities in the region[14]. These challenges were corroborated by consultees, as discussed above. The BVA BDRC SME Finance Monitor also found only around one-quarter of SMEs in the region have a formal business plan to underpin growth plans (compared to nearly one-third nationally), and this has fallen in all three of the north's regions since NPIF began. The British Business Bank's SME Finance Survey 2020[15] also reported substantial variation across the region in the extent to which SMEs knew where to obtain information on the types of finance and specific providers available to obtain information on finance compared to 65% in Yorkshire and Humber (c.f. the UK average was 59%).

Overall, this evidence provides useful insight into the context in which NPIF has operated and supports the rationale for intervention outlined above. It suggests **challenges on the demand side in terms of business planning, entrenched views on the use of external finance to grow and variable**

[10] High growth refers to firms with at least 10 employees in 2017, that had an average growth in employment of greater than 20% per year between 2017 and 2020. Rates are based on the number of active enterprises with at least 10 employees. Source: ONS Business Demography. Note: the rate of high growth firms in the North East was lower, at 3.8%

[11] BEIS analysis of innovation activities by UK businesses, from UK innovation survey (UKIS). Innovation active is when a business engages in any of the following activities: a. The introduction of a new or significantly improved product (good or service) or process; b. Engagement in innovation projects not yet complete, scaled back, or abandoned; or c. New and significantly improved forms of organisation, business structures or practices, and marketing concepts or strategies. The proportion of innovation active firms was below the UK average in Liverpool City Region, Tees Valley and Humber LEP areas between 2016 and 2018.

[12] See for example: British Business Bank (2021) Access to Finance Spotlight: UK findings (see also regional reports for the North West and Yorkshire, Humber and the Tees Valley)

[13] See for example: IPPR (2019) Perspectives on SMEs and Productivity in the Northern Powerhouse

[14] British Business Bank (2021) Access to Finance Spotlight: Yorkshire, Humber and the Tees Valley

[15] Published in 2021. The 2020 survey engaged 4,125 SME businesses, between August and November 2020

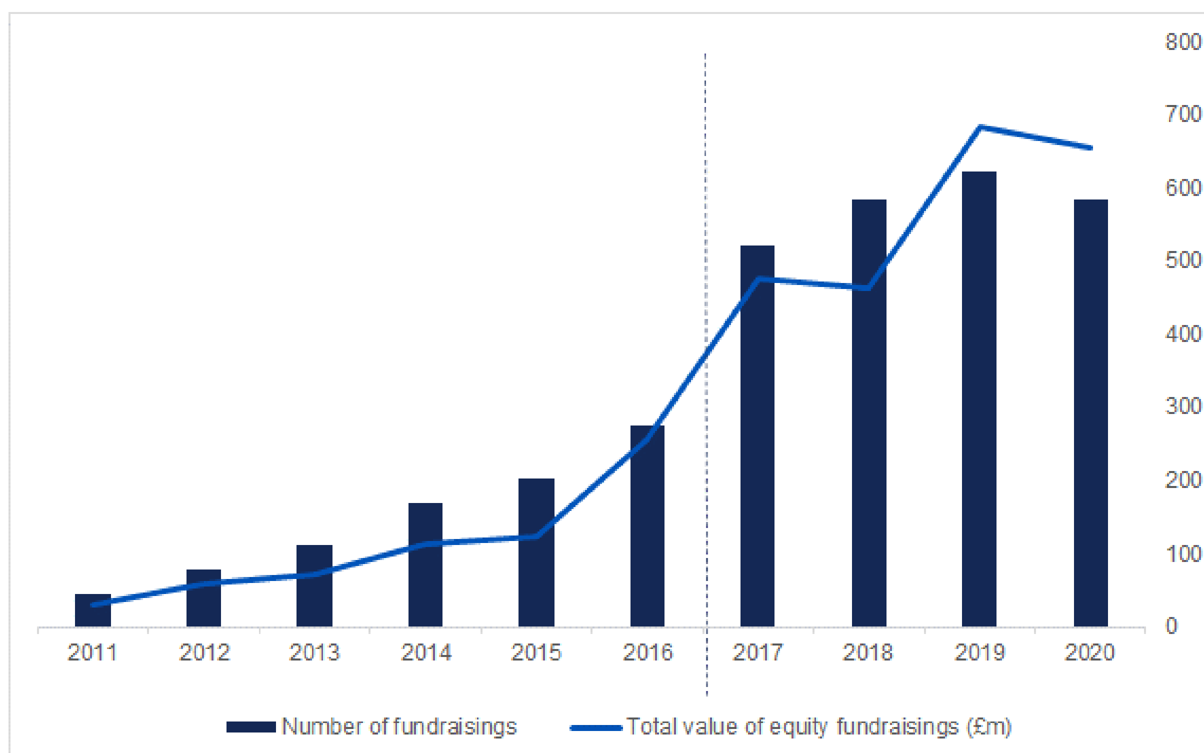
knowledge in where to access information on the finance available - but at the same time, the **access to external finance becoming an increasingly important barrier to growth** across the region. This has been compounded by low levels of SME confidence, falling business investment and recessionary periods at a UK level due to Covid-19 (and Brexit), as reported in the British Business Bank's Small business finance markets 2020/21.

Supply-side indicators: the finance landscape in the North vis-à-vis the UK as a whole

In terms of equity, the North's regions were home to only 11% of the UK's equity investors (2011-2020Q1, and 8% of the UK's angel investors (2019)[16]. As noted in the British Business Bank's 'Regions and Nations Tracker: Small Business Finance Markets 2021' the lack of investors in the North matters when the majority of investor have an office within two hours travel time of the company they are backing.

Data from Beauhurst shows that SMEs in the North's regions secured just under £3bn in equity finance between 2017 and 2021Q2[17], which was only 7% of the UK total over that time period. **The North's share of all equity investment in the UK remained relatively static in the six years prior to NPIF, and in each year since**. That said, Figure 2-1 illustrates an **uplift in the value and number of equity fundraisings by SMEs in the region since NPIF was introduced** (and so the North has been able to mirror national trends). Since 2017 NPIF equity Fund Managers made the 2nd and 4th highest number of fund raisings in the region, and NPIF accounted for 10% of all equity (by value) invested in the North between 2017 and 2021Q1.

Figure 2.1: Number and value of equity deals secured by SMEs in Northern Regions (2011-2020)



[16] British Business Bank (2021) Regions and Nations Tracker: Small Business Finance Markets 2021. This data covers the North East, North West and Yorkshire and the Humber. Sub-regional data not available

[17] The Beauhurst database tracks all firms that have an equity investment. Data includes all announced and unannounced deals.

Source: SQW analysis of Beauhurst data. Announced and unannounced deals

Detailed data on micro and larger scale debt finance is more limited. Evidence from UK Finance on the **number of new SME loans and overdrafts approved in 2020 suggests the Northern regions secured 22% of the UK total**[18].

The Levelling Up White Paper reiterated the disproportionate challenges faced by SMEs outside of the Greater South East in accessing financial capital, and the implications of this for private sector growth and productivity, jobs and living standards more broadly.

The impact of the COVID-19 pandemic on the UK's finance landscape

The Covid-19 pandemic has also had a significant impact on the UK's finance landscape over the last 18 months, which is important to bear in mind when considering how NPIF has supported businesses and performed to date. Published evidence shows how, as the pandemic started, some banks tightened lending conditions on new borrowers across all sectors, and private fund raising markets were challenging UK (with private debt deal numbers declining significantly, particularly for smaller businesses) and equity investors moving towards smaller size deals at the seed stage but larger size deals at later stages[19].

Supply of emergency finance during Covid-19

UK Government introduced a suite of interventions to support businesses throughout the period of disruption and profound economic challenge caused by the COVID-19 pandemic. Key debt interventions included Bounce Back Loan Scheme (BBLS) and the Coronavirus Business Interruption Loan Scheme (CBILS), which were designed to support the majority of 'mainstream' SMEs and small businesses. The Future Fund also provided equity finance, targeted specifically at high-growth business unable to secure equity finance to support their ambitious growth plans. In April 2021, BBLS and CBILS were replaced by the Recovery Loan Scheme, which was designed to support the continued recovery and growth of businesses through Government-backed (80%) loans. Table D.1 in Annex D provides a summary of the key features of these Covid-19 emergency funding programmes, to highlight how they compare with the NPIF offer (for example, BBLS also offered loans up to £50k). In practice, the funds were positioned as being complementary to NPIF: CBILS/BBLS, and Future Fund co-invested alongside some NPIF equity deals). Covid-19 emergency funding was also delivered by NPIF's Fund Managers.

Supply of finance in general during Covid-19

Unprecedented Government intervention combined with huge demand for working capital resulted in 2020 being a record year for SME borrowing. In the main, this was driven by the introduction of government loan schemes outlined above, with the usage of loans increasing to 25% of SMEs, up from 10% in previous years. Furthermore, Bank of England data showed SME lending surged to a record level in 2020. Gross bank lending (excluding overdrafts) to SMEs was £103.7bn, 82% higher than in 2019[20]. This surge in demand for debt has led to increased indebtedness during the pandemic, and whilst the Bank of England recently reported that the increase has not been large in aggregate, it has been more substantial in certain sectors (e.g., accommodation and food) and among SMEs[21]. Going forwards, the ability of (smaller) businesses to manage indebtedness will be critical to both the demand and supply of debt finance, and the repayment of NPIF loans.

[18] British Business Bank (2021) Regions and Nations Tracker: Small Business Finance Markets 2021
[19] Source: British Business Bank (2021) Small Business Finance Markets Report 2021
[20] British Business Bank (2021) Small Business Finance Markets Report 2020/21
[21] Bank of England (2021) Financial Stability Report - July 2021

In terms of equity, overall, the UK performed strongly in 2020, albeit in part supported by the Future Fund, with a record £8.8bn invested, an increase of 9% on 2019.

Demand for finance during Covid-19

Working capital was key to cover short-term funding gaps and/or provide support during difficult trading conditions. For example, the SME Finance Monitor, reported that of all SMEs who had a need for funding in 2020 (Q2-Q4), 81% needed finance for cashflow related purposes, compared to a quarter (24%) needing funding for business development[22] - this compares with 49% and 58% of SMEs respectively in 2019[23]. Similarly, British Business Bank's Business Finance Survey found that nine in ten respondents (89%) were seeking finance in the past year because of the impact of COVID-19, and of those, three quarters said it was to help with cashflow[24].

Business investment figures provide further evidence of a shift away from business development activities across the business base as a whole. Quarter on quarter business investment fell by 22.1%, in volume terms, in Q2 2020. This was the largest quarterly fall on record and considerably higher than the largest fall of 9.6% during the 2008 global recession. This was driven by businesses pivoting from investing in growth to utilising all available funds for cashflow in order to survive during the increased uncertainty created by the pandemic[25].

[22] For example, investing in new plant, machinery etc., hiring new staff, funding new premises

[23] BVA BDRC (2020) SME Finance Monitor Q4 2020

[24] British Business Bank (2021) Small Business Finance Markets Report 2020/21

[25] British Business Bank (2021) Small Business Finance Markets Report 2020/21

3. Assessment of inputs and activities

This Section presents an analysis of NPIF investments and outputs (compared to targets) and the characteristics supported, drawing on an analysis the Bank's monitoring data. We also provide feedback on delivery processes to date, informed by qualitative evidence from the consultations and findings from the beneficiary survey.

Inputs

Financial expenditure

The full £400m originally allocated to NPIF has now been committed to the Fund Managers. This includes approximately £100m which was initially held back by the Bank and dependent upon performance, released to Fund Managers in April 2020.

By the end of June 2021, the NPIF had received 8,852 enquiries. Of these:

- 2,183 (25% of enquiries) reached application stage
- 1,206 investments were made (55% of applications)

The total value of investments was £281.2m by June 2021, which exceeded the cumulative plan of deploying £246.8m by the end of June 2021 (i.e., 14% above target[26]). Of this, 55% was debt finance, 39% was equity and only 7% was microfinance. All funds were on or ahead of plan in terms of value of investment, with the exception of debt finance in Yorkshire and Humber, Cumbria and Tees Valley which were marginally behind plan.

Prior to the pandemic, NPIF deployment was rising steadily and ahead of expectations. **Deployment has held up since the pandemic began**, buoyed in part co-investment with the Future Fund and firms utilising the Coronavirus Business Interruption Loan Scheme (CBILS) guarantee alongside NPIF through to May 2021. As noted in the latest Quarterly Report, "*in the 15 months since the pandemic began to June 2021, NPIF has deployed £119.2m … in the corresponding 15 months ending March 2020, NPIF deployed £75.9m …a 57% increase in deployment*".

Qualitative feedback from Fund Managers suggests they had expected a dampening of demand for NPIF, particularly when CBILS closed, but demand has remained strong overall, including from early-stage firms that would not have been eligible for emergency funding and firms who have taken advantage of opportunities for growth. The exception to this has been some larger-scale debt finance until recently, which has been influenced by the availability of Covid-19 funding.

Looking forward, Fund Managers and wider consultees were consistent in their view that demand will remain strong for equity finance. For debt finance, some consultees thought that high indebtedness following Covid-19 would make it difficult for many SMEs to secure further finance from banks and hence demand for microfinance would continue. However, there was more uncertainty regarding demand for larger-scale debt finance, particularly over the next few months as various factors play out – i.e. as firms are perceived to be well capitalised (following draw down of Covid-19 funding) and focus on HMRC payments and making repayments to various lenders and CBILS (after their 12 month repayment holiday), but also as banks retreat from the market.

[26] All targets sourced from the NPIF Quarterly Report in June 2021

Table 3.1: Investments and value to End of June 2021

	Number of investments to date	Total investment value (£m)
Total, of which:	1,206	281.2
…equity	244	109.1
…debt	612	153.7
…micro	350	18.3

Source: analysis of monitoring data provided to SQW by the Bank

The fund had provided finance to **913 SMEs**[27], close to the target of 950 by the end of June 2021. These are characterised below. Of these SMEs, 79% have received only one NPIF award. A further 14% have received two awards and 6% have received three or four awards; these include firms that have received follow-on investment from NPIF and a very small number who have received investment from more than one Fund Manager.

The **average investment was £0.31m per SME**, which is slightly higher than anticipated (at £0.26m). There are, however, important nuances when the data is split by type of finance. The average size of award is higher than expected for equity deals and microfinance loans, which according to Fund Managers, has been driven by business demand. This also explains the under-performance in the number of SMEs supported in equity and microfinance funds, rather than a lack of demand for these types of finance. Also, for microfinance, there was some caution from Fund Managers about releasing all remaining finance too quickly given they were close to full deployment, and the Bounce Back Loans Scheme (offering loans of up to £50k) overlapped with the lower end of NPIF's microfinance offer. For debt finance, the message is different. The average size of loans is smaller than anticipated, but the number of SMEs supported exceeds the target.

Investments have been made across each of the 10 LEP areas involved in NPIF, and across the fund managers involved, as illustrated below. Each area (and the associated Fund Manager covering the respective geography) has a different contracted target "plan" for the investment value and number of SMEs supported each quarter and for the Fund's lifetime. The targets depend on the size of the Fund and the LEP's contribution. Most funds were exceeding their quarterly target investment value by the end of June 2021, with two slightly below their target. Broadly, **the distribution of applications and investments across the LEPs broadly reflects the share of ERDF eligible businesses**. Furthermore, across all LEP areas, the value of NPIF investment exceeds their original LEP ESIF contribution by some margin. Areas performing particularly well on this measure include York, North Yorkshire and East Riding, Leeds City Region, The Humber and Sheffield City Region. Across the programme as a whole, NPIF investment is double the original ESIF contribution from LEPs.

[27] Some SMEs have received more than one investment, i.e., follow on or tranched funding

Table 3.2: Investments and value to end of June 2021

Fund	Fund Manager	Geographical coverage	No. of loans/ investments	Actual amount loaned/ invested	Target (% of target to date)
Microfinance	GCBF and MSIF	North West	153	£9.4m	£7.2m (▲131%)
Microfinance	BEF/FFE	Yorks/Humber, Tees Valley	197	£8.9m	£7.2m (▲124%)
Debt	FW Capital	North West excl. Cumbria	251	£68.1m	£47.6 (▲143%)
Debt	FW Capital	TV and Cumbria	150	£42.2m	£43.2m (► 98%)
Debt	Mercia	Yorks/Humber	211	£43.4m	£47.6m (▼91%)
Equity	Maven	North West	106	£48.1m	£47.0m (▲102%)
Equity	Mercia	Yorks/Humber, Tees Valley	138	£61.0m	£47.0m (▲130%)
Total			**1206**	**£281.2m**	**£246.8m (▲114%)**

Source: analysis of monitoring data provided to SQW by the Bank

Analysis of monitoring data also shows that the programme has invested across a range of rural and urban areas. Whilst the majority of investment has been in SMEs based in urban locations (79%), reflecting the spatial distribution of firms across the North, 7% of investment has been in SMEs based in largely/mainly rural districts, and a further 13% has been in SMEs located in districts with urban areas a significant rural typography (including market towns). That said, the proportion of investments into rural areas is slightly under-represented compared to the share of businesses in these areas.

Table 3.3: NPIF investments to end of June 2021, by rural and urban districts and compared to the general business population

Defra Local Authority Rural Urban Classification	NPIF investments	NPIF investments	Business population	Business population
	Number of awards	%	Number of enterprises	%
Largely Rural (rural including hub towns 50-79%)	31	3%	21,640	4%
Mainly Rural (rural including hub towns >=80%)	65	5%	33,565	6%
Urban with Significant Rural (rural including hub towns 26-49%)	161	13%	80,255	15%
Urban with City and Town	272	23%	104,790	20%
Urban with Minor Conurbation	139	12%	45,240	9%
Urban with Major Conurbation	538	45%	246,060	46%
Total	1206		531,550	

Source: analysis of monitoring data provided to SQW by the Bank and ONS Business Demography datasets

Non-financial inputs

In addition to the financial inputs above, the **Bank's UK Network team in the North have continued to engage with local stakeholders to raise awareness of NPIF.** This has included presentations at various regional access to finance events and delivering "raising finance masterclass" events. In addition to ongoing communications via monthly e-newsletters, blogs and social media, the Bank has run campaigns on "Making an Impact" and "#Low Carbon Champions". **The Fund Managers have also continued their own awareness raising activities and expanded capacity** in order to widen the geographical reach of these. One Fund Manager has also included "meet the expert" sessions where firms have the opportunity to meet investment managers.

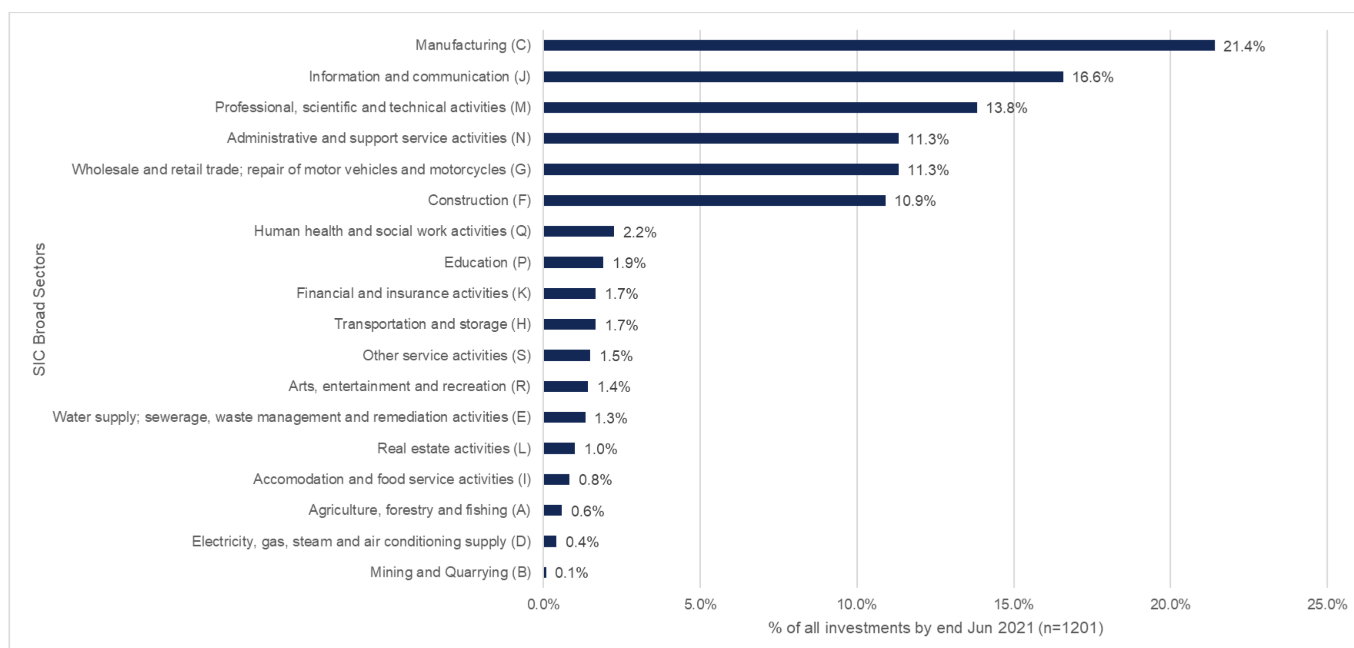
The Fund Managers also provide wider, non-financial support to SMEs. Qualitative feedback gathered through the consultations suggests the extent and nature of this support varies across the Fund Managers, but there is evidence of Fund Managers providing additional support during Covid-19 to portfolio firms in distress through direct advice and providing seminars on topics such as sales/marketing, incentivising teams and how to access Covid-19 emergency support. Fund Managers also support firms to network and build relationships with other investors (including making introductions to follow-on investors), to bring together like-minded firms to explore collaborative business opportunities, support the development of management teams (for example, through involvement on the firms' Board, introducing head-hunters or supporting recruitment directly using their own networks, and hosting webinars on topics such as sales and marketing), and provide advice regarding exits and follow-on finance. One Fund Manager argued they have been much more involved in their NPIF investments than anticipated, in part reflecting the size and less developed nature the firms involved, and the support provided exceeds what is typical for their wider portfolio. The benefits of this support are discussed in more detail below.

Characterising firms supported

Based on the Standard Industrial Classifications (SIC) provided in monitoring data, the top 5 sectors supported by NPIF to date are: **manufacturing (21% of SMEs), information and communication (17%), professional, scientific and technical activities (14%), administrative and support services (11%) and wholesale trade and vehicle repair (11%).** These sectors are prevalent (but differ) across the different types of finance, with three exceptions:

- The proportion of SMEs that are in the information and communication sector is particularly high for equity funds (for example, 42% and 36% of North West and Yorkshire/Humber/Tees Valley equity funds)
- The share of SMEs that are in the professional, scientific and technical sector is also high for equity funds (for example, 19% and 28% of North West and Yorkshire/Humber/Tees Valley equity funds)
- Just 10 of the 136 equity/quasi-equity deals done to date are in the wholesale trade and vehicle repair sector.

Figure 3.1: SIC Classification of SMEs in receipt of NPIF investments/loans



Source: SQW analysis of NPIF monitoring data provided to SQW by the Bank
Note: n=1201 as data on sector was not available for five investments/loans.

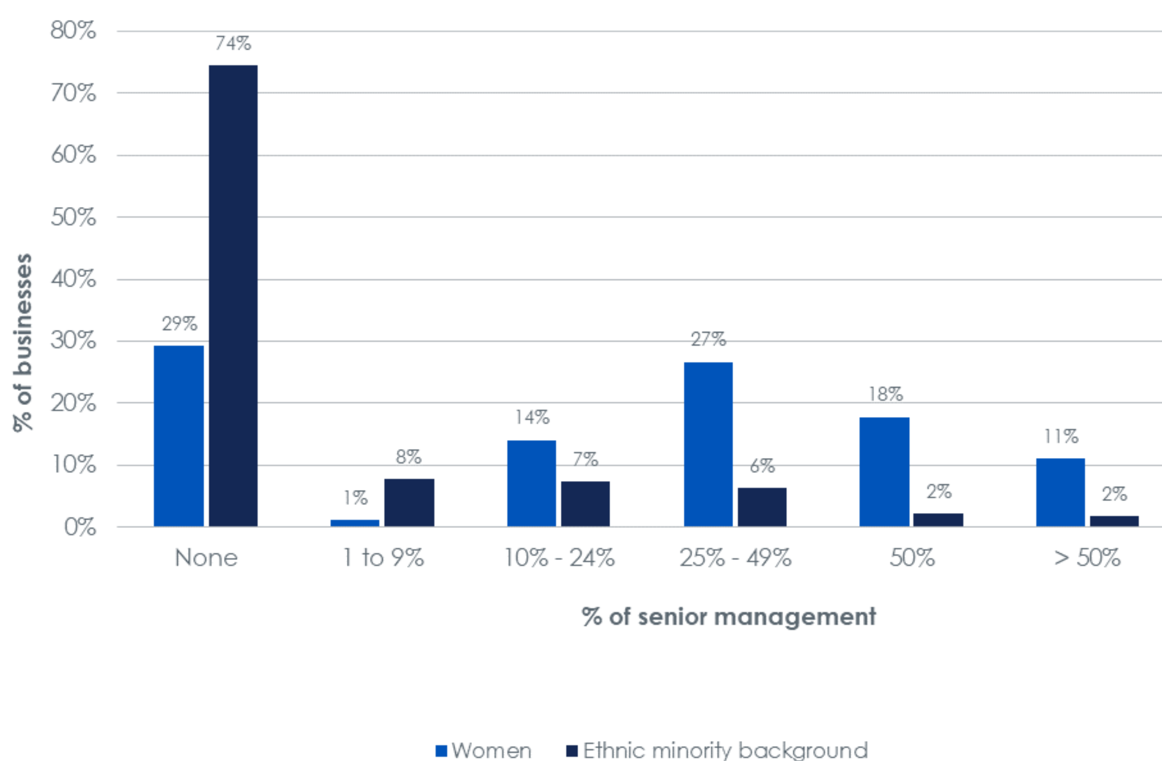
Gender and ethnicity

The business survey asked “thinking about the senior management team of your business, approximately what percentage of your senior management team are women and what percentage are from an ethnic minority background. The results are shown in Figure 3.2.

NPIF funded businesses reported that 71% had women in the senior management team, 11% of management teams had a majority of women, and a further 18% had an equal number of men and women.

The NPIF survey found that 74% of businesses had senior management teams with no one from an ethnic minority background, while 4% had at least half of its senior management team members from ethnic minority groups. Although not a direct comparison, the BEIS Longitudinal Small Business Survey (2020) found 5% of SMEs with employees were ethnic minority group led and 16% of SME employers were women-led[28].

Figure 3.2: Percentage of senior management team that are women and percentage from an ethnic minority background



Activities

In the survey, firms were asked what they had used their NPIF finance for, which is an important determinant of the types of outcomes the programme is likely to achieve. As illustrated below, **over three-quarters of respondents have used NPIF finance for working capital**. This was similar for both equity and debt recipients, and in part reflected the need for working capital to support growth ambitions and ensure resilience during Covid-19. The proportion of finance used for this purpose varies

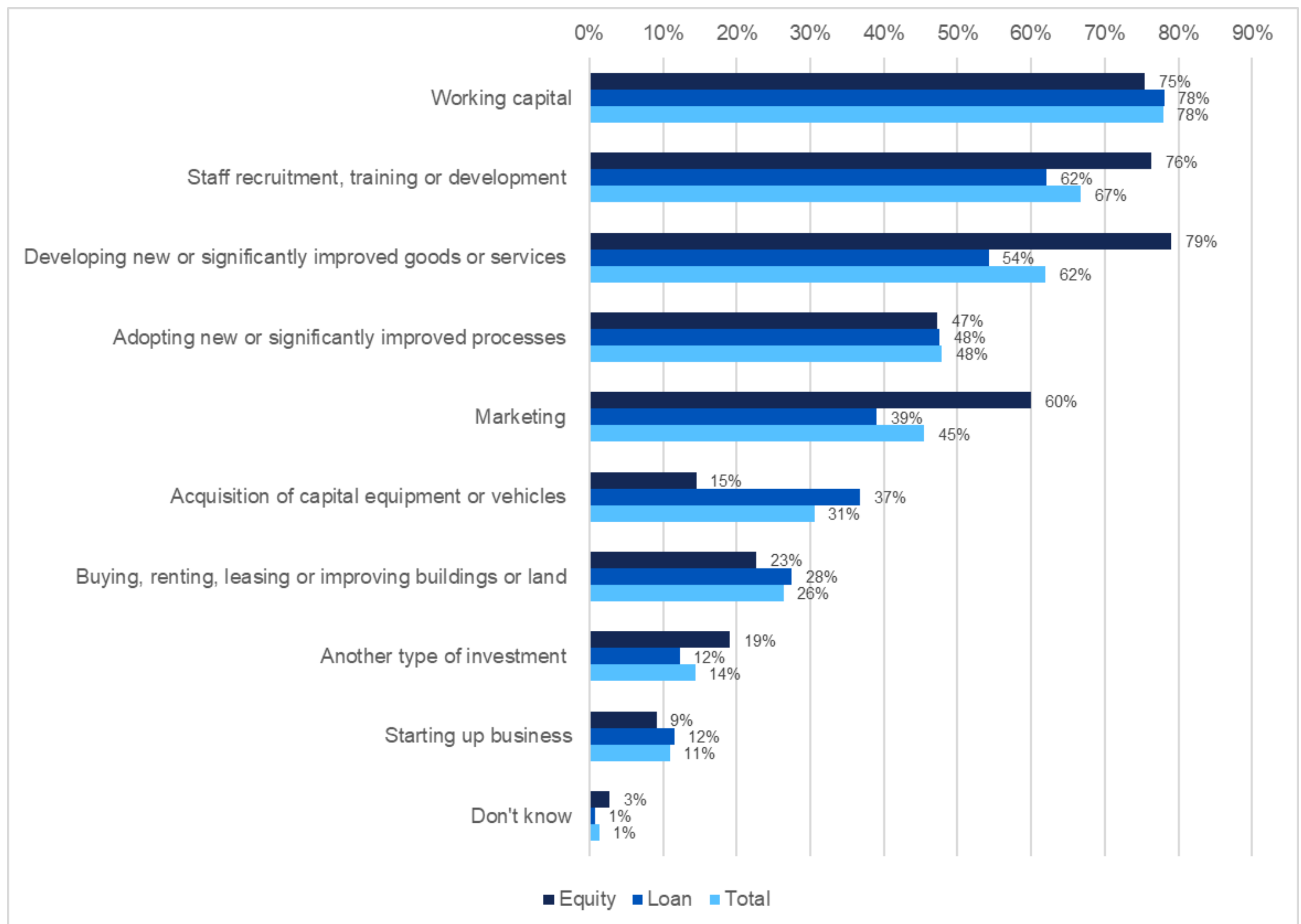
[28] Note that the BEIS definition of being a minority ethnic group led business also includes whether the business is controlled by a person from an ethnic minority background and not just the proportion of the management team. There is a similar definition for women led businesses. These results only cover presence within the management team.

widely: for example, two-fifths had spent under 20% of NPIF finance on working capital, whereas a quarter had spent over 80% on it. From the outset, it was anticipated that one of the main uses of NPIF would be working capital, along with asset purchase, funding expansion projects, leasing commercial premises, and hiring staff.

A high proportion of SMEs have **invested NPIF finance in staff recruitment and development (67%) and developing new products and services (62%),** which are well aligned with Government objectives relating to productivity and economic growth. Equity recipients were more likely to use NPIF for recruitment, staff development, marketing and innovation purposes, although use of NPIF for recruitment/skills and innovation purposes was still strong amongst debt recipients. Debt recipients were slightly more likely than equity recipients to use NPIF to acquire capital equipment, buildings and land.

It is also worth noting that two-thirds of respondents had **spent 80% or more of their NPIF finance** at the time of interview, and **most (70%) had not changed the purpose or timing of their NPIF investment** since their original application. Where changes have been made, this has involved using the finance for alternative purposes, or bringing forward or delaying investment, and most changes were due to Covid.

Figure 3.3: Use of NPIF finance – survey results (n=274 respondents)



The case studies illustrate further how NPIF finance has supported businesses. For example:

- Citi Logik, an equity recipient, has used NPIF finance to recruit of a larger technical team, giving the firm increased capacity to handle both ongoing commercial work alongside R&D activities to develop a new product and trial this with customers. The new product has now been finalised and is expected to be released to the market in March 2022. The firm also used some NPIF finance for working capital, which has supported the firm's resilience during COVID-19 and provided an opportunity to expand capacity in preparation for an anticipated upturn in demand following the initial shock of the pandemic. As we explore in more detail below, this has enabled the firm to secure contracts in new markets when demand did recover.
- In the Cloud Fit Technology case study, NPIF debt and equity finance has been used to support substantial overseas expansion through finance for working capital, office rental, the employment of staff and software development work. In addition to overseas expansion, the firm has been adversely impacted by COVID-19 and NPIF has supported the resilience of the firm during this time, helped by the flexibility of the Fund Manager (discussed further below). More broadly, the consultee felt that because the Fund is government-backed it has provided reassurance and credibility during a very difficult trading period.
- In the Pimberly example, a software development firm received equity finance to develop further a new product, and invest in the company's systems, processes and people that would enable effective marketing of the new product. A small amount was also used to implement "the best back-office systems available", allowing the firm to invest in these systems at the start of an expected significant growth trajectory which would prevent growth limitations further down the line. Follow-on NPIF investment is now being used to expand the product development team and also to begin the first stage of the firm's expansion into the US market. To date, NPIF has been one of the most significant sources of funding into the business, it has therefore the consultee argued has profoundly affected every aspect of the business' operations.
- Finally, Knowledge Powered Solutions Ltd's case study demonstrates how NPIF has helped a firm to continue to innovate during Covid-19 despite a significant fall in revenue. In this case, a firm received two microfinance loans from NPIF to retain software developers and support the continued development of a new software product during a period in which sales were lower. The development of the new product has also required investment to adapt of existing marketing and sales processes, including improving search engine optimisation for when the new product reaches the market.

Output performance

At the end of June 2021, **the Fund was very close to reaching the ERDF target for the number of businesses assisted with finance**. This was leading to **strong performance in terms of jobs and innovation outputs** to date, both for new to market and new to company products/services. On the latter, survey evidence below and qualitative feedback from consultees suggests that NPIF has played an important role in supporting innovation, including in SMEs securing debt finance, and this was perhaps under-estimated at the outset (and as a consequence, targets were set very low).

According to the Bank's latest Quarterly report, the forecast number of jobs associated with the investments made by the end of June 2021 is 8,834 against a lifetime target of 5,187 by 2023 which should provide a "substantial buffer" during the remainder of the Fund[29].

The programme had also generated **£321.99m in private sector leverage** by the end of June 2021, broadly in line with the target. Two of the case studies provided further insight on the critical role of NPIF in levering further finance at the time. In the case of one firm, the fact that it had been through NPIF's due diligence processes and successfully secured finance raised the confidence from other lenders and helped the firm to secure third party loans and customer invoice financing. In another example, Pimberly, who received NPIF equity finance, also levered investment from a local private equity house and NPIF played a key role in securing this:

"The private equity company agreed to the investment on the basis that we were in advanced discussions with NPIF at the time" (Case study consultee)

There is room for improvement in terms of performance against non-financial business support (i.e., 12 hours of business support) and support to new SMEs targets[30]. It is important to note that if a firm receives 12 hours of business support and then goes on to secure NPIF finance, they cannot be claimed as a non-financial assist output. In terms of performance against this target, our consultations with Fund Managers suggests a number of issues have influenced this: for some collating administrative paperwork from firms to confirm support has been difficult, whereas others acknowledged this was not viewed as a high priority at the outset (compared to deploying finance) and so it has been a challenge to 'catch up' since. The under-performance against targets to support new SMEs is largely explained by microfinance funds and the availability/comparative attractiveness of the Bank's Start Up Loans programme which also operates in this market.

The focus of investments against ERDF Priority Axes (PA) is also recorded in the monitoring data, which shows the majority of investments are focused on PA3 "*enhancing the competitiveness of SMEs*" (94% of investments). Within PA3, the majority of investments are "*supporting the capacity of SMEs to grow in regional, national and international markets and to engage in innovative processes*"[31] (three fifths of investments), and "*supporting the creation of advanced capacities for product and service development*" (one-fifth of investments).

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[29] Forecast jobs are the number of new, paid, full time equivalent (FTE) jobs expected to be created due to the support under the ERDF project at the time of application/investment. Lifetime target sourced from full term MHCLG Contract to December 2023.

[30] A new business is one which has been registered at Companies House or HMRC for less than 12 months before assistance is provided; or is a business locating in the England programme area for the first time, to start trading.

[31] 28 ERDF Priority Axis 3
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/949377/ERDF_Opertaional_Programme_Dec_2020.pdf (page 93)

Table 3.4: Output performance to end of June 2021

Output categories	Achieved at end June 2021	Target (and % of target) at end June 2021
C1: SME assist	1,344	1,687.5 (▼80%)
C3: SME assist (financial support)	913	949.9 (▲96%)
C4: SME assist (non-financial)	454	737.5 (▼62%)
C5: new SME assists	85	349 (▼24%)
C7: private sector leverage (£m)	£321.99m	£328.60m (▶98%)
C8: new jobs	3,719	2,965 (▲125%)
C28: new products/service to market	141	11.8 (▲1195%)
C29: new products/services to the company	181	109.1 (▲166%)

Source: analysis of data provided to SQW by the Bank / Quarterly report

Financial performance

By the end of June 2021, **£55.5m of capital had been returned to the programme following the £281.2m investment (i.e. 20%).** The large majority of returns were from debt finance (82% of the £55.5m) where, on aggregate, 30% of capital invested had been returned. Returns from microfinance were naturally smaller in scale, but still represented 32% of microfinance investment to date. As expected, returns equity investments were limited at this stage, but some early exits had led to a small return (4% of investment the end of June 2021).

Across the portfolio, **66 investments were in arrears, representing £1.1m of investment**. Two thirds of this (by value) related to microfinance investments, and the remaining third was debt finance. The latest quarterly monitoring report noted that the number of Capital Repayment Holidays issued by Fund Managers across the microfinance and debt were decreasing.

By June 2021, **only £2.13m of NPIF finance had been written-off, which represents just under 1% of investment** at that stage. The rate of write-offs was similar across the microfinance, debt and equity funds.

Qualitative feedback from Fund Managers indicated that the Funds were performing well against financial targets. This included a strong (relative) financial return from microfinance investments, debt and some exits from equity investments. On the latter, consultees recognised the challenge in balancing the commercial approach and importance of financial returns (and gearing investment towards stronger/less risky opportunities to achieve this) and taking 'sufficient' risk in the market. We return to this issue below. In terms of write-offs and arrears, Fund Managers indicated these were both lower

than expected. This was explained, in part, by the robust approach to due diligence in the initial decision-making process, additional non-financial support provided to firms by Fund Managers, flexibility of Fund Managers in responding to the challenges of Covid-19 for businesses (e.g. by offering repayment holidays) and the availability of wider Covid-19 emergency funding to support businesses more generally. External stakeholders also noted that the programme had been 'protected' to some extent from greater impacts associated with Covid-19 because retail firms were ineligible for NPIF funding.

Process feedback

Strengths and improvements

Since the early assessment of NPIF, the qualitative feedback from Fund Managers and external consultees suggests that the **visibility of NPIF has improved in general and across the North**, both amongst the advisory community and businesses. External stakeholders recognised NPIF's brand strength, visibility and embeddedness in the region, and had appreciated the effort that Fund Managers had put into increasing their presence and stakeholder engagement in 'hard to reach' areas in response to early feedback on this issue. Greater presence from the Business Bank on the ground was also important. As noted by one Fund Manager, the Bank "has excellent presence in the region to promote and support their activities". That said, there is still come confusion between multiple NPIF brands (i.e., BBB, NPIF and Fund Managers) and between the multitude of financial instruments now available, and room for improvement to raise awareness of NPIF further (see survey and case study feedback below).

There was some evidence to show how **some Fund Managers had now established strong working relationships with local stakeholders** and were viewed as "trusted" partners in the local business support landscape. However, a small number of consultees also raised concerns about insufficient engagement of some Fund Managers with key innovation assets in the region that have a pipeline of potential investment opportunities. There appears to have been some miscommunication regarding investment strategies in the past, leading to a lack of clarity amongst local stakeholders/intermediaries regarding the scope of NPIF, appetite for risk and investment priorities (and therefore uncertainty regarding which firms should be signposted to NPIF) and the perceived lack of interest from some Fund Managers. This suggests a need to (re-) build relationships with local innovation assets and intermediaries in some areas.

There also appears to be **improvement in co-ordination between Fund Managers involved in NPIF**, with examples of cross-referral between micro and larger-scale debt finance, and between debt and equity finance.

Ongoing communication and wider, non-financial support provided to firms by Fund Managers is highly valued. As part of the beneficiary survey, respondents were asked to rate various aspects of NPIF delivery so far on a scale of one to five, where one is very poor and five is very good. As illustrated in Figure 3.4, the large majority of respondents rated ongoing communication with Fund Managers and their support and advice highly. This was corroborated in the case studies, where firms described how Fund Managers fully understood their business needs/plans and were able to tailor their advice (and finance) accordingly and provided additional support and flexibility during Covid-19. For example:

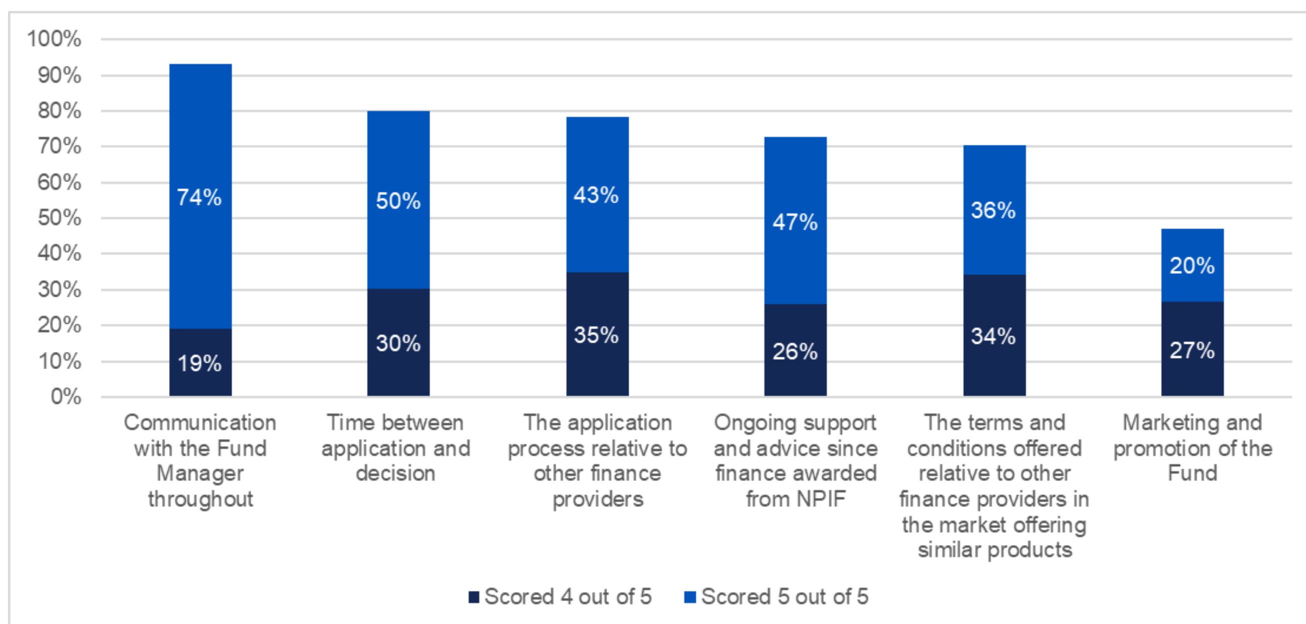
"We really got along well with [the Fund Manager] as an investor and the deal they offered has really suited us. The valuation we achieved, amount invested and option to raise money in the future have all been so important, with [the Fund Manager] delivering everything really well" (Equity finance recipient)

"[Through the NPIF scheme] we have been given not just access to a loan, but also a hugely beneficial support system. The team at [the Fund Manager] have gone above and beyond our requirements, and we couldn't have asked for more" (Debt finance recipient)

According to the survey results, Fund Managers also act as a Board observer/advisor to most equity recipients and some debt recipients and, where this is the case, just over half of respondents said this has led to 'major' or 'moderate' improvements to management performance.

The survey results indicate high levels of satisfaction with the application process, including the speed of decision-making, and the terms and conditions. However, marketing and promotion of NPIF scored lower, with less than half of respondents scoring this four or five (out of five).

Figure 3.4: Beneficiary ratings of NPIF delivery on a scale of one to five, where one is very poor and five is very good – survey findings (n=274)



During Covid-19, consultees broadly felt that **NPIF worked well alongside Covid-19 emergency funding and Fund Managers responded well** through online support and boosted online marketing. One Fund Manager has found that the shift to remote engagement with firms has reduced costs and 'sharpened up delivery' without compromising quality of service, and lessons from this experience will be carried forward to improve the efficiency of delivery looking forward.

Finally, **feedback from consultees on the Business Bank management and 'stewardship' of the programme was positive,** in terms marketing and promoting the programme (as noted above), building a constructive relationship with Fund Managers, and playing a central role in balancing the demands of stakeholders across the North and the objectives of the programme (and its funders).

Points to consider for the remainder of NPIF's lifetime

Three main points were raised through the consultations, survey and case studies which the Bank may want to consider over the remainder of NPIF's lifetime:

- First, **external stakeholders questioned whether some equity Fund Managers are still too risk averse in general**. To some extent, this reflects the tension between a programme that is designed to operate commercially and generate financial returns (not least to replay the EIB loan which part-funded the programme) and the rationale for Government intervention where the market will not invest. Some external consultees made the case that NPIF should be taking greater risk – or at the least, should clarify and better communicate Fund Mangers' investment criteria, strategy, target audience and priorities, so avoid this misalignment in expectations from the Fund.
- Second, **consultees suggested that NPIF could have a greater 'demonstration effect' across the wider market**, particularly given its objectives to strengthen the wider financial ecosystem and encourage greater investment in the North. Whilst case study evidence on NPIF investments and the firms supported has improved, some external stakeholders commented on the lack of public reporting on the performance of the Fund. Some Fund Managers also noted the lack of promotion in this respect. As NPIF matures, moving from its five-year investment period and into the realisation and repayment period, the Bank might want to consider how it can better disseminate performance to demonstrate the level of financial returns possible in the North to attract further investment into the region/greater mainstream investment in these types of firms.
- Third, the need to **improve marketing and referral mechanisms** was consistently raised by consultees (and the survey, as noted above, and as is evident in monitoring data on referrals). The lack of referrals – including from banks and intermediaries - has been a continual issue for the programme. NPIF's Fund Managers have successful generated demand despite this, so it has not affected performance against deployment targets, but it could hinder NPIF's role in strengthening the finance ecosystem across the North (see Section 7). It is important to recognise that NPIF is a gap fund that can only invest where the commercial sector will not. This makes marketing and promotion harder and more complicated. Case study consultees also flagged the lack of awareness of NPIF amongst the wider business community, as illustrated by the quote below, and insufficient targeting towards high growth potential firms. Stakeholder consultees also highlighted confusion amongst businesses in the region regarding the finance available and what would best meet their needs. We recognise that some funds are nearing full deployment, so boosting marketing could be counter-productive, but this may be relevant for the additional £100m of investment announced in the 2020 Spending Review.

"Most of the entrepreneurs I speak to have never heard of NPIF – this shows that more marketing is needed" (Case study consultee)

Finally, **demand-side support is reportedly very variable**. This was raised in the early assessment and remains an issue, reflecting the lack/variability of resources and capacity at a local level to provide investment readiness and wider business support. Whilst it is not formally within remit for NPIF, it could impact upon the ultimate success of the programme. The Bank may want to consider if local stakeholders involved in the governance of NPIF (i.e., LEP partners on the SOB and RABs) would work more closely in partnership with the programme to strengthen this. Whilst demand for NPIF and

deployment rates have been strong to date, weaknesses in demand-side support may become an increasingly important issue as the programme scales up in "NPIF2".

Points to consider in future policy design

We recognise that some issues raised by consultees were not necessarily with the original remit of NPIF and/or are difficult to change in the remaining lifetime of NPIF. They might, however, be useful lessons for policymakers to reflect on in the design of "NPIF2" and similar programmes in future:

- First, **the gap in provision of early-stage equity finance**. This was consistently raised as a gap in the current programme, most strongly by external consultees but also by some Fund Managers. There is a real frustration amongst partners in the North about the lack of early stage/seed equity finance which is hindering the growth prospects of the region's innovative firms. Given the issues regarding risk appetite noted above, consultees suggested that equity finance needs to be ringfenced specifically for this purpose.
- Second, the question was raised as to **whether the balance and flexibility between debt and equity is still appropriate**, given market gaps and need in the North.
- Third, **allowing sufficient resource for follow on investment, and promoting this more widely**. Whilst it is evident that NPIF follow-on investment is taking place, and that Fund Managers have been planning for this in their initial investment, some Fund Managers noted that demand for follow-on is likely to exceed original expectations (due to Covid-19) and a risk they don't have sufficient capital to move firms far enough forward (to then secure wider investment etc). There also appeared to be a lack of awareness amongst external consultees of follow-on investments made (and a perception this was not happening), which suggests this is not sufficiently visible.
- Fourth, consultees questioned **whether regional investment could widen its reach further**, for example to include family/established SMEs[32] with scope for substantial productivity improvements, slightly older firms that are still at an early stage (i.e., 7yr +) and firms in rural areas/towns. The response might depend how important levelling up *within* the North is.
- Fifth, given highly valued non-support provided by NPIF's Fund Managers (and in light contextual demand-side challenges outlined above), the **balance between financial and non-financial support** should be considered in NPIF2. In doing so, it would be helpful to clarify NPIF's remit in relation to strengthening the *demand-side* of the financial ecosystem in the North.
- Sixth, the importance of **clarifying NPIF's fit in the wider landscape *in practice*, nationally and locally**. For example, consultees suggested that NPIF could work better with Innovate UK and (re-) build relationships with local innovation assets and intermediaries to establish pipeline opportunities.
- Finally, looking forward, there is an opportunity to **clarify NPIF's remit in relation to new agendas**[33] – for example, in terms of diversity and equality, and net zero - and potentially adjust its objectives, KPIs and incentives accordingly to deliver against this effectively. These have

[32] Note, supporting these types of business was not possible under the current NPIF programme due to constraints under EU State Aid law
[33] The original NPIF objectives and KPIs were set by the EU in 2015 and signed off by the LEPs

become much greater priorities since the original objectives and KPIs were set by the EU in 2015. Whilst we have found evidence of NPIF contributing to these agendas (see below), on the whole, consultees felt this was ad hoc and a 'by product' of investment rather than a key factor driving investments.

4. Finance additionality

Finance additionality

Finance additionality is the extent to which NPIF is providing finance to businesses which would not have been secured anyway and is a key element of the evidence base to test the rationale for NPIF set out above.

Overall, **the survey results were very positive in terms of finance additionality across the programme as a whole**, as shown in Table 4.1. Deadweight is low, with 16% of respondents arguing they would have secured finance anyway, in the same timeframe and at the same scale. Nearly half of respondents (47%) said they probably or definitely[34] would not have accessed finance without NPIF, so this is fully additional. A further third of respondents would not have accessed finance as quickly and/or to the same scale, representing partial additionality. Accelerating access to finance is important – for most respondents stating this, it would have taken up to six months longer, which is potentially time foregone in trying to secure finance elsewhere rather than focusing on business growth and missed opportunities in the market. For firms where NPIF influenced the scale of investment, most respondents argued that without NPIF, they would only have been able to raise between 50% and 75% of the investment. The scale of investment matters for growth. As Pimberly, a firm who received NPIF equity finance, argued:

"We could have got a few hundred grand here and there, but not the injection we needed in order to compete on a global scale. If you are going to create a successful enterprise based on a first-class piece of software, it requires a decent wedge of money"

Table 4.1: Finance additionality – survey results (n=378 NPIF awards)

	Micro finance	Micro finance	Larger debt	Larger debt	Debt sub-total	Debt sub-total	Equity	Equity	NPIF Total	NPIF Total
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Would have secured finance anyway – in same time and scale	**9**	**10%**	**37**	**20%**	**46**	**17%**	**16**	**15%**	**62**	**16%**
Would have taken longer	28	31%	42	23%	70	26%	13	12%	83	22%
Would have been less	1	1%	9	5%	10	4%	1	1%	11	3%
Would have taken longer and been less	2	2%	16	9%	17	6%	4	4%	22	6%
Probably would not have secured	**23**	**26%**	**51**	**28%**	**74**	**28%**	**31**	**29%**	**105**	**28%**
Definitely would not have secured	**18**	**20%**	**22**	**12%**	**39**	**14%**	**34**	**32%**	**74**	**20%**
Don't know	8	9%	5	3%	13	5%	8	7%	21	6%
Total	89	100%	182	100%	269	100%	107	100%	378	100%

[34] Underlying figures in the table sum to 47% not 48% due to rounding

There are differences in additionality between the different types of finance.

- **Full additionality is substantially higher for equity investments** compared to debt (61% vs 42% respectively), and within the debt category, full additionality is slightly higher for microfinance than larger debt finance.
- **Deadweight is similar for both equity and debt on aggregate**, but when we split microfinance and larger debt, deadweight for microfinance is very low and larger debt is higher. This might, in part, reflect the impact of Covid-19 emergency funding.
- **NPIF is particularly important to accelerate access to debt finance**, especially microfinance, whereas for equity its role is less prominent.

This evidence strongly reinforces the rationale for NPIF to provide equity finance and gaps in this market in the North, and the challenges described above in SMEs accessing microfinance from elsewhere. The findings on debt finance, especially larger debt, might also reflect the influx of Covid-19 emergency loans which may lead SMEs to believe they could have secured finance elsewhere.

Finance additionality has also improved compared to our early assessment of NPIF. Deadweight is now lower (down from 22% to 16%) and full additionality is higher (up from 39% to 47%). This suggests that, even though NPIF has helped to increase the supply of finance in the North, it continues to fill a gap in the market. Results are broadly the same in terms of partial additionality, but NPIF now appears to be playing a greater role in *accelerating* access to finance compared to scaling up investment.

Alternative finance considered

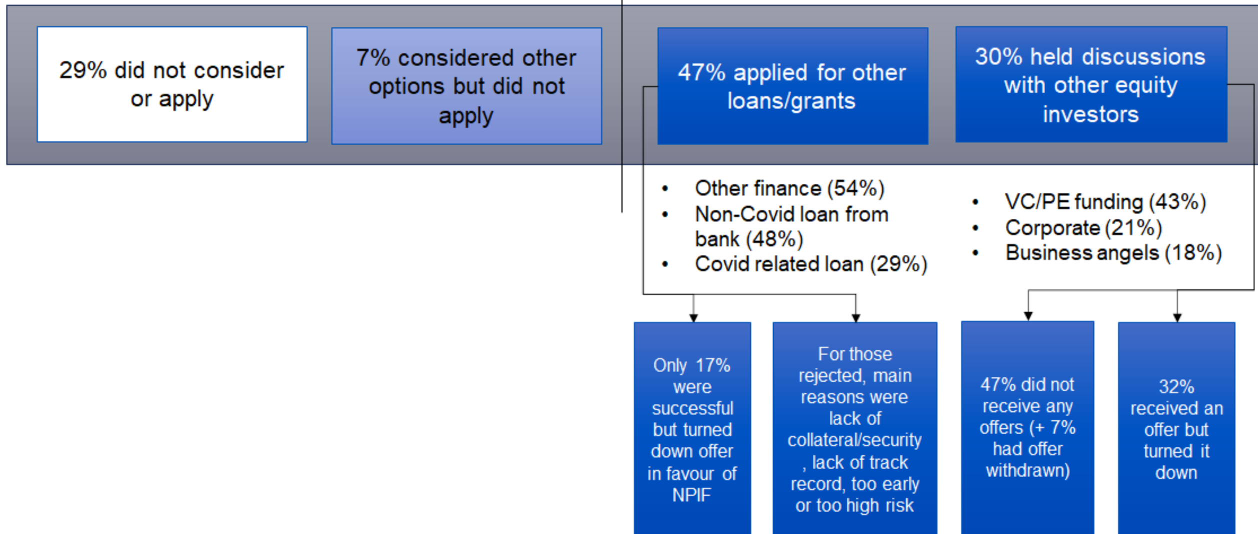
As part of the survey, beneficiaries were also asked whether they considered alternative finance at the time they first applied to NPIF. Again, this provides useful evidence to test the rationale for NPIF, in terms of whether SMEs are able to find alternatives in the market and/or NPIF displaces other finance available.

Overall, the survey found **approximately one-third of respondents did not attempt to secure finance from elsewhere** (see Figure 3.5). Most of these did not even consider alternatives, illustrating the lack of awareness of external finance in the region and/or the lack of finance options.

Of the remaining **two-thirds that did explore alternative sources of finance**, this included loans (including non-Covid related loans from banks), grants and/or equity (notably venture capital/private equity)[35]. However, they were more likely to be unsuccessful than successful in these endeavours. In the case of loans, the reason for rejection aligned closely with the rationale for NPIF, e.g., the lack of collateral, security, track record or risk. For those pursuing other equity finance, nearly half did not receive any offers. Only 5% of those who held discussions with other equity investors received an offer that they would have accepted in the absence of NPIF.

[35] Note, respondents could select multiple sources of alternative finance sought, including loans/grants *and* equity.

Table 3.5: Alternative finance considered at the time of first NPIF application – survey findings (n=274)



Survey respondents were also asked for their top reason for choosing NPIF finance[36]. The most common response was expertise and support from the Fund Manager (25% of respondents), demonstrating the importance of the wrap around support and guidance from local Fund Managers in addition to the finance itself. Other reasons included the speed at which NPIF finance was put in place (17%), NPIF's beneficial Terms and Conditions (15%), and the scale of finance offered by NPIF (11%).

[36] N=274

5. Assessment of firm-level outcomes and impacts

In this Section, we present results from the beneficiary survey on the follow-on finance secured, outcomes and impacts generated as a result of NPIF support, and the extent to which these are additional. This is supported by qualitative evidence from the consultations and case studies.

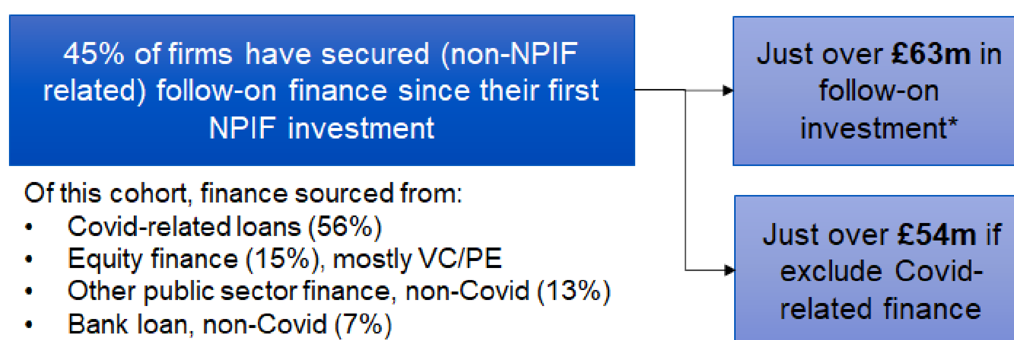
Follow-on finance

In the survey, **45% of respondents had secured follow-on finance since their first NPIF investment**. This excludes any follow-on from NPIF itself. This is particularly encouraging given the slight over-representation of firms supported in later years of the programme and the limited time they have had to secure this follow-on. The survey results may, therefore under-estimate the extent of follow-on finance across the population of beneficiaries as a whole. Equity recipients were slightly more likely to have secured follow-on finance compared to debt recipients (53% vs 43% respectively)[37].

The large majority of were able to quantify the amount of follow-on investment secured, and this amounts to just **over £63m across the survey respondents**. This is equivalent to approximately £540k on average per firm, but the range was very wide, from £10k to £5.5m. If we exclude Covid-19 related follow-on finance, the total value of follow-on finance across survey respondents is just over £54m.

Scaling this up on a simple proportionate basis, this would mean that of the 913 businesses funded to date, 45% secured non-NPIF follow-on (410 firms) with a value of around **£220m.**

Figure 5.1: Follow-on finance secured – survey findings (n=273)



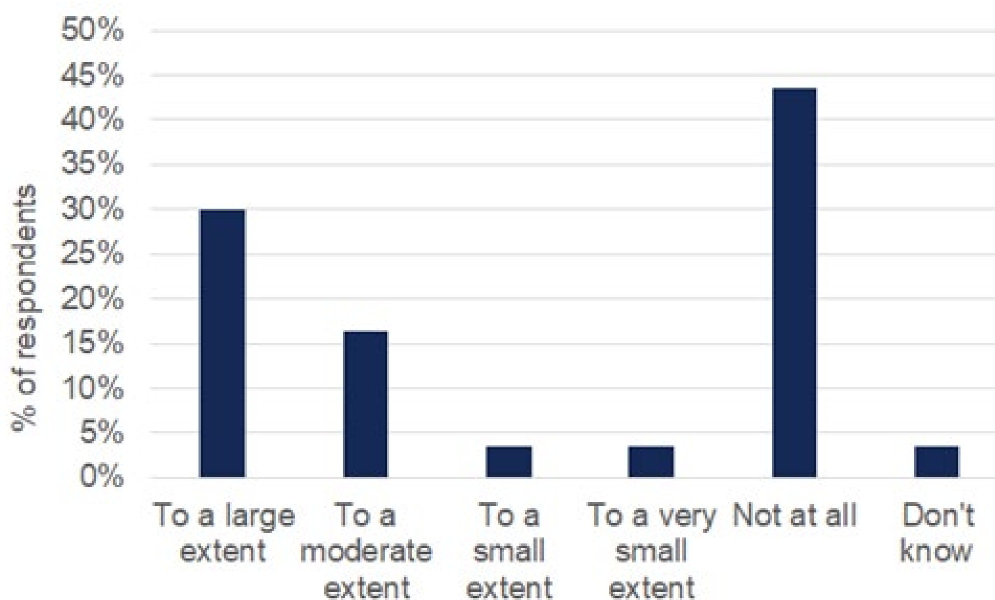
*Note: * Two firms were unwilling to quantify*

Survey respondents were also asked the extent to which NPIF finance influence their ability to secure further external finance. As illustrated below, **nearly half of respondents believed NPIF had a 'large' or 'moderate' influence on their ability to secure follow-on finance.** This accounted for approximately four-fifths of the follow-on finance secured (by value, excluding NPIF and Covid-related follow-on finance). There is a stark difference between equity and debt recipients here, with 78% of equity firms arguing that NPIF had a large or moderate influence, compared to 37% of debt recipients. The latter were much more likely to state 'not at all', but access to Covid-19 emergency funding has

[37] Disaggregating the debt figure shows 51% of microfinance recipients have received further finance, and 38% of the larger debt recipients.

played a role to some extent. If we exclude firms with Covid-19 funding, the proportion of equity recipients who felt that NPIF had a large/moderate influence is 88% and for debt recipients it was 48%.

Figure 5.2: Influence of NPIF finance in ability to secure further (non-NPIF) external finance – survey results (n=117)



These findings were corroborated by the case study evidence, particularly in terms of equity finance. For example, for one firm that secured follow-on NPIF equity investment as part of a Series B fundraising round in 2020, the continuation of NPIF investment reportedly gave other potential investors confidence and was crucial in leveraging this. Qualitative feedback from Fund Managers also demonstrated how NPIF helps firms to secure follow-on finance, providing the initial finance to de-risk future investment, networking firms with other private finance and/or cross-referral to other Fund Managers within the NPIF programme. There was no evidence to suggest that NPIF investment has an adverse effect on a firm's ability to secure follow on finance.

Looking forward, the survey evidence suggests that **NPIF will also have a legacy in terms of the majority of firms' awareness, confidence and ability to secure private sector finance in future**. For example:

- 62% of survey respondents said that NPIF had raised their awareness of private sector sources of finance available in the market (n=274)
- And 87% said that NPIF has given them greater confidence in their ability to raise finance from private sector sources in future (n=274).

Firm-level outcomes

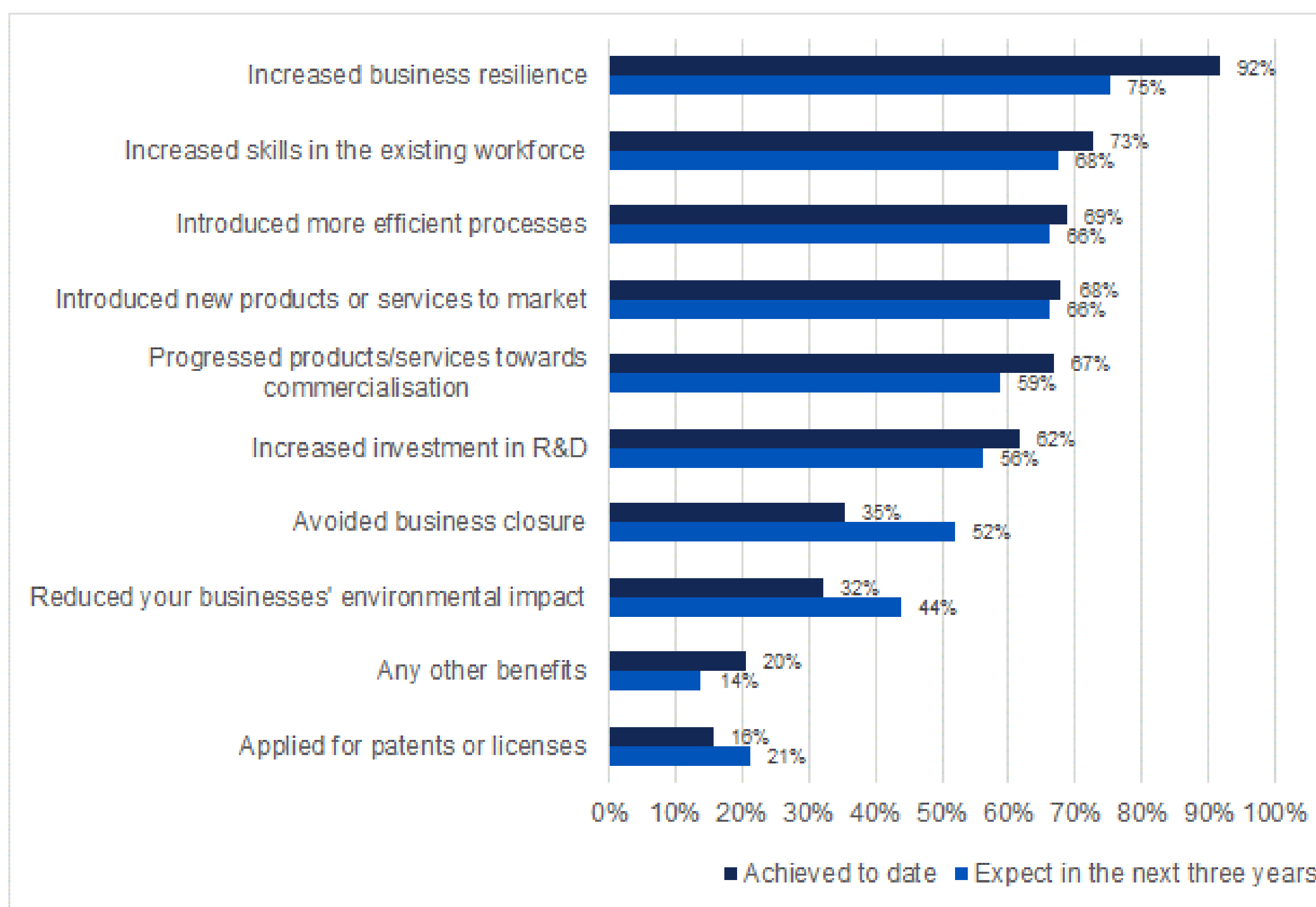
Figure 5.3 shows the outcomes observed to date and expected in the next three years by survey respondents, testing the extent to which NPIF is delivering against intended outcomes set out in the programme's original logic model.

The large majority of respondents said that NPIF had made their business more resilient (92%). This is particularly important in the context of Covid-19, supporting firms during difficult trading conditions and ensuring that capacity for future growth is not lost.

NPIF has led to a range of skills, efficiency and innovation outcomes that are crucial in underpinning better productivity performance and economic growth in the North. This includes improved skills across the North's workforce (73% of survey respondents), enabling firms to introduce more efficient processes (69%), introduce new products or services to market (68%) and progress innovations towards commercialisation (67%), and encouraging firms to invest in R&D. The survey also found that, according to firms interviewed, NPIF has also played a role in avoiding business closure (35%) of firms and reduce their environmental impact (32%). These outcomes are explored in more detail in the paragraphs that follow.

We observe a similar pattern of outcomes expected in the next three years, as illustrated below, with NPIF's role in avoiding business closure and reducing environmental impacts becoming more important in future.

Figure 5.3: Outcomes observed to date and expected in the next three years, as a direct result of receiving the finance from NPIF – survey findings (n=274)



Skills

Of the 199 firms in the survey (73% of respondents) who stated that NPIF has led to improved skills, one-third of these said the investment had improved academic skills, half said improvements were in vocational skills and two-thirds said it was company-specific skills. According to the survey, on aggregate, **NPIF had led to improved skills for 2,400 people.**

Skills benefits were illustrated further in the case studies. For example, NPIF finance allowed Pimberly to invest directly in staff training and recruit new talent (which also boosted the existing skillset as learning and best practice has been transferred between colleagues). Investing in the workforce has improved Pimberly's resilience and has meant that they can actively recruit "*ahead of the growth curve"* rather than waiting for problems to arise due to capacity constraints.

More efficient processes

Where NPIF had enabled 169 firms in the survey (69% of respondents) to introduce more efficient processes, for the large majority of this cohort, this had **led to better quality outputs, time savings and reduced costs**. The case studies show how this is translating into productivity benefits. For example, in Knowledge Powered Solutions Ltd, NPIF has been used to review existing systems/software and invest in new and improved process, which has led to reduced costs for the firm (and customers) and improved productivity. At Castings Technology international, NPIF has support staff capacity to introduce lean manufacturing processes and undertake value stream mapping, which has led to quantifiable savings in the firm. And finally, in Pimberly, the firm has used a small proportion of its NPIF investment to implement "the best back-office systems available" to ensure the firm has the systems in place to support the anticipated growth trajectory.

Innovation outcomes

In the survey, 169 firms (62% of respondents) have increased their investment in R&D as a result of NPIF finance. Nearly all of this cohort could quantify this (88%), and this amounted to **just over £36m additional investment in R&D (£244k per firm)** by survey respondents on aggregate. The majority of this additional R&D investment was driven by equity recipients.

According to the survey, NPIF is being **invested by SMEs to help commercialise new products and services in high value added and advanced technology sectors**. This includes cleantech, hardware, materials technology and software, and to a lesser extent, life sciences and medical technologies. Of those who have introduced new products to market already as a result of NPIF (186, 68% of respondents), approximately half said, "at least some [products/services] were new to the market". Through their adoption, these new products and services are also expected to deliver wider social and environmental benefits more broadly (see Table 5.1). Whilst it is important to recognise these anticipated impacts are self-reported by survey respondents, it does illustrate how NPIF is indirectly contributing to net zero agendas.

Table 5.1: Social benefits expected from the adoption of new products or services developed as a result of NPIF – survey findings (n=186)

	% of firms who have introduced new products/services
Yes, will reduce carbon emissions	48%
Yes, will have environmental benefits more broadly	52%
Yes, will improve health or delivery of health services	42%

The case studies corroborate the survey findings in relation to innovation outcomes. They also highlight how **NPIF has enabled firms to continue to invest in R&D and develop new products/services during Covid-19**, at a time where consultees indicated that this type of activity would have been de-prioritised due to falling incomes and future uncertainty[38]. In doing so, NPIF has helped these firms to maintain their competitiveness and capacity looking forward. For example, in the case of Citi Logik, a substantial proportion of their NPIF equity investment has been used to expand their technical team and fund R&D activities to develop a new web-portal service and trial this with clients. The consultee argued that:

"The investment has enabled us to grow and provided valuable contingency for the future. Being able to build capacity and complete R&D has supported a cyclical growth process, enabling us to enhance our offer whilst improving our reputation and ability to win more work"

In the case of Knowledge Powered Solutions Ltd, the firm secured NPIF microfinance to fund the development of a new software product and associated marking activities. As noted in Section 4, the firm had been refused a bank loan to pursue these activities (in part because it had a loss in the previous year, incurred because the firm had invested in expanding its team to develop the new product). During Covid-19 the firm has been experienced reduced sales, and so in this context, NPIF has both helped the firm survive *and* continue to develop its new product.

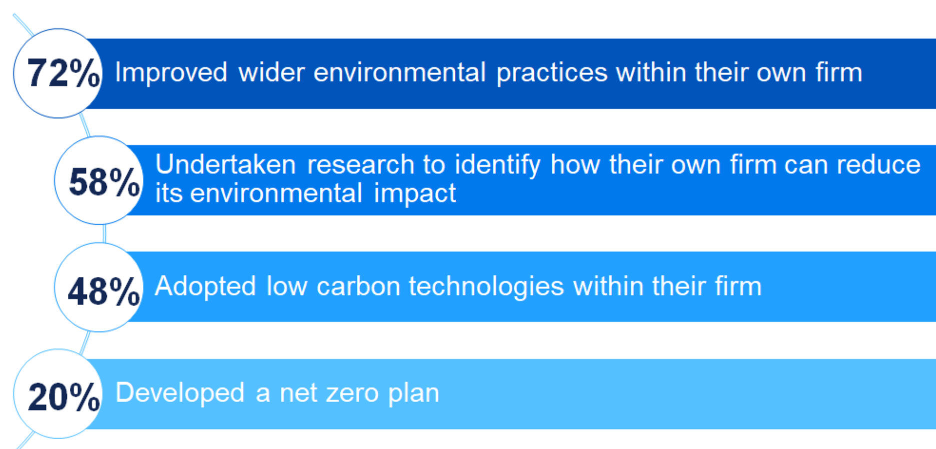
For Pimberly, when NPIF was initially applied for, the firm only had the "bare bones" of a product. NPIF was cited as being central to improving their product and bringing it to market, and as a result, the firm has experienced significant growth, both in turnover and the number of employees.

Reduced environmental impact

In the survey, we also explored how firms have reduced their environmental impact through the NPIF investment. Whilst a smaller share of respondents had observed this benefit and so the sample size is small (88 firms), the results show that NPIF enables firms to improve their own environmental practices and undertake research to identify how they can reduce their environmental impact further in future (see Figure 5.4). Nearly half of this cohort have also used NPIF to adopt low carbon technologies within their firm, and one-fifth have developed a net zero plan.

[38] This is supported by research by the Enterprise Research Centre, which reported a reluctance amongst firms to spend as much money on R&D in favour of "essential activities". See here: https://innovationcaucus.co.uk/app/uploads/2021/01/Wave-2-Final-Report_ERC-and-Innovation-Caucus.pdf

Figure 5.4: Reduced environmental impacts as a result of NPIF investment – survey findings (n=88)



Fund Managers also pointed to a small number of examples where NPIF had been used to support firms transition to a low carbon economy. For example, one Fund Manager has provided debt finance to firms that are involved in water conservation, recycling, energy efficient heading systems and electric transport.

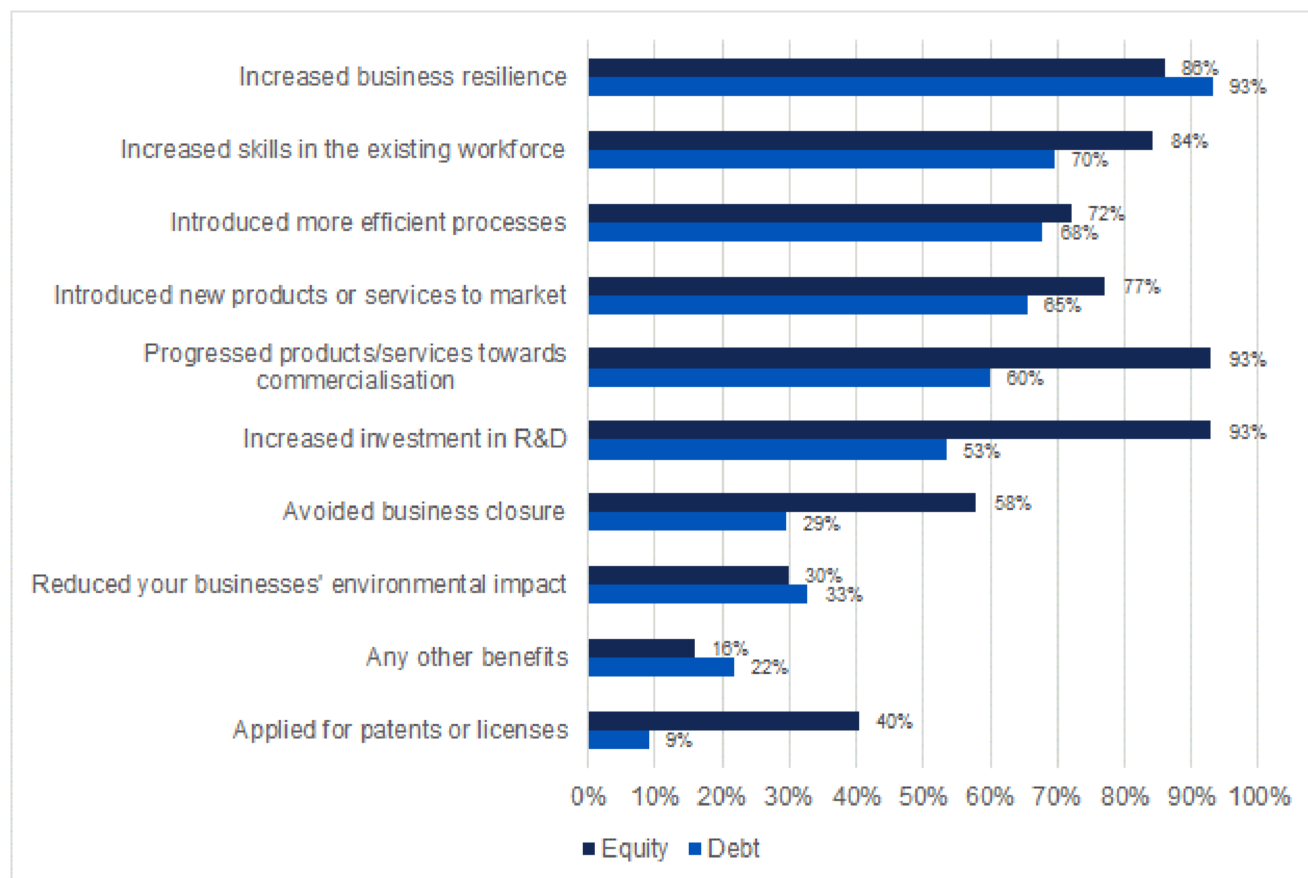
Wider outcomes

As part of the survey, firms were also asked whether NPIF has influence the location of their business operations. In response, just over **one-third of respondents (36%) argued that NPIF *has* encouraged them to stay in the North**, demonstrating NPIF's role in anchoring firms in the region. Moreover, NPIF appears to have played a much greater role in encouraging equity recipients to stay in the North (56% of equity respondents) compared to debt recipients (30%). Two-thirds of debt recipients said that NPIF has had no influence on the location of their business.

Distribution of outcomes

The type of finance received appears to make little difference to the extent to which firms have observed improved business resilience, introduced more efficient processes or reduced their environmental impact to date (see Figure 5.4). However, as we might expect, **equity finance is more likely to lead to skills and innovation outcomes** and **also plays a much more important role in helping firms to survive**. The latter is key: our results suggest that NPIF is helping high growth, innovative SMEs to survive in the North, as we discuss further below.

Figure 5.4: Outcomes observed to date cut by equity and debt recipients – survey findings (n=274; 57 equity and 217 debt)



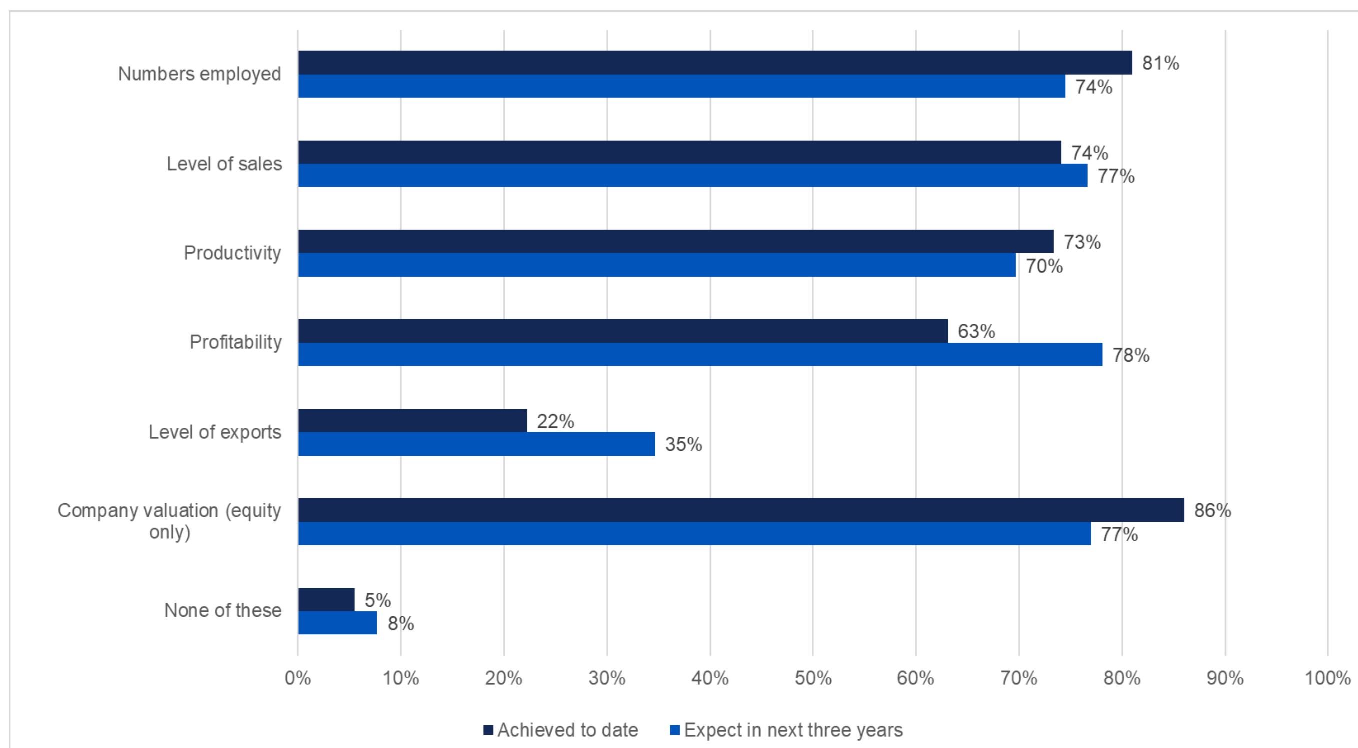
Further analysis of the survey findings also suggests that:

- Firms with multiple NPIF awards are more likely to have observed outcomes, especially in terms of avoiding closure, increased investment in R&D, technology progression
- Firms in receipt of greater sums of NPIF finance are more likely to have observed outcomes, with greatest difference in business survival, investment in R&D, technology progression.

Firm-level impacts

Figure 5.5 presents survey results on the impact of NPIF on firm performance to date and expected in the next three years. Overall, **approximately three-quarters or more of respondents reported an impact on employment, sales and productivity to date** (and for equity recipients, also an impact on company valuations). **Nearly three-quarters of respondents have also observed an impact on profitability,** and more firms expect this benefit in the next three years.

Figure 5.5: Impacts observed to date and expected in the next three years, as a direct result of receiving the finance from NPIF – survey findings (n=274)



Number and type of jobs created

Across the survey sample, where firms were able to quantify the increase in employment[39], an **estimated 1700 jobs (gross) were created as a result of securing the NPIF finance**.

The survey demonstrates how **NPIF's equity investment in particular is leading to employment opportunities in senior occupations and high value jobs in the North**: for example, one-third of jobs created through equity investment are in R&D occupations and over half are in the top quartile of average earnings in the UK[40]. **Debt finance is also leading to high value jobs:** the survey also found that nearly one-quarter of jobs created through loans are in the top quartile of average earnings in the UK, and more than one third of jobs have salaries that are above the national median.

[39] 223 firms

[40] Survey of Personal Incomes, HMRC 2018-19 (published 2021), Percentile points from 1 to 99 for total income before tax (taxpayers only)

Table 5.2: Role and salaries of jobs created due to NPIF investment – survey findings (n=220)

	Equity	Debt	Total
Total jobs across survey sample	**403**	**1,294**	**1,697**
Role of jobs created			
Directors and Senior Official	14%	10%	**183**
Sales and Customer Service functions	24%	19%	**344**
Research and Development	33%	6%	**212**
Production – administration and logistic functions e.g. Process, Plant and Machine Operatives/Service operatives	13%	45%	**628**
Other	17%	20%	**330**
Salaries of jobs created			
Salaries or wages of less than £25,000 a year (before tax) – i.e. median nationally	15%	35%	**512**
Salaries or wages of more than £37,800 a year (before tax) – i.e. upper quartile nationally	55%	23%	**518**

Distribution of jobs created

As illustrated below, the survey suggests that NPIF has *gross* created jobs across all ten LEP areas. Whilst absolute numbers are highest in the urban areas, reflecting the number of respondents in those geographies, we also observe the number of jobs per firm is highest in some of the North's more rural LEPs (e.g. Cumbria and York, North Yorkshire and East Riding).

Table 5.3: Geography of jobs created – survey findings (n=274)

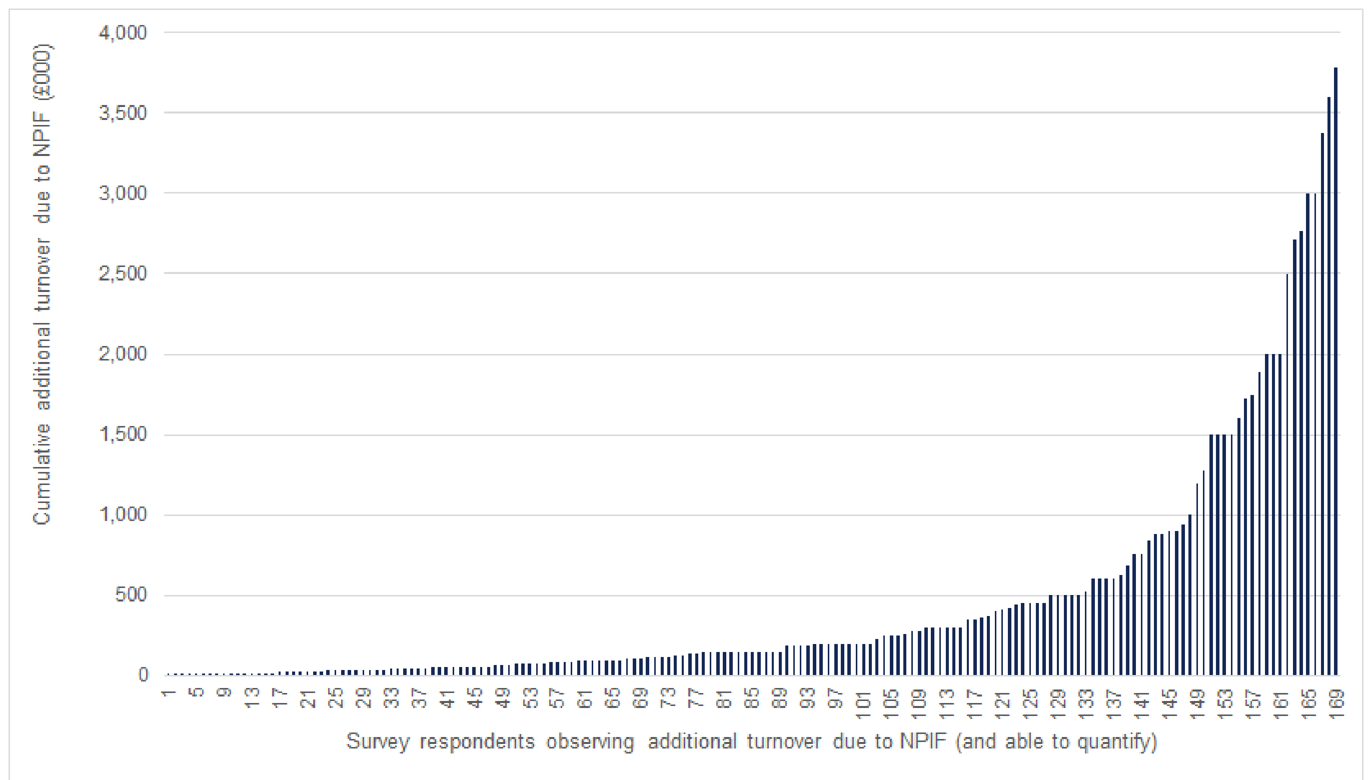
	Jobs reported	Cases	Jobs per case
Greater Manchester	438	55	8.0
Leeds City Region	329	57	5.8
Sheffield City Region	218	33	6.6
Tees Valley	159	24	6.6
Liverpool City Region	124	28	4.4
York, North Yorkshire and East Riding	100	12	8.3
Humber	92	15	6.1
Lancashire	80	19	4.2
Cheshire and Warrington	78	21	3.7
Cumbria	70	4	17.5
No data	9	6	1.5
Grand Total	**1,697**	**274**	**6.2**

Sales and exports

Three quarters of survey respondents (203 businesses) reported that the NPIF finance had an impact on their sales. The total, **cumulative estimate of gross new sales resulting from the finance was £170 million in the sample** (gross, since the funding was received).

The distribution of *additional* sales generated as a result of NPIF varies substantially across the sample. Figure 5.6 shows the cumulative value of additional sales for each firm able to quantify this in the survey. We can see that nearly one-fifth of SMEs surveyed (17%) have generated 80% of additional sales. This is a typical pattern for business support interventions (i.e. in line with the Pareto Principle of 80:20).

Figure 5.6: Distribution of additional sales generated as a result of NPIF across sample – survey findings (n=169 firms that quantified additional sales impact)[41]



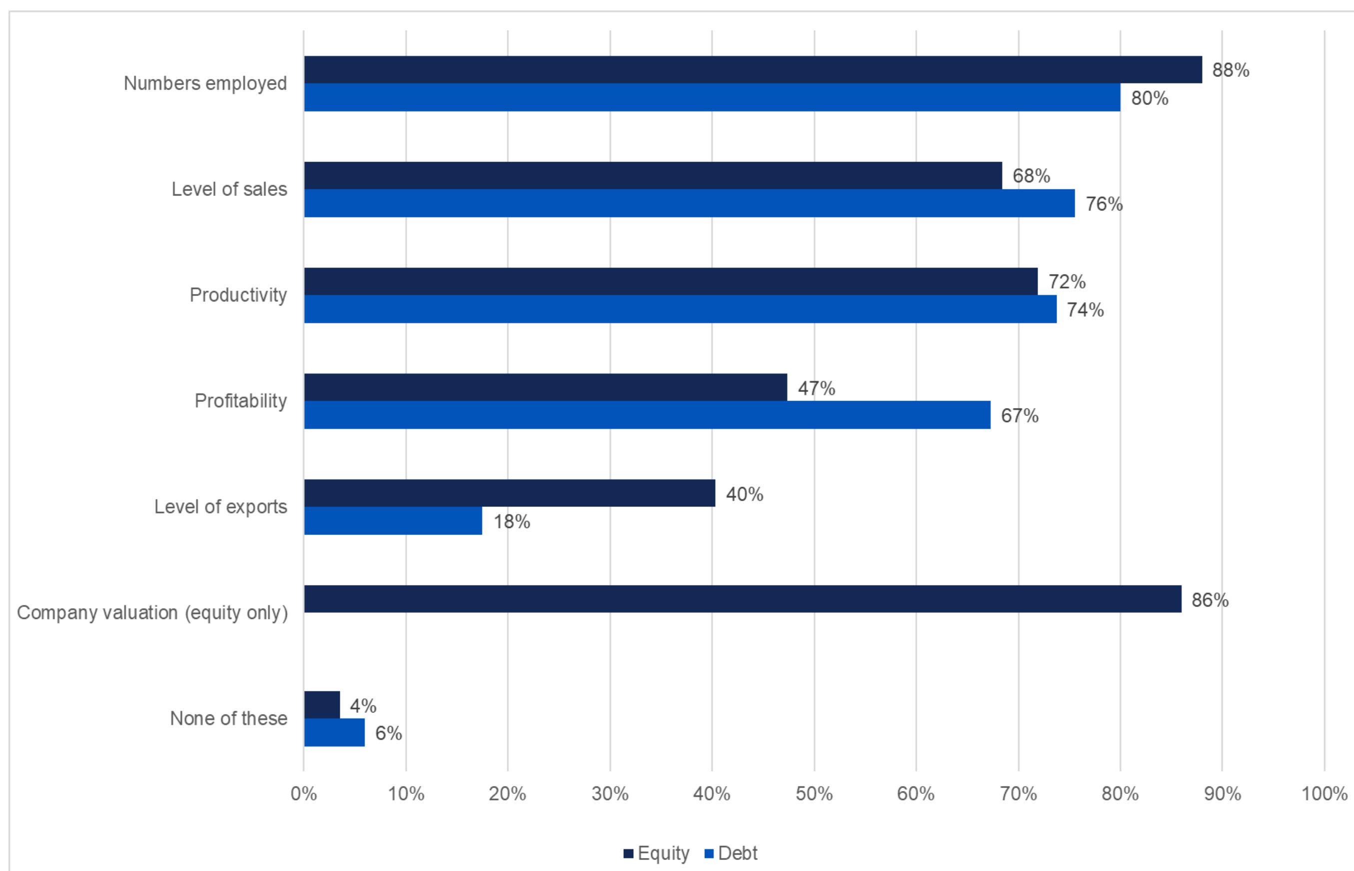
Impacts on exports appear to be weaker, in part reflecting the fact that firms surveyed served largely UK-based markets (according to the survey, overall, only 9% of respondents' turnover was generated overseas). It is worth noting this is in the context of Brexit and Covid-19. That said, one case study highlighted how NPIF investment has enabled overseas expansion, which has had a cumulative impact on sales since the first NPIF investment of £1.3m, of which 90% is export sales, and supported the creation of 15 full-time equivalent jobs.

Impacts by type of finance

When the results are split by type of finance, the survey shows that NPIF's impact on productivity is similar for both equity and debt. Firms in receipt of equity are more likely to observe an increase in employment and exports (albeit small-scale in value terms) but are slightly less likely to experience an increase in sales and profitability, which reflects the stage of development of many of these firms.

[41] These figures are cumulative additional sales after adjusting for additionality (see Table 5.4)

Figure 5.7: Impacts observed to date cut by equity and debt recipients – survey findings (n=274; 57 equity and 217 debt)



Self-reported additionality

The survey explored the extent to which the benefits observed above are additional, i.e., would not have been achieved at all, or not as quickly or to the same scale in the absence of NPIF investment. It is important to emphasise that this is self-reported and retrospective evidence, based on responses from SMEs in our survey and therefore may include some optimism bias. Nonetheless, it is useful to inform our assessment of the counterfactual and, as we discuss in the next Section, as we triangulate evidence from the survey and econometrics the findings on additionality and net impact are broadly similar.

Overall, across the survey sample as a whole, deadweight is very low at 6% and **over one-quarter of outcomes (27%) are fully additional and so they would not have been achieved *at all* without NPIF finance** (see Table 5.4). This was illustrated in the case studies, for example where Knowledge Powered Solutions Ltd argued that none of the benefits would have happened without NPIF because the firm would have had to furlough developers which in turn would have stalled the developed of a new product – NPIF was deemed critical in achieving these outcomes.

NPIF also plays an important role in accelerating outcomes, with nearly half of respondents (45%) stating that outcomes would have taken longer to achieve without NPIF. Of this cohort, one-third argued it would have taken more than two years longer to achieve benefits. This suggests that, even though some firms thought they could have secured alternative finance at a later date (as discussed in Section 4), the implications in terms of delaying impacts are much greater. The case studies provide some

insight as to why this might be the case, highlighting the importance of accessible finance for growing firms. For example, the case of Pimberly, it would have taken more than two years longer to achieve the same results without NPIF, mainly because they would not have been able to access finance at the same scale and speed otherwise:

"Raising money takes a lot of time and effort, if you are perpetually raising money you cannot focus on the business and the business plan is dragged out."

Other than the additional funding that NPIF helped to lever, no other factors were acknowledged as contributing significantly to the outcomes achieved and NPIF was identified as *the* critical factor in achieving growth.

Table 5.4: Would the benefits experienced have been achieved without NPIF finance - survey findings (n=274)

	Debt	Debt	Equity	Equity	NPIF total	NPIF total
	Cases	**%**	**Cases**	**%**	**Cases**	**%**
The benefits would have happened anyway, over the same time period and at the same scale, without NPIF	0	0%	16	7%	16	6%
The benefits would have happened anyway, but they would have taken longer to achieve	21	37%	102	47%	123	45%
The benefits would have happened anyway, but on a smaller scale	13	23%	70	32%	83	30%
None of these benefits would have happened	23	40%	52	24%	75	27%
Don't know	3	5%	1	0%	4	1%
Total	**217**			**57**	**274**	

Note: Partial additionality options are not mutually exclusive

There are some notable differences in the extent and type of additionality between equity and debt recipients. **Full additionality was considerably higher for equity, with no evidence of deadweight**: 40% of equity recipients surveyed said that none of the benefits would have happened without NPIF finance. **For debt, NPIF plays an important role in accelerating and scaling-up benefits** (for 47% and 32% of respondents respectively). Furthermore, nearly one-quarter of outcomes observed by debt recipients were fully additional.

6. Assessment of net impacts

Introduction

Assessing the net impact that NPIF funding has had on recipient businesses is an important part of the evaluation. Our approach to quantifying the impact is based primarily on an econometric analysis that compares the performance of NPIF funded businesses with a matched sample of applicants that were not funded because they either withdrew or were declined by the Fund managers. To provide validation of the results we have also used the responses from the business survey, including their own assessment of additionality as a cross-check.

Datalinking and econometric analysis[42]

The datalinking and econometric analysis was carried out by Belmana, a firm with access to the ONS business registers and which specialises in business data analysis techniques including Propensity Score Matching (PSM) to develop appropriate control groups and quantitative methods, such as the Difference-in-Difference analysis used here.

Preparing firm level data and variables

To undertake the impact of NPIF funding, the quantitative analysis looks at the **supported firms in comparison to unsupported businesses**. In an ideal world, the evaluator would like to establish the outcome for a firm with and without the intervention. After an intervention, it is possible to observe outcomes for the firm, but of course, the performance of a firm without that intervention is unknown. Simply using non-users of the intervention has problems because users and non-users are likely to differ in economic performance. Our approach to developing the counterfactual is therefore quasi-experimental.

The aim is to prepare a control group whose characteristics and performance closely match those of the treated group prior to the NPIF award. **Propensity score matching (PSM)** addresses this problem by constructing a comparison group of non-users that are like the users along a range of characteristics not directly influenced by the intervention. So, if the firms being supported are generally large, the matching process will seek out firms that are not treated but are a similar size. Propensity score matching is a quasi-experimental approach used in numerous studies.

The data for this can be accessed through ONS's Secure Research Service's (SRS) Business Structure Database (BSD). This holds data for UK businesses variables, over a number of years. The first step is to prepare details of the funded and unfunded businesses and link this into the BSD data. Not all Companies House numbers are linkable to ONS enterprise references and there is some attrition at this stage. This can be because a company is too small to be on the IDBR (it is not registered for VAT or PAYE by the most common reason), or a recent start-up among the supported businesses, and so we expect that not every business will be held in the IDBR. From the total of 781 (of which 88% were loan funded) businesses supported by NPIF by December 2020[43], 634 were identified and matched into the

[42] ONS Secure Research Service Disclaimer: This work was produced using statistical data from ONS. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

[43] Note, at the time of the econometric analysis, this was the latest data on beneficiaries available from BBB

BSD (558 were loans and 76 equity). Of these, however, 158 of these were funded in the 2020/21 financial year and therefore do not yet have enough data to measure changes. This leaves 475 matched businesses with at least two years of data that can be used for the analysis.

A propensity score is estimated by means of a probit model in which the dependent variable is a dummy equal to 1 if a business is in receipt of support and 0 otherwise. Modelling then matches the treated business' score finding an untreated business with as close a score as possible (nearest neighbour and radius matching) or weighting together non-beneficiaries using the scores (kernel matching). For consistent estimates of the effects, some assumptions must hold: Firstly, after the modelling has developed a counterfactual, there is confidence that the treated and comparators are the same except for the treatment (the conditional independence assumption); and secondly that for the supported businesses, a comparable unsupported business is available (the common support assumption) There are some specific tests for these, and the annex provides evidence about whether the first two are satisfied, such as indicating how businesses appear to be on similar past growth trajectories before support when comparing the treated with the control. A third assumption is that there are no effects of support on the counterfactual businesses (the stable unit treatment value assumption, often shortened to SUTVA). This is a difficult assumption to test formally, and the annex discusses the evidence about this.

For this analysis, we focus on the following three groups:

- **The treated "NPIF funded" businesses,** i.e. beneficiaries of NPIF finance
- **Control Group 1: "Matched unfunded applicants";** NPIF applicants who withdrew from the application process or were rejected by fund managers and are "matched" to NPIF funded businesses on their characteristics
- **Control Group 2: "Wider matched BSD";** a wider pool of businesses drawn from the general business population in the BSD who did not apply for NPIF funding but had similar characteristics to the "NPIF funded" group at the time NPIF funding was awarded.

Control Group 1 is the strongest counterfactual as the businesses closely match the performance of the funded firms prior to the NPIF award. These applicants are a good control group because they embody many of the unmeasurable characteristics of the NPIF funded businesses (such interest in accessing funding and ambition). Because this pool includes firms that withdrew from the process and those that were declined, further sensitivity testing was carried out. This found that whether a firm had withdrawn or was declined, did not materially affect the results.

Matching for Control Group 1 was from a pool of 2,461 applicants that were not funded[44]. The researchers tested the robustness of results using different matched variables. Table 6.1 shows that the profile of the unfunded applicants was already a close match to the NPIF funded businesses[45].

[44] Also using data to December 2020, in line with the beneficiary data available at the time of analysis
[45] While management characteristics may also be a determinant of performance, it was not possible to use this as a matched variable, although the possibility of doing this should be investigated for the final evaluation.

Table 6.1: Variables for NPIF funded businesses, the overall unfunded applicant profile and the matched profile (Control Group 1)

	Businesses funded by NPIF	All unfunded, (before matching)	Matched control group (after matching)
Employment (log)	2.33	2.28	2.26
Real turnover (log)	6.66	6.57	6.58
Emp in year before support (log)	2.19	2.17	2.17
Real Turnover in year before support (log)	6.52	6.48	6.53
Live local units	1.51	1.58	1.50
Patent owner	3%	5%	3%
High Knowledge Intensive	13%	17.76%**	16.72%**
High Manufacturing	2%	2%	2%
Scaleup business	2%	3%	3%
IUK Project Before	5%	5%	6%
Beauhurst Tracked	17%	14%*	14%
Recorded R&D	11%	12%	11%
Observations	634	2461	634

Source: Belmana analysis of BSD data. Note: The asterisks present the variables that are statistically significantly different from the treated group. Significance levels are 1% (***), 5% (**) and 10% (*). There were only two variables that were statistically significantly different before matching, Beauhurst tracked and high knowledge intensive and after matching, difference is not statistically different for the Beauhurst tracked. Log transformation of some variables is used to reduce or remove the skewness of our original data

Impact analysis

Difference in difference (DiD) and multivariate analysis has been used to assess the differences in performance between the NPIF funded businesses and the matched control group, and to test their significance. DiD is used to look at the effect of NPIF funding, controlling for deadweight, either in terms of levels or growth. The latter is generally more robust and is applied to baseline estimates of the performance of the funded businesses. This produces estimates of the additional impacts over-and-above deadweight on employment and turnover, and these results are also used later to provide estimates of value for money.

Employment

Table 6.2 shows the gross employment change seen in the NPIF funded businesses. Measures of employment are headcount between treatment years 2016/17 and 2019/20, employment increased by 2,661 jobs in the years after funding. The table also highlights how the number of businesses that can be tracked in ONS data reduces over time with the most recent cohort of 158 funded businesses in 2020/21 having no data after funding. Across the three cohorts the increase in employment *per*

business is 5.6 across the sample (regardless of the time since they received funding). Adjusting this for the number of years since funding gives 2.8 jobs per business, *per year*.

Table 6.2: Gross Employment in matched NPIF funded businesses

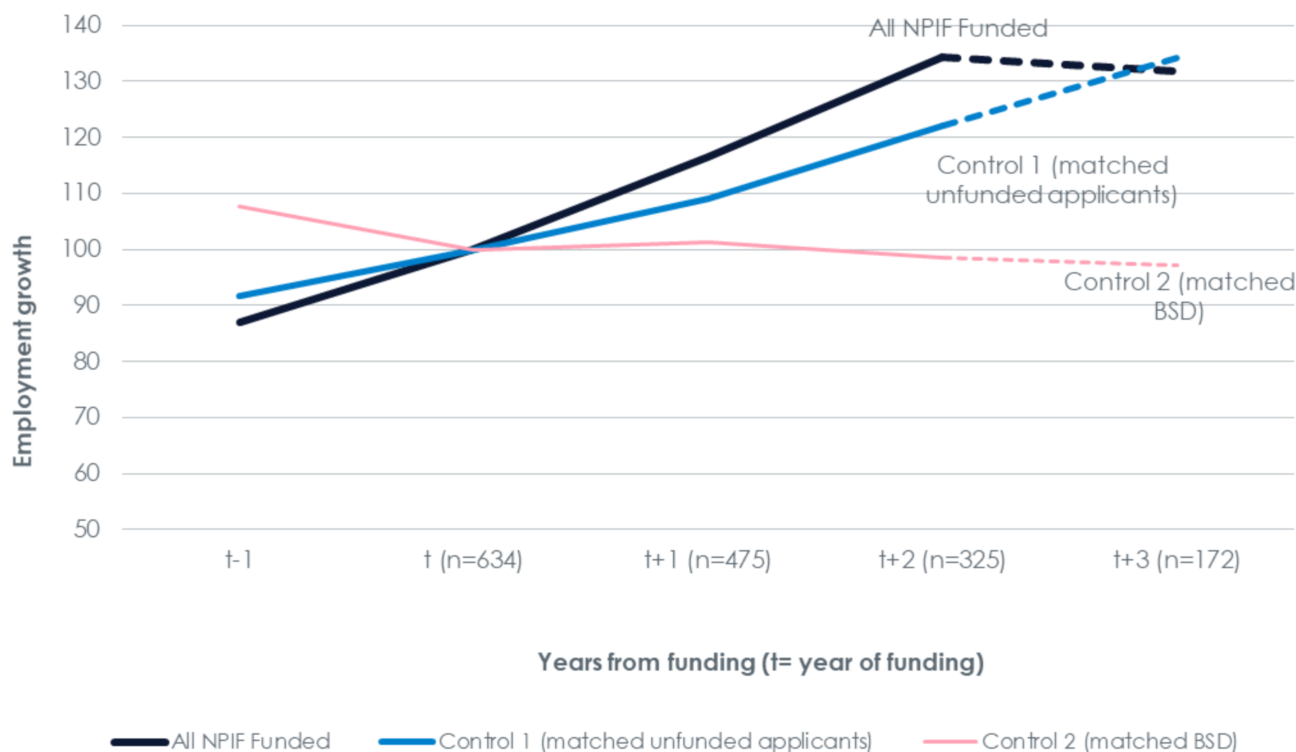
	Date of first NPIF award	Date of first NPIF award	Date of first NPIF award	Date of first NPIF award
	2017/18	**2018/19**	**2019/20**	**Total**
Number of businesses	**172**	**153**	**150**	**475**
Year of support (t) (n=634)	3,830	3,669	5,956	13,455
Year one (t+1) (n=475)	4,369	4,318	6,392	
Year two (t+2) (n=325)	4,850	4,702	-	
Year three (t+3) (n=172)	5,022	-	-	
Increase in Employment (t+3-t)	**1,192**	**1,033**	**436**	**2,661**

Source: Belmana econometric analysis

The key question is what proportion of these jobs are additional or can be attributed to the NPIF funding, as some of this employment growth is likely to be seen in businesses even without support. Figure 6.1 shows the employment change for the NPIF funded businesses compared to Control group 1 (those that withdrew or were declined) and Control Group 2 (matched businesses from the wider BSD).

The results show that employment in the NPIF funded businesses grew faster over the first two years. In the third year, there is little difference in employment growth between the treated and the control group, although the sample size is smaller and the results less robust. The chart also shows employment growing considerably faster among NPIF funded businesses than a wider matched control group drawn from the BSD (Control Group 2).

Figure 6.1: Employment growth comparing NPIF funded businesses with Control group 1 (matched applicants that were not funded) and Control Group 2 (a wider matched BSD group)[46]



Source: Analysis of BSD linked to BBB beneficiaries and other datasets

Table 6.3 tests whether the growth rates for the funded and unfunded groups differ statistically and shows the results one, two and three years after support (t+1, t+2 and t+3). The first column shows employment growth among the NPIF funded businesses. The second column shows the performance of matched Control Group 1. The third column shows the Difference-in-Difference results in percentage points. This is translated into the share of growth that is considered attributable to the NPIF funding in the fourth column, effects that are above and beyond those see in comparable businesses.

For example, in year 2, employment growth in the NPIF-funded businesses was 34.3% compared with growth of 22.1% in the Control Group 1 (i.e., applicants who were declined or withdrew). The Difference-in-Difference result indicates that growth of 9.9% was not seen in control group. This is slightly smaller than shown in the Table because underlying calculations are in logarithms.

While the results for the first two years are statistically significant (at 5%) the third, which shows employment falling below the matched control group is not, as the sample size is smaller.

Looking at only the first two years, employment rose by 2,053 across the 325 businesses. Using the Difference-in-Difference estimate, 29% of these jobs would be attributable to the NPIF funding (595) or 1.83 additional jobs per business.

[46] Group 2 is a set of 634 businesses comparable to the supported businesses selected from the unsupported business population.

Table 6.3: Difference-in difference results for employment after 1, 2 and 3 years (using Control Group 1)

	NPIF funded (cumulative)	Control group 1 (matched withdrawn or declined applicants) (cumulative)	Difference-in-Difference[47]	Additionality[48]
1 year after support	16.50%	8.90%	6.9%**	41.90%
2 years after support	34.30%	22.10%	9.9%**	29.00%
3 years after support	31.80%	34.20%	-1.70%	-5.40%

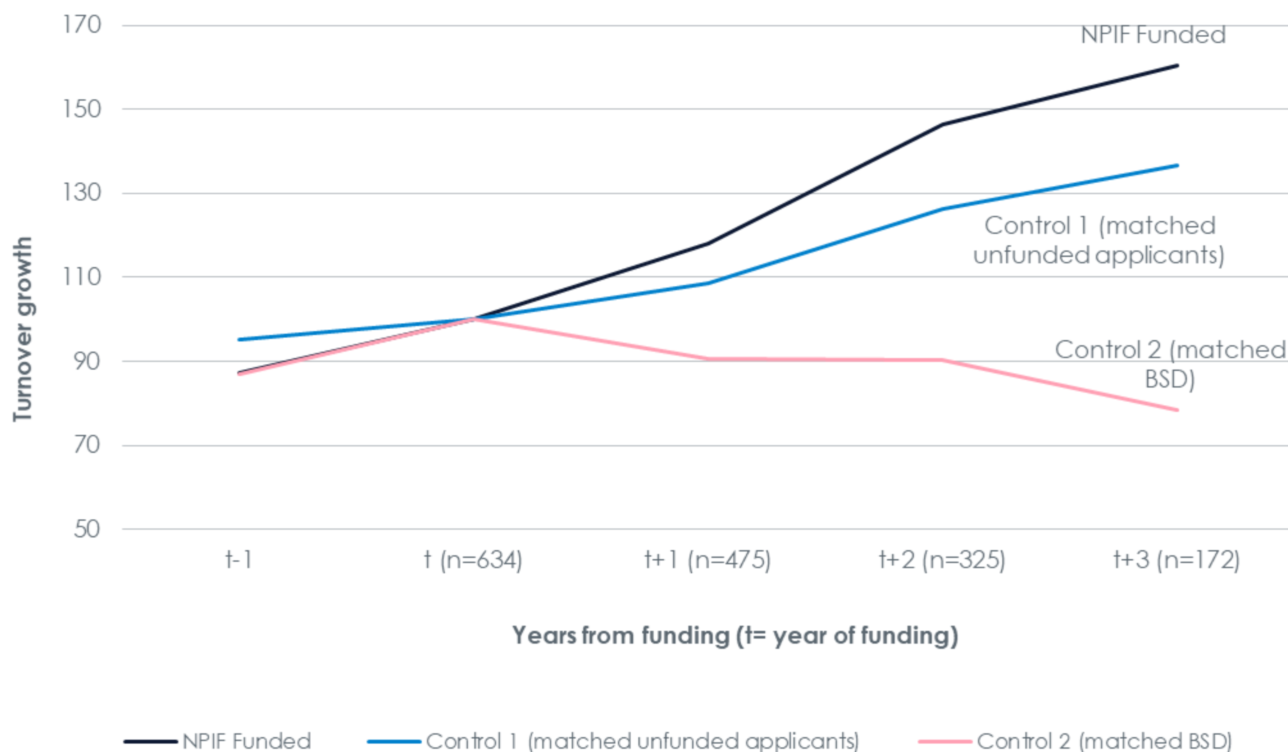
Note: Significance levels of difference between NPIF funded and group 1 are indicated 1% (***), 5% (**) and 10% (*); using robust standard errors. Only the DiD statistics require significance level indicators

Turnover

Figure 6.2 shows that the turnover growth of NPIF funded businesses was significantly higher than the matched Control Group 1 (applicants that were not funded), and very different from the matched control group drawn from the wider BSD (Control Group 2). Unlike the employment estimates, the strong growth continued into the third year, albeit less statistically significant than the year two result.

[47] Difference in difference is calculated as growth in matched unfunded minus growth in funded in logarithms. These have then been exponentialized and, consequently differ from the difference in percentages.
[48] Additionality is calculated as the difference-in-difference divided by the growth in the funded.

Figure 6.2: Turnover growth comparing NPIF funded businesses with Control group 1 (matched applicants that were not funded) and Control Group 2 (a wider matched BSD group)



Source: Belmana

Table 6.4 shows the turnover growth after one, two and three years. For example, two years after the NPIF award, turnover among the beneficiaries had risen 46.5% compared with 26.4% in Control Group 1. The Difference-in-Difference estimate shows a 15.9 percentage difference. That is, the percentage growth that was not seen in control group[49]. This means that 34.2% of the turnover growth in the NPIF businesses is considered additional. Over the three years, the second-year estimate is the most robust.

[49] The percentage growth is calculated from underlying log growth. For example, two years after support, the 15.9% DiD is the exponential of 0.15, which is the difference between log treated growth, 0.38, (natural log of 1.465 equivalent to 46.5%) and 0.23 (natural log of 1.264)

Table 6.4: Difference-in difference results for turnover after one, two and three years (using Control Group 1)

Real turnover is cumulative in years after support	NPIF funded	Control group 1 (matched withdrawn or declined applicants)	Difference-in-Difference	Additional[50]
1 year after support	18.1%	8.6%	8.7%*	48.3%
2 years after support	46.5%	26.4%	15.9%**	34.2%
3 years after support	60.5%	36.6%	17.5%*	28.9%

Note: Significance levels of difference between NPIF funded and group 1 are indicated at 1% (***), 5% (**) and 10% (*) using robust standard errors. Only the DiD statistics require significance level indicators

Productivity

A similar analysis is produced to show the impact of NPIF funding on productivity (the change in turnover per employee). The pattern reflects the results from the employment and turnover analysis. Productivity improves slightly in the first couple of years, with estimates not indicating statistically significant changes, and then shows a much larger increase in the third year. This is because the change in employment (in Table 6.3) falls sharply while turnover continues to grow. The Difference-in Difference estimate in year 3, is statistically significant although the sample is smaller.

Table 6.5: Difference-in difference results for productivity after one, two and three years (using Control Group 1)

	NPIF funded	Control group 1 (matched withdrawn or declined applicants)	Difference-in-Difference[51]
Productivity growth, 1 year after support	1.4%	-0.3%	1.7%
Productivity growth, 2 years after support	9.0%	3.5%	5.4%
Productivity growth, 3 years after support	21.7%	1.8%	19.6%**

Note: Significance levels of difference between NPIF funded and group 1 are indicated at 1% (***), 5% (**) and 10% (*) using robust standard errors; additionality not calculated as productivity measures a ratio (of real turnover and employment), rather than the level of an outcome (e.g. employment). Only the DiD statistics require significance level indicators.

[50] Additionality is calculated as the difference-in-difference divided by the growth in the funded.firms.
[51] Difference in difference is calculated as growth in matched unfunded minus growth in funded in logarithms. These have then been exponentialized and, consequently differences differ from the difference in percentages.

Sensitivity

As comparators, do the withdrawn or declined applicants perform differently?

One potential concern in using a control group drawn from the pool of businesses that had not been funded, is that they may have been systematically declined because they were weaker businesses. NPIF could have supported businesses that were already likely to perform better. To test this, we used an alternative estimation approach, regressing the growth rates for NPIF-funded and the matched unfunded businesses on a treatment dummy and on whether businesses had been declined or had withdrawn. This found that while the declined businesses did have slightly lower growth performance, the difference is insignificant. Pooling the unfunded matched businesses, including both the declined and withdrawn applicants, does not materially change the results.

Testing differences between Equity and Loan awards

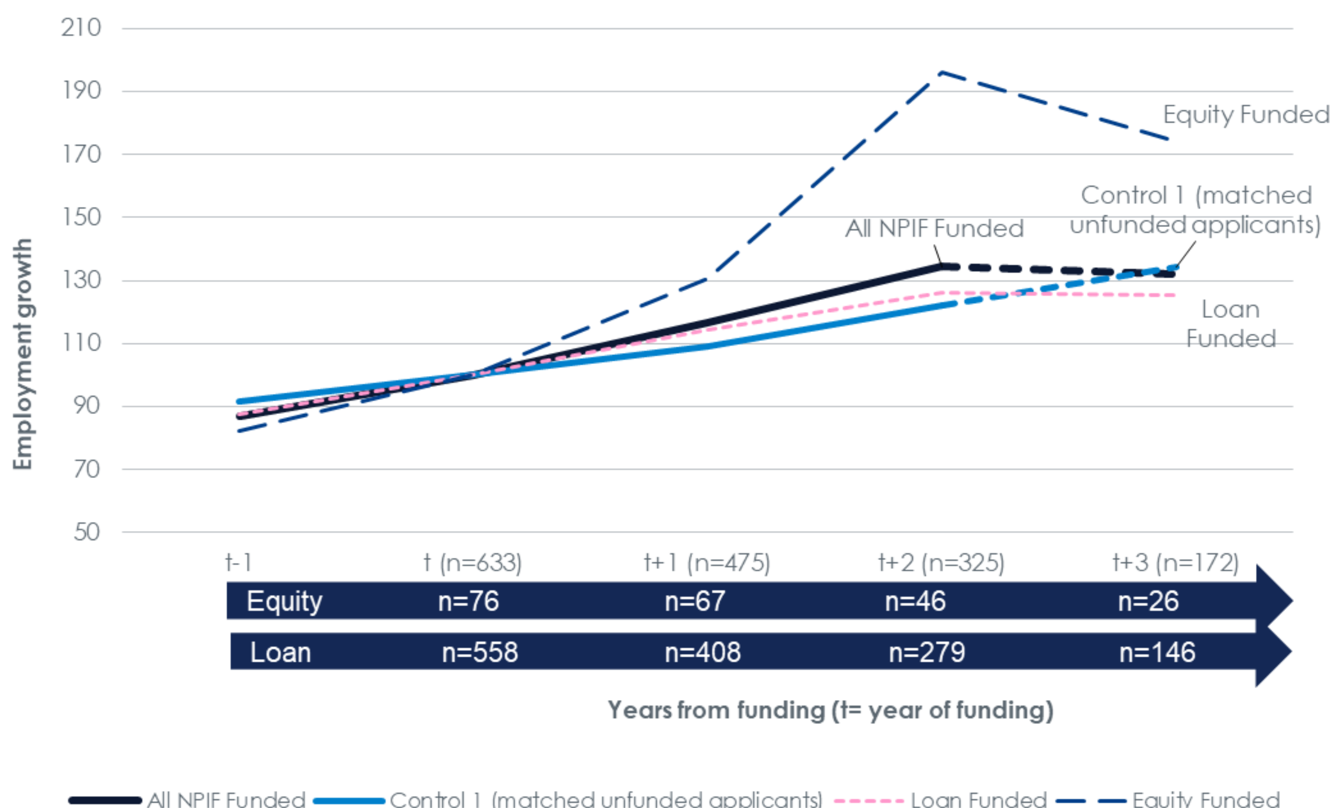
The impact on those receiving only equity and only loan support has also been tested in two ways:

- Examining the performance of businesses that received loans and equity compared with the matched control groups
- Regressing the growth rates for funded and matched unfunded businesses on a treatment dummy and on being an equity recipient (to identify how much incremental growth is observed from being an NPIF beneficiary and that funding being equity-funding

Figure 6.3 shows employment growth for equity and loan recipients separately. However, the sample of 76 NPIF equity beneficiaries is very small and drops to 26 with three years of data. The sample for loans is more robust. In terms of employment growth, in the first couple of years, equity funded businesses perform more strongly than loan funded businesses. However, the opposite is true for turnover, with loan recipients initially growing more rapidly. This seems intuitively right as equity businesses are often at an earlier stage, developing products and building employment rather than sales initially. Loan businesses are more established and invest in activities to enable sales growth.

Estimating loan and equity-funded effects separately has some issues. The main one is that the split is quite unequal, and the limited number of equity-funded businesses leads to concerns about robustness. A further complication is that the control group, drawn from businesses that did not receive funding, may be less suitable to draw comparable businesses for the two forms of support. An alternative estimation approach, regressing the growth rates for funded and matched unfunded businesses on a treatment dummy and on being an equity recipient was used to provide. In year 1, when the sample size is largest, the effect is positive but insignificant. Their employment growth is 10% higher and contributes 1.6% to the DID. It is only possible to look at one year as there is insufficient data for years two and three.

Figure 6.3: Employment Growth for Loan Funded and Equity Funded Businesses



Do the businesses attract private sector fundings?

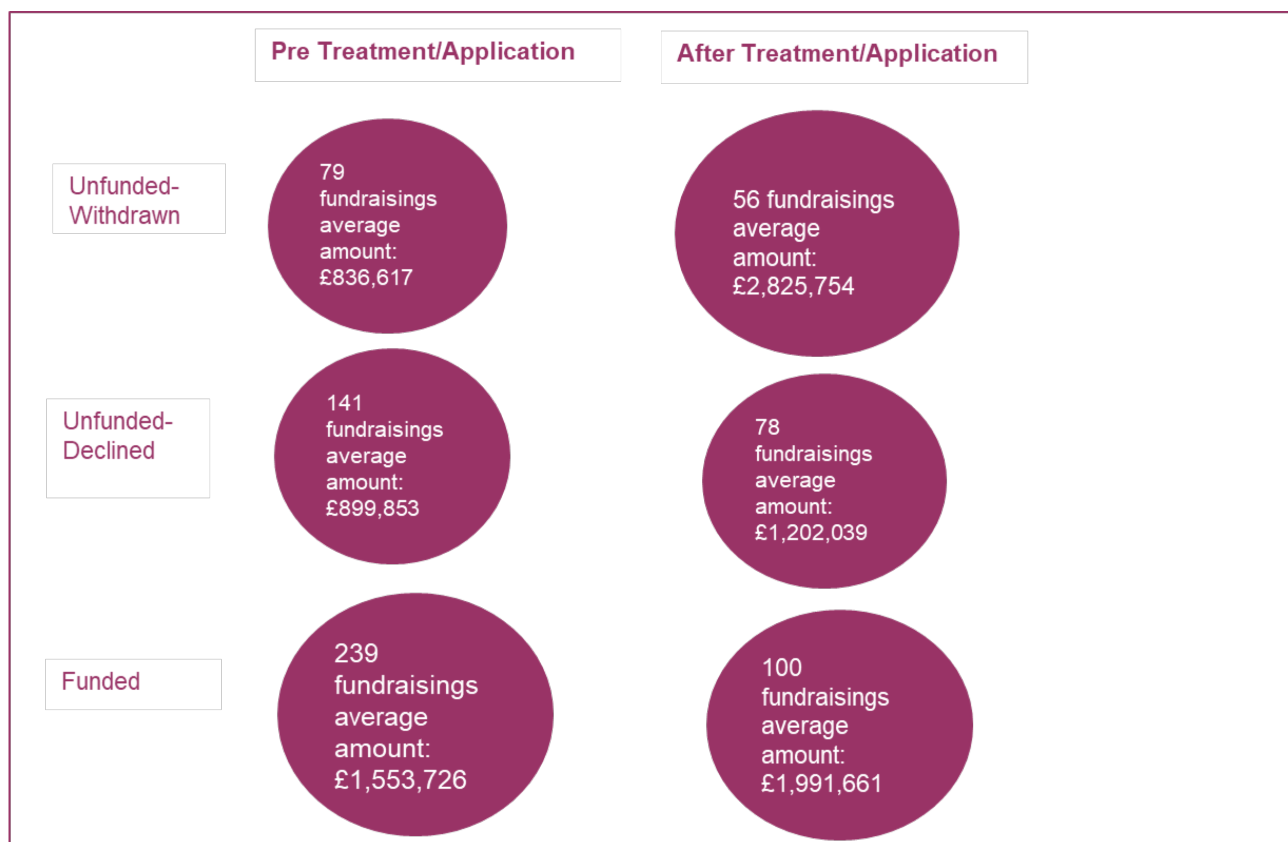
One of the aims of NPIF support is to encourage and attract additional private sector investment. This may take the form of equity or loans, but for equity the evidence is generally publicly available and compiled for analysis. The funded and unfunded businesses were linked to Beauhurst to analyse additional sources of fundraising received. Beauhurst focuses on equity and may not pick up all additional debt obtained:

- Among the 141 businesses that had received NPIF support and were identified in Beauhurst, there were 239[52] fundraisings prior to NPIF support and 100 post NPIF support[53]. The average amount of support being received per firm increased from £1.5m before NPIF to £1.9m after being supported.
- The unfunded businesses also increased the amount of support they were receiving, and it appears those businesses who withdrew rather than were declined were more successful at increasing the amount of funding received, after their NPIF application. It suggests that among this pool of Beauhurst businesses, those that withdrew were often able to raise significant finance from elsewhere.

[52] Not including NPIF fundraising
[53] Where treatment year was the same as support year, this was counted as after, it is important to remember that there are not many years after NPIF support

- However, this analysis is limited to businesses identified by Beauhurst and does not include businesses that have not been able to raise funding before or after their NPIF application.

Figure 6.4: Additional Private Sector Investment



Triangulation with the business survey

The business survey provides a valuable source of triangulation for the results found in the econometric analysis. Triangulation is used to increase the credibility and validity of research findings by combining methods to help avoid fundamental biases that could arise from the use of a single method. The variables derived from the two approaches are shown for comparison in Table 6.6.

Employment

Within the business survey sample of 274 businesses, gross employment had risen from the time of the NPIF award to the time of their interview (mid 2021) by 2,256, an average of 8.2 per business. Across the 475 businesses linked to the BDS employment rose from the year before receiving funding to the most recent 2019/20 data by 2,661, a smaller increase of 5.6 jobs per business.

The proportion of these jobs attributed to NPIF is calculated in different ways by the econometric analysis and from the survey data. The econometric analysis compares the performance of funded businesses with a matched control group while the survey asks business to estimate the number of jobs they would attribute to the funding.

The calculation of outcome additionality from the survey is more complex and is based on each response to a question about the proportion of reported outcomes that could be attributed to the NPIF funding[54]. This is therefore the overall additionality of the outcomes and not finance additionality (whether or not the businesses would have accessed alternative sources of finance). Using firm-level responses, employment and turnover estimates are adjusted case-by-case on the following basis:

- Benefits would have happened anyway - 0% additionality
- Would have taken longer to achieve - based on estimated delay (up to a year 15%, 1 to 2 years 30%, more than 2 years 50%)
- On a smaller scale - based on respondents' assessment of reduced scale
- None of these benefits would have happened - 100% additional

Applying these assumptions produced a change in employment of 42% of the gross reported change. By comparison, the average additionality derived from the econometric analysis across years one and two (which produced the most robust estimates) is 35%.

The *additional* employment estimates for each method are shown in the Table. To provide a direct comparison Table 6.6 also shows the additional jobs per business. From the econometrics this is 2.0 and 3.5 for the survey. The survey sample covers a longer period (up to mid-2021) so it might be expected that this would lead to a higher average per business.

Similar figures have been calculated for turnover. Although the survey did not capture turnover figures at the time of the NPIF award, it did gather data on businesses' estimates of the additional turnover that they attribute to the NPIF funding. The results are shown for the samples, per business and per business per year.

Overall, the turnover estimates are more consistent than the employment figures. The turnover figures, in particular, provide reassurance that the estimates are robust.

[54] See Table 5.3: Would the benefits experienced have been achieved without NPIF finance - survey findings (n=274)

Table 6.6: Comparison of derived econometric and survey variables[55]

	Data from econometric analysis	Business survey results
Number of firms	475	274
Gross change	2,661	2,256
Gross employment change per business	5.6	8.2
Implied additionality	35%	42%
Additional employment change	931	957
Additional change per business	2.0	3.5
Additional change per business per year	0.79	1.25
Turnover		
Additional turnover in sample (£m)	153.5	83.6
Additional turnover per business	£323,127	£305,099
Additional turnover per business per year (£)[56]	£148,936	£161,697

Application of the results

These values can be used to provide estimates of the net employment and turnover effects of the NPIF funding to date. These are examined in more detail for the Programme in the Value for Money section.

The datalinking and econometrics analysis estimated that on average across the sample there were 0.79 additional jobs per business per year and additional turnover of £148,936. These figures can be used to provide a broad estimate of the impact across the portfolio of businesses funded to 2020/21.

Table 6.7 sets out the calculations by applying these averages to the number of businesses funded in each year. The Table estimates that the 781 businesses funded to 2020/21 have generated an increase of just under 1,500 additional jobs and enabled additional turnover of £275 million. These figures are before any assessment of wider displacement effects.

[55] It is important to note that the proportion receiving equity finance was around 11% in the econometric sample compared with 28% in the business survey.
[56] Details of how the per year calculation is done are in Table 8.1

Table 6.7: Estimates of impacts to date from 781 businesses funded to 2020/21

Cohort	Number of businesses	Jobs per business	Additional jobs	Cumulative turnover per business	Additional turnover (£ million)
2017/18	155	3.18	492	£595,745	92.3
2018/19	202	2.38	481	£446,809	90.3
2019/20	199	1.59	316	£297,873	59.3
2020/21	225	0.79	179	£148,936	33.5
Total	781		1,468		275.4

Conclusions

This report has used counterfactual impact evaluation to analyse the effects of the Northern Powerhouse Investment Fund on employment and turnover. This covered 475 funded businesses that could be tracked with ONS data and had more than one year's data up to 2019/20.

NPIF has generally been supporting growing businesses. Across the sample employment increased by 2,661 from the year of support, or 5.6 jobs per business in gross terms.

Compared with a matched control group of applicants that were not funded the NPIF businesses grew employment faster over the first two years and significantly faster than a control group of matched non-applicants.

The analysis estimated that 29% of the increase in employment was additional, or attributable to NPIF after two years. The additionality estimates for the third year were not significant.

NPIF businesses demonstrated faster turnover growth compared with the matched control group over the three years after receiving funding. After two years 34% of this growth was additional, or attributable to NPIF.

While the equity funded businesses appear to have grown employment faster than those that were loan funded, the statistics are reliant on relatively small sample sizes.

Triangulation with business survey results provided some reassurance on the overall scale of the results, although there is more consistency in the estimates of additional turnover than employment.

Applying the estimates of the additional employment and turnover attributable to the NPIF funding indicates that to the end of 2020/21 the programme has financed:

- 1,500 jobs
- Turnover of £275 million

These figures are before any assessment of wider displacement effects and these businesses are also expected to continue to benefit from the funding. A fuller assessment of the impact of the Programme overall is set out in the Value for Money section.

7. Wider outcomes and impacts

Outcomes and impacts for Fund Managers

In addition to the direct benefits for firms discussed above, the programme was expected to increase the capacity, skills, understanding and experience of Fund Managers in the region, as part of its wider policy objective to strengthen the finance ecosystem in the region. The evidence suggests that NPIF's impacts are more limited in this respect, in part because most Fund Managers had prior experience of operating in the region. There is some evidence to suggest that taking part in NPIF has given Fund Managers credibility (both in the finance market and with firms), enabled them to assist more firms (and at more risk) than they would otherwise have done, and helped them to become more integrated and embedded in the 'regional finance escalator' (discussed further below). One Fund Manager also noted that NPIF processes and procedures had encouraged them to become more disciplined and professional in their approach, for example in terms of monitoring processes.

Impacts on the wider finance ecosystem

Supply side

As noted in the introduction, the programme was designed to encourage a better functioning and sustainable finance ecosystem in the North over the longer-term (i.e. at least 5-10+ years after investment). Given the evaluation is taking place only 4.5 years since the first NPIF investment – and in a context where the finance market has been flooded with Covid-19 emergency finance over a third of NPIF's lifetime – it is difficult to fully assess the impact of NPIF on the wider finance market at this stage.

There is limited evidence to suggest that **NPIF has increased the *number of finance providers* in the North** directly, an anticipated intermediate outcome in the programme's logic model. This largely reflects the fact that most of NPIF's Fund Managers were already active in the region – albeit to varying degrees - prior to participating in the programme. In fact, their prior experience in the region has worked to the programme's advantage in terms of implementation, enabling some Fund Managers to build on existing networks and relationships to raise awareness of NPIF and drive deal flow. As reported in our Early Assessment of NPIF, external consultees argued that strong local knowledge, presence and networks was an important factor in the successful delivery of NPIF, whereas delivery has been more of a challenge where Fund Managers were new to an area and took time to establish relationships on the ground.

In absolute terms, NPIF has increased the *supply of finance* in the North, both in terms of loans and equity. For example, the secondary data analysis shows that NPIF represents 10% of total value of equity investment in the region, between 2017 and 2020Q1. Even though all of the Fund Managers consulted said they would be active in the North in the absence of NPIF, they consistently argued that the scale of their investment would be lower without NPIF and/or (in one case) less distributed across the region. One external stakeholder also argued that NPIF had not only increased the supply of finance in the region, but also recruited high quality Fund Managers to deliver this, which they felt was more likely to deliver better returns and encourage "better quality fund manager activity" within the region. The Fund has also levered a substantial amount of match funding alongside the NPIF

investment, as set out in Section 3. However, both Fund Managers and stakeholders noted the need to be realistic about NPIF's potential impact on the supply of finance, given its relatively small scale at £400m compared to the scale of the gap, and argued that the finance gap remained prevalent across all types of finance (and particularly early stage equity, as noted above). Three Fund Managers also noted an indirect impact of NPIF in increasing the supply of finance, whereby a NPIF offer has helped a small number of 'withdrawn' NPIF applicants get a better offer from the private market/banks. This was a slight frustration for the NPIF Fund Manager, but demonstrates its wider role influencing private finance providers and ultimately generates a positive outcome for the firms.

There was also some qualitative feedback to suggest that **NPIF has improved the *co-ordination of finance available* across the North** to some extent, both within the programme and between NPIF and the wider finance landscape. Consultees argued that NPIF's pan-regional approach has led to better co-ordination between Fund Managers involved in the programme, across finance types and sub-region (compared to earlier regional programmes). Fund Managers have also been more active in attending regional business/stakeholder events due to NPIF. The perceived credibility of NPIF funding has also been helpful for Fund Managers when dealing with local intermediaries. As a result, one Fund Manager argued that NPIF has helped them to become more integrated and embedded in the 'regional finance escalator'.

Evidence on the **extent to which NPIF has encouraged *non-NPIF* Fund Managers to operate in the North was inconclusive** at this stage. Consultees have observed some new funders in the market. Some consultees could not attribute this to NPIF, whereas others felt that NPIF had contributed to this shift alongside wider factors, including general economic growth in (parts of) the North. For example, one equity Fund Manager had seen greater interest and attention from non-Northern investors in their NPIF portfolio, particularly later stage propositions, and so felt that NPIF was creating a pipeline of investment opportunities (alongside the Fund Managers own connections with investors in the South). They did, however, note much less interest in early stage firms, with investors still less willing to take that level of risk *and* the distance. Other Fund Managers suggested that NPIF has played a role in raising the profile of investment opportunities, and looking forward has the potential to change perceptions about the commercial viability of loans/investments in the North.

Demand side

On the demand side, NPIF was intended to raise the awareness of the availability and use of loans/equity amongst SMEs and intermediaries in the North.

There was a general consensus that NPIF had played a role in raising the awareness of finance amongst SMEs in the region, more so than previous regional funds and above what might have happened without NPIF, even though the evidence above suggests more could be done to strengthen awareness further. The NPIF brand (and awareness of the Northern Powerhouse brand more generally), Fund Manager's local knowledge and presence on the ground, the increasing number of investments made by NPIF and promotion through case studies, were all perceived to be important in raising awareness. As one Fund Manager argued, NPIF is now an "established feature of the funding landscape"; another argued that NPIF was now a "trusted product brand". That said, consultees also noted how Covid-19 emergency funding had inevitably raised SME awareness of external funding over the last 18 months, alongside NPIF. The variability or lack of demand-side support across the region for NPIF to 'fit into' has arguably hindered NPIF's ability to raise the awareness and use of finance across a broader range of SMEs in the region, as discussed in Section 3. Stakeholders also felt this had implications for the region's ability to attract wider investment into the region.

There were **mixed views on the extent to which NPIF has influenced intermediaries' behaviours,** and a lack of clarity on NPIF's remit in relation to this objective. One Fund Manager felt there was good network of referrals and strong relationships with advisors, leading to greater awareness and interest from intermediaries. However, most other Fund Managers reported that referral pathways were ineffective, with very few referrals from local stakeholders. This was corroborated by monitoring data, where 50% of investments were sourced directly by Fund Managers (and nearly half of declined/withdrawn applications) across the programme as a whole by June 2021. A further 18% of investments were introduced to NPIF by Corporate Finance partners, but local intermediaries/stakeholders were generating relatively few introductions (for example, 7% of investments were introduced by local accountants, 5% were from banks, 3% from mentors/NEDs, 3% were from LEP initiatives/Growth Hubs, 3% from business support/Chambers and 1% from Universities/Education providers). Influencing intermediaries' behaviour is important, not only to raise demand for finance, but also to address the supply side issues outlined above.

Reflecting on the findings above, and looking forward to "NPIF2" it would be helpful to clarify the mechanisms through which NPIF is expected to generate wider market impacts (e.g. via demonstration?). The size of the Fund and the number of SMEs involved are relatively small compared to the market as a whole, but it is expected to deliver a sustained increase in the supply of finance to the region and influence the use of external finance across amongst a wider range of SMEs beyond those directly involved in the programme. Ensure that mechanisms are in place – and are working effectively – in order to realise these wider market impacts will be important.

8. Value for money

Approach

The approach to estimating value for money is based on the results of the econometric analysis described in the previous section. This provides good data on the additional turnover attributable to NPIF over three years 2019/20[57]. The results are used to provide GVA benefit values for businesses that received NPIF funding that can be compared with the costs of delivering the Programme.

The results of the econometric analysis are triangulated with separate calculations made from the business survey responses. This provides a useful sense check and reassurance on the validity of the values used. Finally, we have undertaken a number of sensitivity tests on the results to demonstrate the effects of changes in the programme costs and benefits over the remainder of the Programme.

Econometric evidence

A summary of the turnover data drawing on the IDBR data set is shown in 8.1. This allows us to estimate the average additional turnover per business per year. While the econometric analysis does provide results for each year, the sample is smaller in the third year and the results are likely to be less robust. To address this, we have combined the data across all the years and firms to produce a single figure. The estimate is also broadly consistent with the findings from the business survey.

The econometric analysis matched 475 businesses in the ONS data; 172 had data for three years, 153 had data for two years and 150 had data for one year. Each of these cohorts is set out in the columns in Table 8.1. The next three rows show the change in turnover after one, two and three years for each cohort. The Table then shows the cumulative change in turnover over the period covered, for each cohort. For example, among the first cohort, turnover had risen by £146 million by year three, but they had also seen increases in years one and two. The change in gross change in turnover *per year* is calculated by dividing the gross change in turnover by the number of years of data for each cohort.

The econometric analysis also used Difference-in-Difference comparisons with the control group to estimate the proportion of this change that could be attributed to the NPIF funding. Although the analysis provides additionality figures for each year, the year two estimate of 34.2% is the most robust statistically and has been applied to the gross turnover changes. Across the sample this gives a total of £70.7 million of additional turnover per year across the 475 businesses, which is £148,936 per business per year.

[57] The data for 2020/21 will be available in early 2022 and will help refine the results.

Table 8.1: Derivation of additional turnover per business estimates

	2017/18 Cohort	2018/19 Cohort	2019/20 Cohort	Total
Number of firms	172	153	150	475
Change after 1 year (£m)	43.9	18.2	66.4	
Change after 2 years (£m)	114.6	59.6		
Change after 3 years (£m)	146.1			
Cumulative change (£m)	304.6	77.8	66.4	448.8
Number of years data	3	2	1	
Gross change in turnover per year (£m)	101.5	38.9	66.4	
Average additionality	34.2%	34.2%	34.2%	0
Additional change in turnover per year (£m)	34.7	13.3	22.7	70.7
Additional turnover per business per year (£)				**148,936**

Source: SQW analysis of Belmana econometric results

Triangulation with survey data

The business survey provides a useful source of triangulation for the results found in the econometric analysis. The variables derived from the two approaches are shown for comparison in the earlier chapter in Table 6.6. Overall, the average turnover per business per year (£161,697) calculated from the survey results was broadly consistent with the econometric data (£148,936). However, the econometric analysis results are considered to be more robust and are used as the basis for the value for money calculations below.

Estimating Gross Value Added

To estimate the additional GVA attributable to the NPIF funding, the turnover estimates can be converted using a ratio of GVA to turnover derived from ONS data (collected by the Annual Business Survey). For the non-financial business economy, the 2019 results[58] indicate that across all sectors, GVA was 33% of turnover for SMEs. This ratio is applied to the additional turnover to give the estimates of GVA.

Displacement

Displacement occurs when an increase in economic activity or other desired outcome is offset by reductions in economic activity or other desired outcome in the area under consideration. In this case where increases in the output of funded businesses are at the expense of other unsupported business in the Northern Powerhouse area and more widely in the UK.

[58] Annual Business Survey - 2019 Results businesses with <250 employees https://www.ons.gov.uk/businessindustryandtrade/business/businessservices/datasets/uknonfinancialbusinesseconomyannualbusinesssurveyemploymentsizeband

This is extremely hard to estimate. The businesses survey asked, “was the business to cease trading tomorrow, would any competitors in the Northern Powerhouse area take up their current sales over the next year?” Where businesses indicated no sales would be taken, displacement is treated as zero. Where businesses considered that some of the sales would be taken, displacement is treated as 50% and where all sales would be taken up by competitors in the area displacement is 100%. In cases where businesses were using the funding to introduce products or services that were “new to the market” displacement is treated as zero.

Applying these rules to the responses of each of the cases reduces the total net additional turnover attributable to NPIF by a further 29% (i.e., 71% is considered to be non-displaced). This estimate seems reasonable given the proportion of sales that are made within the Northern Powerhouse area (39%) and the evidence that funding has been used to grow exports and introduce new products.

At a UK level displacement will be higher. Although a high proportion of sales are made in domestic UK markets, we also know from the business survey that finance has been used for investment in developing “new to market” products and services, which are less likely to displace existing activity. A significant proportion has also been used to raise skills and improve productivity. This can reduce prices and improve quality and some of these new sales will be through market growth and reducing costs to customers. Given the considerable complexity of these effects, the analysis uses an uplift of 50% from displacement at Northern Powerhouse level (29%) to a UK level (43%) as a simple proxy.

VFM modelling assumptions

Table 8.3 sets out the net additional GVA generated by the cohort of businesses supported in each year. The figures are adjusted for displacement and discounted. This allows estimates of the overall effects to be built up for the Programme as a whole. There are a number of assumptions made in these calculations:

- Discounting - the future GVA estimates, and cost values are estimated for each year of the Programme and discounted using the Treasury discount rate of 3.5%
- The model assumes that the increases in GVA estimated in the econometric analysis continue for five years. This is the length of typical loan repayment period. In future years, there may be evidence to extend this
- In the scenarios with write offs of 3%/5%/10% the model also excludes any GVA benefit from the equivalent proportion of businesses. This is conservative as in some cases finance could be recovered and there may be some benefits for a short period of time.
- GVA is calculated from turnover estimates using a ratio of GVA to turnover for UK SMEs.
- The model does not include any multiplier effects (as per BBB guidance).

As NPIF costs

Estimating value for money requires reliable estimates of the costs of delivering the Programme, including the opportunity cost of the outstanding finance. Costs were estimated for each year and discounted.

- **Management and staff costs** – cost data for management fees and staff costs has been provided by BBB to Q3 2021. These have been set out for each year. Future costs have been estimated using the average over the past three full years (excluding start-up costs) for management fees and four years for staff costs.
- **Write offs** - We have modelled four scenarios for write offs over the length of the Programme. These are that write offs reach:
    - 3% of the full investment by the end of the Programme
    - 5% of the full investment by the end of the Programme
    - 10% of the full investment by the end of the Programme
    - We have also provided an estimate based only on the actual write off figures based on the data "to date".
- **Opportunity cost:** is calculated using the Bank Rate and applying this to all the outstanding finance. This is the effective interest rate paid on the Bank of England's gilt purchases and ranged from 0.75% in 2019 to 0.1% at the start of the pandemic. The opportunity cost is calculated for each quarter and aggregated to provide annual figures. For future years we have assumed that the outstanding balance starts to decline over the remainder of the Programme as the repayments start to exceed the new investments.

The total costs of the Programme *to date* are estimated to be £18 million. The results in Table 8.2 assume that write offs rise to 5% of the full Programme investment by 2027/28. This would give a full Programme cost of £41 million.

- The net additional GVA *to date* is £77 million
- The discounted GVA forecast *for the Programme as a whole,* assuming that write offs rise to 5%, is £139 million.

Table 8.2: Net additional GVA estimates by year (Assumes 5% write offs by 2027/28)

Cohort	Number of SMEs	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
2017/18	147	4.3	4.3	4.3	4.3	4.3						
2018/19	192		5.6	5.6	5.6	5.6	5.6					
2019/20	189			5.5	5.5	5.5	5.5	5.5				
2020/21	214				6.2	6.2	6.2	6.2	6.2			
2021/22	125					3.7	3.7	3.7	3.7	3.7		
2022/23	183						5.4	5.4	5.4	5.4	5.4	
2023/24	183							5.4	5.4	5.4	5.4	5.4
Total	1234											
Total	**Annual GVA**	4.3	9.9	15.4	21.7	25.4	26.4	26.2	20.6	14.4	10.7	5.4
Total	**Cumulative GVA**	4.3	14.2	29.7	51.3	76.7	101.6	126.3	145.4	158.3	167.5	171.3
Total	**Cumulative discounted GVA**	4.3	14.2	29.7	51.3	**76.7**	98.2	117.9	131.1	137.9	141.0	**139.4**
Programme costs		2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
	Net Write off	0.0	0.0	0.4	0.8	0.9	2.0	2.4	2.4	2.4	2.4	2.8
	Other Programme costs	7.0	2.9	3.0	1.0	2.1	1.9	1.9	1.9	1.8	1.8	1.8
	Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Costs discounted	7.0	2.9	3.4	1.8	3.0	3.8	4.0	3.9	3.7	3.6	3.7
	Cumulative costs	7.0	10.0	13.4	15.1	**18.1**	22.0	26.0	29.9	33.6	37.2	**40.9**

Value for money

Value for money is measured as the ratio between the benefits, measured as the additional GVA attributed to the NPIF funding and the costs of delivering the Programme. There are two ratios:

- The net impact to date and the costs incurred to date
- The discounted forecast programme impacts and the full anticipated costs (estimated from the current values).

The estimates are heavily dependent on forecasts for the future value of write offs. Although these have remained low to date, currently less than 1% of the investment value, in anticipating the costs of the programme as a whole, it would be reasonable to assume a higher proportion of write-offs than has been seen to date. We have used a fairly conservative value of 5% for the base case in Table 8.3. It is important to consider that a substantial proportion of the funding has already been returned and 5% of the overall investment would mean an even higher percentage of the outstanding balance being written off.

It is also worth reiterating that our assessment of benefits is relatively conservative and does not include multiplier effects, and it is too early to fully assess future impacts of NPIF, as outlined above. The value for money assessment may therefore under-estimate the full/future benefits associated with the programme.

It has not been possible to benchmark these results due to the lack of directly comparable and recent evaluation evidence for relevant programmes (i.e. with a similar composition of small/large debt and equity) and comparable CBA methodologies.

Table 8.3: Net impact estimates

	GVA (£m)	Costs (£m)	Benefit/Cost Ratio
Net impact to date	76.7	18.1	4.2
Forecast programme impact (Using estimate of 5% write offs)	139.4	40.9	3.4

Source: SQW estimates

Sensitivity

Given the considerable uncertainties it is useful to consider several scenarios. Perhaps the biggest will be the proportion of write-offs over the remainder of the Programme. The write off costs to date have been low at less than 1% of the investment value. The table below shows the benefit cost ratios if this increases to 3%, 5% and 10% of investment value. It also shows the effects of falls of 10% and 20% in the GVA per business per year attributed to the Programme.

Table 8.4: Sensitivity of benefit/cost ratio to changes in additional GVA per business and level of write offs

	Change in additional GVA per business	Change in additional GVA per business	Change in additional GVA per business
	0%	**-10%**	**-20%**
Write off value			
To date	4.2	3.8	3.4
3% Write off	4.1	3.7	3.3
5% Write off	3.4	3.1	2.7
10% Write off	2.4	2.1	1.9

At this stage, the results indicate that the NPIF Programme is delivering good value for money. The analysis has been built up using the data from 2017/18 to 2019/20, before the Covid pandemic, and this could see some big changes in business performance. The data for 2020/21 should be available over the next six months and will allow further analysis.

A further year of data will also help understand the differences between equity and loan performance. Although the sample sizes are small, both the business survey and the econometrics suggest that equity investment has created more, higher value, jobs. However, in terms of value for money, the costs of delivering equity finance are higher than loans. It will take more time to see how these investments perform to provide a more reliable comparison.

The sensitivity tests show the importance of both the write offs and the level of benefit for the benefit/cost ratios. At this stage write offs have remained low at around 1% of the investment value. Over time this may increase while the out-turn of the equity investments will not be known for some time. However, the sensitivity analysis shows that even if the value of write offs was to rise to 5% of the investment value, the benefit/cost ratio is likely to be around 3.4, still representing good value for money.

9. Summary of findings and conclusions

Key messages

Inputs, activities and outputs

Overall, demand for NPIF finance has been strong and the offer was well aligned with SMEs' needs. By June 2021, £281.2m of NPIF finance had been deployed via 1,206 investments in 913 SMEs. Of this, 55% was larger debt finance, 39% was equity and 7% was microfinance. The Funds are relevant to meet business needs, although the average size of investment was slightly higher than expected, reflecting SME demand. Also, around one-fifth of SMEs had received more than one NPIF award, demonstrating how the programme has started to make follow-on investments. Investments had been made across the 10 LEP areas involved in NPIF, and the geographical spread of investment broadly reflected the distribution of ERDF eligible businesses across the region. Cities have attracted a large share of funding, but one-fifth of investment had been secured by SMEs in districts that were rural or urban with a significant rural topography. The total value of investment by mid-2021 was above expectations, with deployment rates holding up during the pandemic and since Covid-19 emergency funding ended. Looking forward, the evidence suggests that demand for equity will remain high, but demand for debt finance over the short-term (especially larger loans) is more uncertain.

The Fund was also very close to reaching ERDF output targets for the number of firms supported with finance by June 2021, which was leading to strong performance against targets for jobs and innovation outputs. The NPIF had also levered £322.0m of private sector finance, and qualitative evidence showed how NPIF has played an important role in giving other investors the confidence to invest.

The programme has under-performed against output targets relating to non-financial support. This is explained, in part, by administrative challenges in collating the necessary paperwork but also a tendency of some Fund Managers to prioritise deployment of funds over non-financial support. Given demand-side challenges identified in the evaluation, this should be addressed going forward. The programme has also struggled to meet its target for 'new SME assists', primarily because NPIF microfinance has been competing with the British Business Bank's Start Up Loans. NPIF's position in this market should also be reviewed.

Finance additionality

The programme has performed well in terms of finance additionality. Nearly half of survey respondents said they would not have got finance at all without NPIF (i.e. full additionality) and nearly one-third would not have accessed finance as quickly and/or to the same scale (i.e. partial additionality). On the latter, NPIF makes more difference to accelerating access to finance (more so than increasing the scale). Deadweight is low, with only 16% of survey respondents arguing they would have secured finance anyway in the absence of NPIF.

There are differences in finance additionality for the different types of finance. Full additionality much higher for equity than debt, and within debt finance, full additionality is higher for microfinance compared to larger loans. Accelerating access to finance is particularly important for debt. Deadweight is very similar for both debt and equity. NPIF's performance in terms of finance additionality has also improved

since the Early Assessment: the proportion of investments that are fully additional has increased and deadweight has fallen, suggesting an ongoing finance gap in the region.

The evaluation has also tested the extent to which SMEs considered alternative finance at the point they applied for NPIF. Two-thirds of survey respondents did seek alternative finance, but success rates were low, with limited (acceptable) equity offers and/or rejections from debt providers due to a lack of collateral/track record or risk.

Overall, this evidence supports the rationale for NPIF, in terms of the gap in equity finance in the North and challenges for SMEs in accessing microfinance in particular. Enabling firms to access finance more quickly is also critical for many firms (as well as being the only option/last resort for other firms), enabling firms to remain competitive and quickly take advantage of opportunities for growth. Without access to finance through NPIF, many opportunities for growth (as evidenced by the net impacts observed by NPIF beneficiaries) would have been missed.

Wider activities and processes

In addition to the NPIF finance itself, Fund Managers also provide wider support which is highly valued by SMEs and was a key factor in prompting them to seek support from NPIF in the first place. This includes support to develop management teams, advice on topics such as sales/marketing and exits, access to investor networks, and additional support during Covid-19 to firms in distress. The evaluation demonstrates how SMEs have benefited from locally based Fund Managers who invest time to understand business needs and plans, and can tailor advice (and finance) in response. In the beneficiary survey, levels of SME satisfaction with the programme were high.

The Bank and NPIF Fund Managers have also undertaken wider awareness raising activities across the region, and the evidence suggests that the visibility, reach and embeddedness of the programme has improved as a result. However, the evidence also suggests there is ongoing need to raise awareness of NPIF further, both in terms of the region's business base and amongst intermediaries.

There is mixed evidence on the extent to which NPIF has played a role in enabling the North's finance landscape to function more effectively. There is evidence to show that co-ordination between NPIF's Fund Managers has improved (with examples of cross-referral between different types of finance) and some Fund Managers are better connected with local stakeholders. However, there is still scope for improvement in how NPIF interacts with other stakeholders/intermediaries in the region. Most demand has been self-generated by Fund Managers, with relatively limited referrals from other partners in the region. As noted above, deployment rates have not suffered because of this (indeed, they are above target) but it may have implications for how effectively NPIF delivers against its objective of creating a better functioning and sustainable finance ecosystem across the North. Part of the issue appears to be a lack of clarity amongst local stakeholders/intermediaries about the investment strategies and risk appetite of NPIF Fund Managers (notably for equity), leading to uncertainty around the appropriateness of referrals. This suggests a need to clarify and better communicate NPIF's objectives and target market (including in terms of risk), strengthen referral mechanisms and (re-)build relationships with local intermediaries looking forward.

Feedback on the Business Bank management and 'stewardship' of the programme was positive, where it has played an important role to balance the demands of stakeholders across the North and the objectives of the programme (and its funders).

Firms

According to our beneficiary survey, the three main uses of NPIF debt and equity finance have been (i) working capital, (ii) staff recruitment and skills development, and (iii) innovation-related activities, to adopt new/improved processes internally or develop new products/services for the market. The majority of SMEs had spent most of the NPIF finance at the time of interview, and this was already flowing through into benefits for the firms.

NPIF has influenced SMEs' ability to secure follow-on finance. Nearly half of survey respondents had secured follow-on finance (excluding NPIF awards), and NPIF had a large or moderate influence in securing most of this finance. The findings are also encouraging in terms of NPIF's legacy, in terms of raising beneficiaries' awareness, confidence and ability to secure private finance in future.

Reflecting how the finance has been used, NPIF has led to a range of benefits for the firms supported, including improvements to skills, efficiency and innovation – all of which play a critical role in underpinning better productivity performance and economic growth in the North. The programme has also contributed to low carbon agendas, by enable firms to reduce their environmental impact. Moreover, it is important not to lose sight of NPIF's role in supporting the resilience of almost all SMEs surveyed, and helping one-third of firms to avoid closure. In doing so, NPIF has helped to both retain innovative firms with growth potential in the North and strengthen their foundations for growth and resilience to shocks in future. These outcomes are leading to quantitative impacts on employment, turnover, productivity and profitability (and for equity recipients, company valuations) across the majority of firms supported. In terms of employment, NPIF's equity investment in particular (and to some extent debt) is leading to employment opportunities in senior occupations and high value jobs in the North. According to the survey, these outcomes and impacts are expected to continue in the next three years.

Impacts on international markets – also one of NPIF's objectives – is weaker, reflecting the fact that firms surveyed served largely UK-based markets, and the wider context in which NPIF has operated (i.e. Brexit and Covid-19) which has hindered progress in this area.

Evidence from the survey and econometric analysis indicate the programme is delivering impacts above and beyond what would have been observed in the absence of NPIF. The econometric analysis of NPIF beneficiaries compared to a matched control group shows growth in employment and turnover was higher in the beneficiary firms and this difference was statistically significant at least in the first two years after investment. In other words, beneficiaries have seen higher rates of growth than unsupported firms, and this uplift is attributed to NPIF. Productivity growth was also higher for beneficiaries: the difference was not statistically significant in the first two years after support, but it's likely that productivity benefits have not yet had time to flow through. The sample size is small when disaggregated by type of finance (and therefore less robust) but indicates that equity funded firms perform more strongly in terms of employment growth than loan funded firms, whereas loan recipients see higher growth initially in terms of turnover (reflecting the fact that equity firms are typically earlier stage).

Commercial performance

To date, the programme has performed well commercially. One-fifth of finance invested had already been returned to the Fund by June 2021, primarily from the microfinance and debt funds, and a small number of exits. The scale of arrears and write offs (by value) were both very low (<1% of investment). This suggests effective targeting, due diligence, and the value of wider support from NPIF's Fund Managers. However, some caution is needed given that limited time has passed since many NPIF investments, the flexibility on repayments offered by Fund Managers during Covid-19, and the

availability of wider Covid-19 emergency funding to support businesses more generally, and the rate of write-offs should be monitored closely looking forward.

Fit and influence on the wider finance ecosystem

In broad terms, NPIF has been well aligned with wider finance and support available in the region. Even though some new financing mechanisms have come on stream since NPIF was set up, the evidence does not suggest NPIF duplicates support available elsewhere and NPIF has reportedly worked well alongside Covid-19 emergency funding more recently. That said, it has been a challenge to align NPIF with demand-side support in the region, particularly given the availability of investment readiness and wider business support is very variable and patchy across the region. Whilst the priority for NPIF has been to address the supply-side, weaknesses in demand-side support could impact upon the ultimate success of the programme, especially as NPIF is scaled up in the forthcoming "NPIF2".

It is still too early to fully assess the impact of NPIF in improving the wider finance ecosystem at this stage. On the supply-side, early indications suggest that it has increased the quantum of finance available in the region considerably (directly and by leveraging a substantial amount of private sector match funding) and also strengthened the co-ordination of finance (within and beyond the programme itself). However, there is inconclusive evidence to suggest it has increased the number of finance providers in the North, or encouraged new Fund Managers to invest in the region.

On the demand-side, and as noted above, NPIF has contributed to a better awareness of finance amongst SMEs in the region, although other factors have been at play here, including the influx of Covid-19 related finance. There were also mixed views on the extent to which NPIF has included intermediaries' behaviours.

Overall, in light of this evidence on market impacts alongside the findings above relating to ongoing market gaps and finance additionality achieved by NPIF, the financial ecosystem in the North is not yet nearing a self-sustaining position.

Looking forward, the programme would benefit from greater clarity on the mechanisms through which it is expected to generate wider market impacts. Also, as NPIF matures into the main realisation and repayment period, greater dissemination of the programme's financial performance might help to attract further investment into the region and mainstream investment in these types of firms.

Net impact and value for money

The results of the econometric analysis suggest that by 2020/21, NPIF had generated (an additional) 1,500 jobs and £275m in turnover to date in the businesses financed. This is equivalent to almost £150,000 in additional turnover per business per year. Triangulation with the business survey, which produced a similar result, provides some reassurance of the estimates reliability.

The value for money section provides a more detailed quantitative assessment. After adjusting for displacement and discounting future values in line with HMT guidance, we estimate that to the end of 2021/22 the net additional GVA generated will be around £77 million[59], The costs over this time are £18 million, giving a Benefit Cost Ratio of 4.2. Given the evidence and assumptions used to underpin this analysis, this is likely to be a conservative estimate of value for money.

Once NPIF has invested the remaining funding, the total net GVA from the programme and the costs incurred will depend on the level of write-offs. At this stage write offs have remained low at around 1% of the investment value. Over time this may increase while the out-turn of the equity investments will not

[59] This includes the estimated impact businesses supported to date in 2021/22.

be known for some time. The analysis models the effects of write-offs reaching 3%, 5% and 10% of the total investment value by 2027/28.

With write-offs of 5%, the net additional GVA generated would be around £139.4 million and the costs, £40.9 million, giving a BCR of 3.4. This would represent good value for money. With write-offs of 3% this would be 4.1. At 10% it would fall to 2.4. The out turns of these investments will be become clearer over the next few years and will be re-assessed in the final evaluation.

Overall assessment

Overall, NPIF has performed well against its original objective to generate economic growth through increasing the supply of finance in the North. The finance has been targeted at SMEs with growth potential and generated 'new'/additional growth by supporting firms who would not have secured finance at all/as quickly, by generating outcomes that boost the productive capacity of the region's economy, and by helping firms to bring new innovations to market. The evidence suggests that NPIF has made an important contribution in enabling outcomes and impacts observed. Figure 9-1 presents an updated Theory of Change for the programme to illustrate how the Fund has worked in practice, summarising performance against intended outcomes and impacts, routes to impact, and factors that have helped or hindered progress of the Fund.

The Fund has also made progress towards tackling the original market failures it was designed to address. Amongst the firms supported, there is evidence that information failures are less acute and investment readiness has improved, but more broadly on the demand side, these issues are still evident across the North's wider business base. On the supply side, NPIF has meant a greater quantum of finance being invested in the North that would otherwise not have taken place, through dedicated, locally based fund managers who are helping to widen the diversity of funding options available to SMEs in the region. There are some early signs of improvements to the finance ecosystem, with better co-ordination between NPIF fund managers and their integration with the local support landscape but encouraging greater finance into the region remains a challenge. In assessing NPIF at this stage, we need to be realistic about the impact a £400m fund can have on the system as a whole over a relatively short timeframe, particularly given the scale, nature and longevity of the challenge faced in the North, but evidence suggests it is heading in the right direction.

Drawing on the evidence gathered, and lessons learned in this evaluation, the British Business Bank should consider the following key points over the remainder of NPIF's lifetime, to ensure the programme's impacts are maximised:

- Greater clarity and communication of NPIF's priorities, target audience and associated risk profile. This may help to (re-)build and strengthen relationships with local intermediaries.
- Greater clarity on the mechanisms through which wider market impacts are expected to occur, and linked to this, strengthen relationships with local intermediaries and disseminate information the Fund's commercial performance as it enters its repayment phase to demonstrate the quality of propositions in the North to other private sector finance providers and influence their investment behaviours.

In addition, the following lessons and reflections should help to inform the design of future policy, including NPIF2:

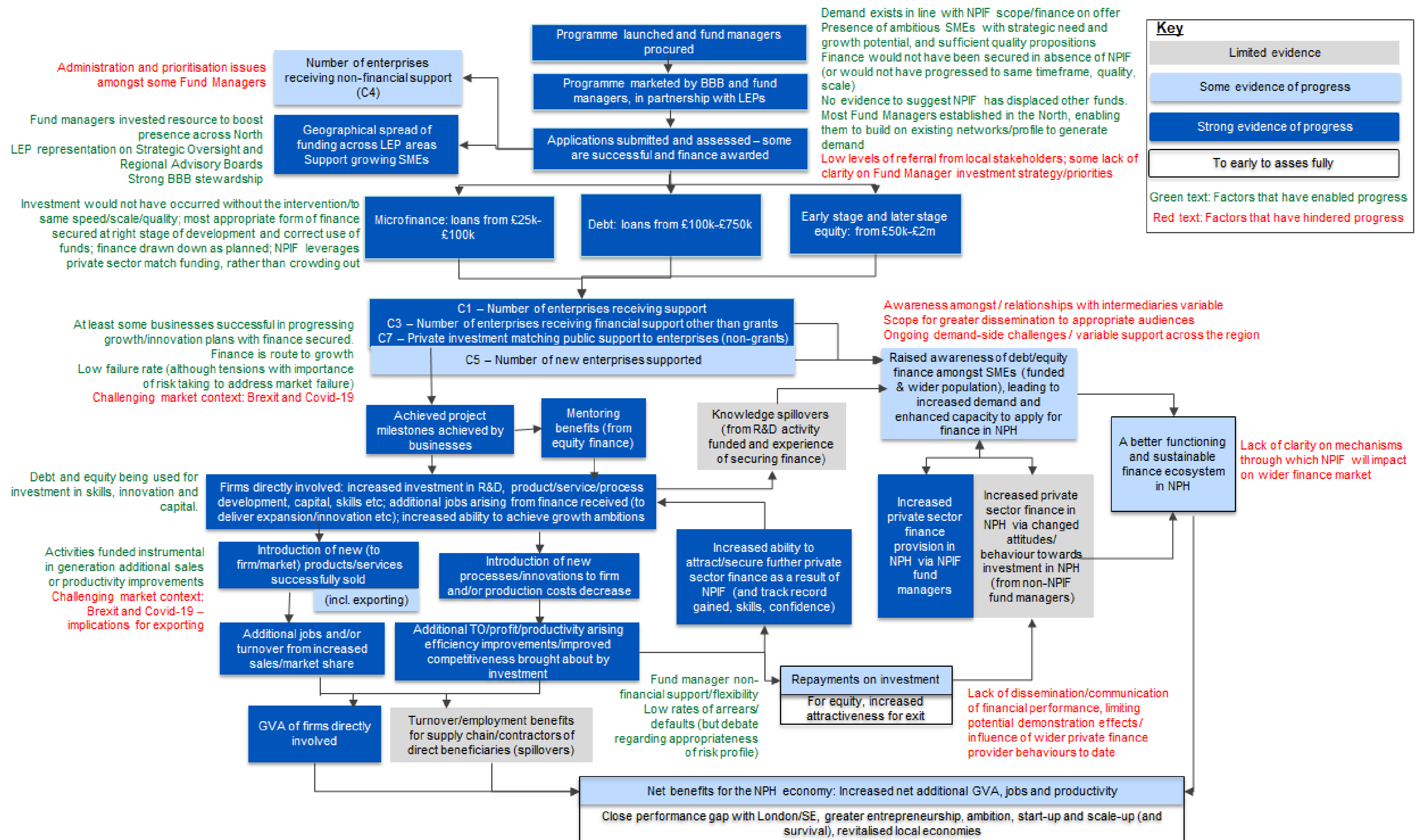
- The composition of the funds and the balance between microfinance, larger loans and equity (the possibility of ringfenced funding for early-stage equity). The latter should involve further

market testing of demand. The availability of sufficient follow-on finance is also important, both within NPIF and through links to the wider finance market.

- Linked to the point above, it is important to clarify the target audience/market. To date, NPIF has prioritised commercial returns, in part to repay the EIB loan and demonstrate to the wider market the commercial attractiveness of opportunities in the North. Given the scale of the finance gap in the North (especially for equity), NPIF has therefore been able to support relatively 'strong' propositions, which in turn has led to strong performance against impact measures and value for money. However, NPIF is also a regional programme and some local stakeholders questioned whether NPIF should readjust the balance between NPIF's commercial and economic development objectives, playing a greater role in the higher risk part of the market (especially for equity). Widening the reach of NPIF may be necessary given the substantial scale of funding committed to NPIF2. This might help to increase additionality of the programme further (i.e. by shifting more investments from deadweight/partial additionality to full additionality), but it might also have implications for commercial returns, write-offs and scale of impacts that will need to be considered carefully.
- It will also be important to clarify NPIF's fit in the wider landscape, and how it works in partnerships with relevant actors in practice. This includes building stronger relationships with local innovation assets and intermediaries to establish pipeline opportunities, demand-side support providers, and national players such as Innovate UK.
- Finally, looking forward, there is an opportunity to better capture the contribution NPIF makes in relation to new agendas – for example, in terms of diversity and equality, and net zero – maximise this further in future. This might require adjustments to the programme's objectives, KPIs and incentives in order to deliver against these agendas effectively.

A final evaluation of NPIF is planned to take place 10-12 years after the first NPIF investments, at which stage a comprehensive assessment of long-term impacts will be possible, both through econometric and primary research. It will also be important to gather further evidence on spillover/multiplier benefits and wider market impacts, for example through more extensive consultation/survey work with wider market stakeholders, intermediaries and non-NPIF investors/fund managers.

Figure 9.1: Theory of change, in practice



Annex A Logic Models

Logic models

An overarching logic model has been developed for the NPIF, drawing on documentation reviewed to date and scoping consultations with BBB. This is presented in Figure A.1 and includes:

- The **strategy** block, which covers the rationale underpinning the programme, including the market failures discussed in Section 2, and the contextual conditions that have given rise to the programme. These inform the IF's objectives, as articulated in the BBB's draft logic chain.
- The **delivery** block, which sets out anticipated inputs (both finance and time inputs) and the activities (including the funds and wider support delivered by BBB and the fund managers).
- The **benefit**s block, which lists intended outputs which are a measure of activities delivered (and primarily relate to ERDF indicators). These are expected to translate into intermediate outcomes for businesses directly involved (e.g. turnover growth and new products to market), as well as final outcomes/impacts for the wider economy and finance ecosystem.
- In addition, the logic model sets out the expected **timescales** over which the outcomes and impacts will be observed.

Programme context

	Challenges across the North
Economic context	• GVA per capita, productivity and enterprise rates below the national average – long term challenges (all three areas) • Lower proportion of high growth and scale-up businesses compared to London • Access to finance identified as a significant barrier to business development and growth
Demand and supply for finance	Supply: • Information failures: Lack of awareness of potential opportunities outside London and the South East • Weak private sector finance landscape in peripheral regions, with local regional and devolved Government funds disproportionately represented • Private sector investors cannot capture market and knowledge spillovers – social benefit is greater than private – leading to overall under-investment Demand:

	• Information failures: Lack of awareness of potential benefits of raising finance, how/where to access finance, likely success • Investment readiness: SMEs not able to present propositions to best effect • Substantial unmet demand: e.g. in 2012, c.11,300 SMEs were unable to obtain finance across the Northern Powerhouse geography
Specific debt and equity issues	Debt issues: • These failures lead to a microfinance funding gap for businesses for early stage SMEs in the Northern Powerhouse without collateral or track record • These failures lead to an under investment in later stage scale up and potential growth companies which require risk finance to raise their growth path Equity issues: • Demand and supply side asymmetries, leading to equity funding gap for businesses looking for relatively small amounts of finance • Under-representation of equity investments and relatively underdeveloped equity ecosystem – issues around proximity and poor performance of previous regional equity funds • Less developed networks of equity finance providers and advisors • Particularly weak private sector equity funding landscape, leading to greater reliance on debt finance than businesses in London/the South East and lack of awareness of equity finance

Programme design

The Investment Funds have been designed to maximise net additional outcomes and impacts through:

- **Minimising deadweight in the finance** provided and outcomes achieved, leading to:
    - Finance additionality – the businesses would not have secured finance without the Fund
    - Outcome additionality – the outcomes achieved by the business would not have been possible without the Fund, or they have been brought about more quickly, to a larger scale and/or better quality.
- **Minimising displacement of outcomes** from elsewhere within the target geography
    - And ideally, minimising displacement from elsewhere in the UK into the target area, leading to net additional growth to UK Plc (via ‘new’ growth, exports and/or inward investment).
- **Minimising substitution** within the businesses supported

    - Encouraging businesses to utilise finance to grow/improve their business (now/in future), rather than substituting another activity already taking place.

- **Minimising leakage** of benefits outside of the target geographies.

Microfinance loans: £25k-£100k in NPIF

Context and Rationale

Lack of access to microfinance is a barrier to growth and development projects among start up, early stage and established SMEs within these regions (e.g. for working capital, funding expansion projects, leasing commercial premises, asset acquisition).

Supply side market failures and barriers:

- Information asymmetries between financial institutions and small businesses, leading to a debt funding gap for businesses without collateral or track record [issues particularly acute for businesses likely to seek microfinance].
- High relative cost of administering microfinance for banks
- Private investors also cannot capture positive spillover effects, e.g. innovation and knowledge transfer.

Demand side market failures and barriers:

- Information gaps:
- SMEs do not fully understand potential benefits of raising microfinance
- Unaware of how/where to access microfinance or likely success
- Investment readiness – SMEs unable to present investment opportunities to best effect, particularly acute for businesses likely to seek microfinance; also more likely to lack financial/business management/planning skills typically required to secure commercial finance.

Aims & Objectives

Overall objective is to contribute to economic growth by ensuring a healthy supply of and access to finance for SMEs within the regions.

Policy objectives (all within the regions):

- Reduce the funding gap for growth and development projects by increasing the supply of microfinance to start up, early stage and established SMEs
- Increase the capacity/skills/understanding/experience of fund managers in the Northern Powerhouse area
- Increase the diversity of funding options for SMEs
- Raise awareness of microfinance and providers among SMEs and intermediaries
- Increase the total value of microfinance loans
- Increase the number and growth of SMEs
- Generate a target return for BBB and providers.

Figure A-1: Logic model – Microfinance loans: £25k-£100k in NPIF

Delivery		Benefits		
Inputs	**Activities**	**Outputs**	**Intermediate outcomes**	**Final outcomes/impacts**

Overall funding of:
• £20.2m* committed to date in NPIF (sourced from CLG/BIS legacy, ESIF, EIB, and BBB)
• £30m committed in MEIF (sourced from ESIF, EIB, ERDF legacy)
• TBC in CIoSIF (sourced from ERDF)
 	
Plus:
• Time and resource invested by BBB
• Time and capital invested by Fund managers
 	
** Note: only 75% of available funding has been committed to date*
	Fund manager activities:
	• Awareness raising of loans and marketing and promotion of microfinance (esp. to start-ups/young SMEs)
	• Pre-application and application support
	• Provision of microfinance loans
	  ○ £25k-£100k in NPIF
	  ○ £25k-150k in MEIF
	• Mentoring of applicants
	• Monitoring of activities
	• Technical and credit assessment of applications
	• Contracting between providers and successful applicants
	• Loans and guarantee book management
	• Monitoring of loans
	
	BBB activities:
	• Selection of fund managers
	• Marketing and awareness raising
	• Website creation & management
	• High level monitoring
	• Overarching fund of fund management
		Enquiries/applications – conversion rates
		
		Number and value of microfinance loans (£), gross
		
		ERDF outputs:
		• C1 – Number of enterprises receiving support
		• C3 – Number of enterprises receiving financial support other than grants
		• C4 – Number of enterprises receiving non-financial support
		• C5 – Number of new enterprises supported
		• C7 – Private investment matching public support to enterprises (non-grants), equivalent to private sector leverage
		
		Geographical spread of funding across LEP areas
		
		Achieved project milestones by businesses
			For business beneficiaries
			
			Additionality of finance secured
			
			Leading to additional investment in:
			• working capital, expansion projects, premises, assets, etc.
			• skills, R&D, product and process dev. Marketing, internationalisation
			
			• Leading to additional:
			  • new firm start-up and survival
			  • new products/services (C28/29) and processes
			  • new jobs created (MI data/ERDF output - C8)
			  • exporting
			  • leverage of follow-on funding.
				For business beneficiaries
				
				• Business growth:
				  • Impact on GVA/ turnover/employment, including new and better quality jobs created
				  • efficiency/productivity/profitability
				  • additional scale up businesses
				
				For the regions
				• Economic growth:
				  • GVA, jobs and productivity
				• Reduce performance gap with London and South East

			For Eco-system
			
			• Increase in the number of providers and value of microfinance loans
			• Stronger demand from firms for microfinance
			• Better funding cases put forward by SMEs
			• Follow-on investment.
				For Eco-system:
				
				• A better functioning and sustainable finance ecosystem in the regions with:
				  • Increased diversity of funding options for SMEs
				  • Reduced funding gap for growth and development projects
				  • Greater awareness of microfinance and providers among SMEs and intermediaries
				• Reduce finance gaps with London and South East

			For BBB • Interim repayments on loans (MI data)	For BBB • Meet target return for BBB and fund managers
Lending: 2017-2021 Portfolio management up to 2026		Intermediate outcomes potentially from 2-3 years after lending through to 5-10 years after lending Final outcomes: 5-10 years (+) after lending		

Source: SQW, drawing on documentation and scoping consultations with BBB

Debt: later stage loans from £100k-£750k (NPIF)

Context and Rationale

There are a lower proportion of high growth and scale-up businesses in the Northern Powerhouse area compared to London. A lack of access to later stage debt is one of the barriers to enabling faster growth among potential scale ups and potential growth SMEs (e.g. funding to support SMEs move to a higher growth trajectory).

Supply side market failures and barriers:

- Information asymmetries between financial institutions and small businesses, lead to a debt funding gap for scale-up and potential high growth businesses [this is particularly the case for new, innovative and creative venture activities which do not have a proven track record and where ventures do not have the collateral to support their loan applications]
- Access to finance constrained outside London and South East
- High relative cost of administering debt
- Private investors cannot capture positive spillover effects, e.g. innovation and knowledge transfer.

Demand side market failures and barriers:

- Information gaps:
  - SMEs do not fully understand the benefits of accessing finance for growth (preferring to grow from retained profits)
  - Weaker networks among smaller businesses make it harder to know how/where to access growth finance or success of securing it
  - Unable to present investment opportunities to best effect [issues particularly acute for smaller growth businesses with limited financial/business management/planning skills required to secure commercial finance].

Aims & Objectives

Overall objective is to contribute to economic growth by ensuring a healthy supply of and access to finance for scale-up and potential growth SMEs within the regions. Policy objectives (all within the regions):

- Reduce the funding gap for later stage finance for growth by increasing the supply of debt funding for scale-up and growth stage SMEs
- Increase the diversity of funding options for growing SME
- Increase the capacity/skills/understanding/experience of fund managers in the Northern Powerhouse (and capacity of intermediary networks to support businesses in becoming investment ready)

- Raise awareness of the availability and use of debt finance among SMEs and intermediaries
- Increase the take up of later stage debt finance
- Increase the number of scale up and high growth SMEs in the region
- Generate a target return for BBB and providers.

Figure A-2: Logic model – Debt: later stage loans from £100k-£750k (NPIF)

Delivery		Benefits		
Inputs	**Activities**	**Outputs**	**Intermediate outcomes**	**Final outcomes/impacts**

Overall funding of:
• £153.8m* committed to date in NPIF (sourced from CLG/BIS legacy, ESIF, EIB, and BBB)
• £90.91m committed in MEIF (sourced from ESIF, EIB, ERDF legacy)
• TBC in CIoSIF (sourced from ERDF)
	Fund manager activities:
	• Awareness raising of loans and marketing and promotion of later stage debt for growth (targeting established SMEs with high growth potential)
	• Pre-application and application support
	• Provision of later stage loans
	  ○ £100k-£750k in NPIF
	  ○ £100k-£750k in MEIF
	• Mentoring of applicants
	• Monitoring of activities
	• Technical and credit assessment of applications
	• Contracting between providers and successful applicants
	• Loans and guarantee book management
	• Monitoring of loans
		Enquiries/applications – conversion rates
		
		Number and value of later stage loans (£), gross
		
		ERDF outputs:
		• C1 – Number of enterprises receiving support
		• C3 – Number of enterprises receiving financial support other than grants
		• C4 – Number of enterprises receiving non-financial support
		• C5 – Number of new enterprises supported
		• C7 – Private investment matching public support to enterprises (non-grants), equivalent to private sector leverage
			For business beneficiaries
			
			Additionality of finance secured
			
			Leading to additional investment in:
			• working capital, expansion projects, premises, assets, etc.
			• skills, R&D, product and process dev. Marketing, internationalisation
			
			• Leading to additional:
			  • new products/services (C28/29) and processes
			  • TRL progression towards commercialisation, IP etc
			  • new jobs created (MI data/ERDF output - C8)
			  • exporting
			  • leverage of follow-on funding.
				For business beneficiaries
				
				• Business growth:
				  • Impact on GVA/ turnover/employment, including new and better quality jobs created
				  • efficiency/productivity/profitability
				  • additional scale up businesses
				
				For the regions
				• Economic growth:
				  • GVA, jobs and productivity
				  • Number of scale up businesses
				  • Supply chain impacts and knowledge spillovers from R&D activity
				• Reduce regional performance gap with London and SE

Plus:
• Time and resource invested by BBB
• Time and capital invested by Fund managers
	BBB activities:
	• Selection of fund managers
	• Marketing and awareness raising
	• Website creation & management
	• High level monitoring
	• Overarching fund of fund management
		Geographical spread of funding across LEP areas
		
		Achieved project milestones by businesses
			For Eco-system
			
			• Increase in the number of providers and value of later stage loans
			• Stronger demand from firms for later stage debt
			• Better funding cases put forward by SMEs
			• Follow-on investment.
				For Eco-system:
				
				• A better functioning and sustainable finance ecosystem in the regions with:
				  • Increased diversity of funding options for SMEs
				  • Reduced funding gap for potential high growth firms
				  • Greater awareness of later stage debt and providers among SMEs and intermediaries
				• Reduce finance gaps with London and South East

** Note: only 75% of available funding has been committed to date*			For BBB • Interim repayments on loans (MI data)	For BBB • Meet target return for BBB and fund managers
Lending: 2017-2021 Portfolio management up to 2026		Intermediate outcomes potentially from 2-3 years after lending through to 5-10 years after lending Final outcomes: 5-10 years (+) after lending		

Source: SQW, drawing on documentation and scoping consultations with BBB

Early stage and later stage equity, £50k-£2m (NPIF)

Context and Rationale

Lack of access equity is a barrier to growth for SMEs in these regions. There is a significant difference in the awareness and availability of equity as a source of investment for growth in these regions compared with London and the South East. There is evidence that this is both the result of supply and demand failures. Specifically:

Supply side market failures and barriers:

- Information asymmetries – there is uneven product and market knowledge between SMEs and financiers
- Access to finance is constrained outside London and South East, challenges in bringing together multiple investors into a project
- Risk aversion amongst VCs and business angels (a rational market response, but delivering sub-optimal outcomes for target businesses)
- The high relative cost of identifying opportunities, due diligence and managing smaller equity investments
- Private investors cannot capture positive spillover effects, e.g. innovation and knowledge transfer.

Demand side market failures and barriers:

- Information gaps:
    - SMEs do not fully understand the benefits of using equity to unlock growth (preferring to grow from retained profits)
    - Unaware of how/where to access equity or the likely success of securing it
    - Unable to present investment opportunities to best effect [issues particularly acute for smaller growth businesses with limited financial/business management/planning skills required to secure commercial finance].

This leads to underinvestment in potential high growth SMEs, holding back their growth and the economic performance of the region.

Aims & Objectives

Overall objective is to contribute to economic growth by ensuring a healthy supply of and access to equity investment for potential growth SMEs within the regions.

Policy objectives (all within the regions)

- Increase the availability of equity investment for growth SMEs

- Increase the capacity/skills/understanding/experience of fund managers in the Northern Powerhouse area (and capacity of intermediary networks to support businesses in becoming investment ready)
- Increase the diversity of funding options for growing SMEs
- Raise awareness of the availability and use of equity among SMEs and intermediaries
- Increase the number and total value of equity investments in the regions
- Increase the number of scale up and high growth SMEs in the region
- Generate a target return for BBB and fund managers.

Figure A-3: Logic model – Early stage and later stage equity, £50k-£2m (NPIF)

Delivery		Benefits		
Inputs	**Activities**	**Outputs**	**Intermediate outcomes**	**Final outcomes/impacts**

Overall funding of:
• £116.75m committed to date in NPIF (sourced from CLG/BIS legacy, ESIF, EIB, and BBB)
• £69m committed in MEIF (sourced from ESIF, EIB, ERDF legacy)
• TBC in CIoSIF (sourced from ERDF)
 	
Plus
• Time and resource invested by BBB
• Time and capital invested by Fund managers
 	
** Note: only 75% of available funding has been committed to date*
	Fund manager activities:
	• Awareness raising and promotion of equity investment among SMEs, intermediaries and investors (esp. high growth potential)
	• Pre-application and application support
	• Provision of equity investment
	  o £50k-2m in NPIF
	  o To £2m in MEIF
	• Mentoring of potential investees
	• Monitoring of equity landscape
	• Technical and credit assessment of potential investments
	• Contracting between investors and successful SMEs
	• Investment book management
	• Monitoring of equity investments
	• Mentoring of investee businesses
	
	BBB activities:
	• Selection of fund managers
	• Marketing and awareness raising
	• Website creation & management
	• High level monitoring
	• Overarching fund of fund management
		Enquiries/applications – conversion rates
		
		Number and value of equity investments (£), gross
		
		ERDF outputs:
		• C1 – Number of enterprises receiving support
		• C3 – Number of enterprises receiving financial support other than grants
		• C4 – Number of enterprises receiving non-financial support
		• C5 – Number of new enterprises supported
		• C7 – Private investment matching public support to enterprises (non-grants), equivalent to private sector leverage
		
		Geographical spread of funding across LEP areas
		
		Achieved project milestones by businesses
			For business beneficiaries
			
			Additionality of finance secured
			
			Leading to additional investment in:
			• working capital, expansion projects, premises, assets, etc.
			• skills, R&D, product and process dev. marketing, internationalisation
			• management capability
			
			Leading to additional:
			• new products/services (C28/29) and processes
			• TRL progression towards commercialisation, IP etc
			• new jobs created (MI data/ERDF output - C8)
			• exporting
			• leverage of follow-on funding.
				For business beneficiaries
				
				• Business growth:
				  • Impact on GVA/ turnover/employment, including new and better quality jobs created
				  • productivity
				  • profitability/firm value
				
				For the regions
				• Economic growth:
				  • GVA, jobs and productivity
				  • supply chain impacts and knowledge spillovers from R&D activity
				  • number of scale up businesses
				• Reduce regional performance gap with London and South East

			For Eco-system
			
			• Increase in the number of investors and value of investments
			• Stronger demand from firms for equity investment
			• Better investment cases put forward by SMEs
			• Follow-on investment.
				For Eco-system:
				
				• A better functioning and sustainable finance ecosystem in the regions with:
				  • Increased diversity of funding options for SMEs
				  • reduced equity gap with London and SE
				  • greater awareness of equity among SMEs and intermediaries
				  • Greater awareness of opportunities among investor community

			For BBB • Value of equity (MI data)	For BBB • Meet target return for BBB and fund managers
Lending: 2017-2021 Portfolio management up to 2026		Intermediate outcomes potentially from 2-3 years after lending through to 5-10 years after lending Final outcomes: 5-10 years (+) after lending		

Source: SQW, drawing on documentation and scoping consultations with BBB

Original Theory of Change

Figure A-4: Theory of Change for NPIF programme as a whole

Key
Inputs and activities
Outputs
Intermediate outcomes
Final outcomes/impacts
Green text: Assumptions underlying ToC
Red text: Reasons why ToC may break down

Programme launched and fund managers procured

Programme marketed by BBB and fund managers, in partnership with LEPs

Applications submitted and assessed – some are successful and finance awarded

Demand exists in line with IF scope/finance on offer; presence of ambitious SMEs; attracts firms with strategic/tactical need/not reactionary cash injection), finance would not have been secured in absence of NPIF (or would not have progressed to same timeframe, quality, scale), no displacement of other funds

A poor response from business results in sub-optimal quality propositions funded.
Selection process: Fund managers not effective in targeting SMEs with high growth/innovation potential, in line with programme objectives/mission creep

Number of enterprises receiving non-financial support (C4)

Geographical spread of funding across LEP areas Support new & growing SMEs

No net positive impact due to leakage outside NPH

Microfinance: loans from £25k-£100k

Debt: loans from £100k-£750k

Early stage and later stage equity: from £50k-£2m

Investment (and growth/innovation activities funded through IF) would not have occurred without the intervention/to same speed/scale/quality; most appropriate form of finance secured at right stage of development (correct use of funds); IF does not duplicate other support available in finance landscape; "Fund of funds" mechanism effective, with different specialist lenders offering different forms of finance targeting different investment stages and locations appropriately; finance drawn down as planned
IF causes negative duplication (e.g. potential overlap with other government funds) and/or displacements (e.g. crowding out private funding)

C1 – Number of enterprises receiving support
C3 – Number of enterprises receiving financial support other than grants
C5 – Number of new enterprises supported
C7 – Private investment matching public support to enterprises (non-grants)

At least some businesses successful in progressing growth/innovation plans with finance secured. Finance is route to growth
Some businesses fail to deliver (e.g. due to technical failure) possibly reflecting high risk projects (important for programmes like this and may still lead to benefits e.g. skills/knowledge acquisition). Other barriers to growth persist, e.g. knowledge, market connections

Marketing/dissemination effective to appropriate audiences
Projects fail, continued risk aversion/info failures, other factors inhibit implementation (e.g. skills, business strategy)

Achieved project milestones achieved by businesses

Mentoring benefits (from equity finance)

Knowledge spillovers (from R&D activity funded *and* experience of securing finance)

Raised awareness of debt/equity finance amongst SMEs, leading to increased demand and enhanced capacity to apply for finance in NPH

A better functioning and sustainable finance ecosystem in NPH

Collaborative culture developed, and clusters/actors connect, leading to … better functioning ecosystem leads to increased debt and equity investment, and creates better environment to do business … leading to business growth and innovation

Variation in delivery processes and effects between different contexts (e.g. stage, location, sectors) and mechanisms (e.g. different funding types – debt, equity or mezzanine); potential role of complementary R&D activities/company strategy etc.
No net positive impact due to substitution

Firms directly involved: increased investment in R&D, product/service/process development, capital, skills etc; additional jobs arising from finance received (to deliver expansion/innovation etc); increased ability to achieve growth ambitions

Increased ability to attract/secure further private sector finance as a result of the IF investment (and track record gained, skills, confidence)
Changed perceptions of business re: A2F

Increased private sector finance provision in NPH via (i) IF fund managers, and (ii) changed attitudes/behaviour towards investment in NPH (from wider providers within and outside of region)

Activities funded instrumental in generation additional sales or productivity improvements. Other factors may contribute, e.g. growing market, or other aspects of company strategy
Market declines/doesn't exist for products/services; competitor products/services preferred; other costs increase so productivity not improved overall, borrower discouragement, diversionary issues (e.g. firefighting in young firms)

Introduction of new (to firm/market) products/services successfully sold (incl. exporting)

Introduction of new processes/innovations to firm and/or production costs decrease

Additional jobs and/or turnover from increased sales/market share

Additional TO/profit/productivity arising efficiency improvements/improved competitiveness brought about by investment (and potentially reduced jobs)

Other external factors affecting theory of change:
- Institutional, cultural contexts
- Policy objectives
- Economic outlook/uncertainty

Increasing uncertainty around factors/assumptions the further forward you look

Demonstration effects lead to new private sector activity
Greater knowledge/information means providers can better assess risk to address risk/information asymmetries
Loans default/poor return on investment, damages provider perceptions of NPH

Repayments on investment (and for equity, increased attractiveness of firm/buy-out)

No net positive impact on GVA due to displacement, or (for equity especially) acquisition by non-UK firm

GVA of firms directly involved

Turnover/employment benefits for supply chain/contractors of direct beneficiaries (spillovers)

Net benefits for the NPH economy: Increased net additional GVA, jobs and productivity, close performance gap with London/SE, greater entrepreneurship, ambition, start-up and scale-up (and survival), revitalised local economies

+

Improved understanding of how interventions work
Knowledge of provider, borrower, investor, market demand

Annex B Survey Respondent Profile

Further information on the survey

This section includes the results of analysis completed to test the representativeness of the survey sample against the total NPIF population. These checks have been completed for: geography, fund manager, sector, firms in receipt of multiple NPIF awards, and timing of support (Tables B-1 to B-6).

Table B-1: Geography

	Survey	%	Total population	%
Cheshire and Warrington	31	8%	94	8%
Cumbria	4	1%	17	1%
Derby, Derbyshire, Nottingham and Nottinghamshire	3	1%	11	1%
Greater Lincolnshire	4	1%	8	1%
Greater Manchester	88	23%	268	22%
Humber	25	7%	61	5%
Lancashire	20	5%	82	7%
Leeds City Region	76	20%	261	22%
Liverpool City Region	36	9%	100	8%
Sheffield City Region	45	12%	136	11%
Tees Valley	35	9%	106	9%
York, North Yorkshire and East Riding	17	4%	62	5%
Total number of awards	**384**		**1,206**	

Source: SQW analysis of survey data and monitoring data provided to SQW by the Bank

Table B-2: Fund Manager

	Survey	%	Total population	%
NPIF NW Debt	72	19%	251	21%
NPIF NW Equity	52	14%	106	9%
NPIF NW Microfinance	41	11%	153	13%
NPIF TVC Debt	50	13%	150	12%
NPIF Y&H Debt	60	16%	211	17%

NPIF YHTV Equity	57	15%	138	11%
NPIF YHTV Microfinance	52	14%	197	16%
Total number of awards	**384**		**1,206**	

Source: SQW analysis of survey data and monitoring data provided to SQW by the Bank

Table B-3: Sector

	Survey	%	Total population	%
(A) - AGRICULTURE, FORESTRY AND FISHING	0	0%	7	1%
(B) - MINING AND QUARRYING	0	0%	1	0%
(C) - MANUFACTURING	79	21%	257	21%
(D) - ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY	5	1%	5	0%
(E) - WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES	3	1%	16	1%
(F) - CONSTRUCTION	43	11%	131	11%
(G) - WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	34	9%	136	11%
(H) - TRANSPORTATION AND STORAGE	3	1%	20	2%
(I) - ACCOMMODATION AND FOOD SERVICE ACTIVITIES	5	1%	10	1%
(J) - INFORMATION AND COMMUNICATION	63	16%	199	17%
(K) - FINANCIAL AND INSURANCE ACTIVITIES	6	2%	20	2%
(L) - REAL ESTATE ACTIVITIES	3	1%	12	1%
(M) - PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	60	16%	166	14%
(N) - ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	48	13%	136	11%
(P) - EDUCATION	4	1%	23	2%
(Q) - HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	11	3%	27	2%
(R) - ARTS, ENTERTAINMENT AND RECREATION	10	3%	17	1%
(S) - OTHER SERVICE ACTIVITIES	5	1%	18	1%
No match	2	1%	5	0%
Total number of awards	**384**		**1206**	

Source: SQW analysis of survey data and monitoring data provided to SQW by the Bank

Table B-4: Number of NPIF awards

	Survey	%	Total population	%
One award	202	74%	719	79%
Multiple awards	72	26%	194	21%
Total number of businesses	**274**		**913**	

Source: SQW analysis of survey data and monitoring data provided to SQW by the Bank

Table B-5: Year of first investment

	Survey	%	Total population	%
2017	34	12%	155	17%
2018	53	19%	202	22%
2019	62	23%	199	22%
2020	73	27%	225	25%
2021	51	19%	132	14%
Total number of businesses	273*		913	

Source: SQW analysis of survey data and monitoring data provided to SQW by the Bank; *N=273 as data not available for one of the businesses.

Annex C Additional Econometric results and methodology

Methodology

Introduction

The econometric evaluation of the BBB Regional Funds identifies similar but unfunded businesses and compares them to those who received finance from BBB. Important in this process is identifying the comparable businesses using secondary data sources. This annex describes the methods used for this.

Approaches to impact evaluation[60]

This annex describes the quasi-experimental approach used in Chapter 6 of this study. After an intervention, it is possible to observe outcomes for the business, but the evaluator cannot know what the performance of a business would have been without that intervention. The evaluation approach therefore seeks to resolve this problem of measuring what would have happened in the absence of an intervention, in this case BBB finance (Caliendo and Kopeinig, 2005).

Simply comparing recipient businesses to all unfunded businesses is problematic because these two groups are likely to be very different. BBBs finance products target certain groups and require an application and approval process. The evaluator therefore constructs a comparison group of unfunded businesses that resemble the recipients by replicating the selection process. For example, in a scenario where funded businesses tend to be small, the matching process will identify businesses that are not funded but are of a similar size.

There are several “quasi-experimental” methods to match unfunded firms to the funded businesses. The particular technique used for this analysis is called propensity score matching (PSM) which matches each funded business to one that most closely resembles it from the unfunded businesses using a score.

Identifying the counterfactual

This study’s methodological approach centres on constructing counterfactuals or comparison groups, samples of businesses that were not funded by BBB finance but are similar to recipients based on a number of identifiable characteristics. There are statistical techniques to match the funded businesses to unfunded businesses, but a constraint on statistical matching is that it can only be undertaken on measured or observable characteristics. Any control group derived may then differ from the funded group due to characteristics missing from the statistical matching model.

For the funded businesses, two pools are used as the population of businesses from which comparator businesses are selected – a trimmed version of the ONS Business Structure Database (BSD) and

[60] ONS Secure Research Service Disclaimer: This work was produced using statistical data from ONS. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

unfunded applicants to the NPIF. The wider BSD contains more than 3 million businesses. Using the entire population proves quite cumbersome for analysis and so a statistically representative sample is drawn, large enough after this trimming for all funded businesses to be matched to other businesses similar based on their observable characteristics.

The BSD includes most businesses in the UK, and even with the range of variables available, it is not possible to capture subtleties in business model, strategy or management experience and motivation. To offer an alternative comparison group, the businesses who applied but were unsuccessful at receiving finance from the NPIF fund are the second pool of comparison businesses. These have been linked to the BSD.

By applying for funding, these businesses have demonstrated that they are similar to the funded applicants in terms of their motivation. They thought they might be funded, so they might also be similar to the recipient businesses in terms of hard or soft eligibility criteria that are not observable in the data. However, there are problems with using unfunded applicants: the fact that they were not funded might reveal that their application, product idea or business model was not as strong as those brought forward by other applicants. So, some tests of this matching pool are sensible.

Creating the selection model

A business is selected from the group that has a propensity score closest to each of the funded businesses, i.e. based on all observed characteristics, they are as likely to have received BBB loan or equity finance (Rosenbaum, 2002). Importantly, each model produces different propensity scores due to a different set of observable characteristics being used in the probit regression estimation.

The selection of variables to match businesses on is influenced both by the policy background as well as economic theory. Characteristics used for estimating the propensity score must be relevant for businesses' likelihood to receive finance, as well as changes in their turnover, employment, and productivity. For example, BBB investment funds target growing businesses, so a variable to capture this would be useful.

The match pool is the population of businesses from which comparator businesses are selected. Three match pools have been used in this evaluation using both the BSD and the unfunded applicants. Model 1 matches on current size, in the form of categorical variables for employment and turnover brackets and the number of live local units and approximates past growth using the scale-up dummy. This is a

definition of fast-growing companies by the Scale Up Institute, identifying businesses with more than 20% employment and turnover growth for the last three years. Furthermore, the model also includes

dummy variables for highly knowledge-intensive services and manufacturing as well as a dummy for whether the enterprise has received innovate UK support before, this indicates whether or not business businesses are likely to be innovative. The second model drops the industry and location variables, and the third model drops the year dummies and the sectoral variables.

Matching is undertaken through estimating a statistical model of the BBB selection process. The model's specification is primarily defined by the variables used.

The selection modelling for this analysis uses a probit model. The dependent variable takes a value one for those in receipt of first support and zero for the unfunded businesses who did not receive any support in the wider BSD. When this is used to compare to unfunded applicants, the pool of unfunded applicants takes the value of zero and the wider BSD is removed.

Selection model results

Combinations of different control variables, sub-samples and match pools can yield a wide range of different specifications. This requires tools to assess their quality and pick the most appropriate ones for further analysis. Selection models are chosen based on their fit to the data and ability to explain which businesses get funded. Variables are chosen that have a statistically significant effect on this outcome.

Three model specifications were estimated and compared with model III chosen as the preferred specification. Results for this selection model are presented in this section. The following section then presents quality and robustness checks to argue why this model was chosen.

Table C-1 shows results for probit selection models, for both the BSD and the unfunded applicants for all three models.

Table C-1: Probit estimation of probability to be funded

	Model I BSD	Model I BSD	Model I un-funded	Model I un-funded	Model II BSD	Model II BSD	Model II Un-funded	Model II Un-funded	Model III BSD	Model III BSD	Model III Un-funded	Model III Un-funded
Variables	Coef	SE	Coef	SE	Coef	SE	Coef	SE	Coef	SE	Coef	SE
Live Local Units	-0.06	0.02***	0.01	0.03	-0.07	0.02***	0.00	0.03	-0.09	0.02***	-0.03	0.03
Patent Holder	0.76	0.13***	0.31	0.23	0.67	0.12***	0.30	0.23	0.51	0.10***	0.07	0.20
Total Patents	-0.08	0.05*	-0.08	0.06	-0.08	0.04*	-0.08	0.07	-0.06	0.04*	-0.11	0.07
Employment Categories												
10-19 Employees	0.20	0.04***	-0.10	0.10	0.33	0.04***	-0.07	0.10	0.28	0.04***	-0.12	0.09
20-49 Employees	-0.12	0.06	-0.48	0.13***	0.03	0.05	-0.45	0.12***	0.00	0.05	-0.44	0.11***
50-249 Employees	-0.67	0.07***	-0.66	0.18***	-0.56	0.06***	-0.76	0.17***	-0.51	0.06***	-0.72	0.15***
250+ Employees	-0.93	0.18***	-1.05	0.46**	-1.04	0.17***	-1.17	0.45**	-0.96	0.156***	-0.90	0.43**
Sectoral and Growth Variables												
IUK Project Before	0.02	0.01*	0.02	0.09	0.01	0.01	0.01	0.09	0.01	0.01*	0.04	0.08
Scaleup	0.19	0.01**	0.04	0.21	0.29	0.09***	0.10	0.21	0.01	0.08	-0.18	0.17
Log Employment (t-1)	0.11	0.02***	0.13	0.05**	0.12	0.0***	0.15	0.05***	0.11	0.02***	0.16	0.04***
Log Real Turnover (t-1)	-0.06	0.02***	-0.01	0.03	0.02	0.01***	0.02	0.03	0.02	0.01***	0.01	0.02
High Knowledge Intensive Service	0.23	0.04***	-0.30	0.09***	0.22	0.04***	-0.32	0.08***				
High Manufacturing	0.41	0.11***	-0.06	0.24	0.31	0.11***	-0.07	0.23				

				Annuals				
2016	2.80	152.81	3.37	107.69	2.73	197.85	3.20	71.13
2017	4.07	152.81	5.51	107.69	3.93	197.85	5.31	71.13
2018	4.03	152.81	5.38	107.69	3.89	197.85	5.19	71.13
2019	4.03	152.81	5.30	107.69	3.90	197.85	5.11	71.13
2020	4.05	152.81	5.28	107.69	3.92	197.85	5.09	71.13
				Turnover Categories				
£101,000-500,000	0.20	0.04***	0.08	0.11				
£501,000-1,000,000	0.47	0.06***	0.28	0.14**				
£1-5 mil	0.62	0.07***	0.29	0.16*				
£5-10 mil	0.63	0.09***	0.15	0.22				
£10-50 mil	0.52	0.11***	0.17	0.26				
				Location				
North West	0.38	0.05***	0.15	0.11				
East Midland	0.22	0.05***	-0.09	0.11				
Yorkshire & Humber	-0.46	0.07***	-0.28	0.18				
East England	-0.69	0.15***	0.36	0.45				
West Midlands	-0.72	0.25***	-0.55	0.55				
South West	-0.65	0.27***	0.41	0.90				

Source: Belmana

The dependent variable in these models is a dummy indicating whether or not the business received support. Looking at model I, selection tends to target smaller, high growth businesses as well as those who have been a recipient of innovate UK support. Turnover tends to play a significant role in selection, as does being a patent holder. Looking at model II, the innovation variables – IUK project before and high knowledge intensive enterprise and a patent holder appear to correlate with selection, as does being a scaleup company. Past performance is a strong correlate also, with employment and turnover growth before support resulting in an increased chance of selection. Model III drops the insignificant year dummies and the sectoral variables, and the results seem to remain the same.

Quality and robustness checks

Robustness tests of PSM include considering whether- after matching- the funded business and the matched counterfactual are statistically similar. This is tested using balance tests after matching. Balance tests look at whether, having been matched, the counterfactual is similar to the funded businesses. This tests for the so-called conditional independence assumption of propensity score matching.

A key characteristic that matching needs to produce is that the counterfactual group – prior to support – were on a similar trend to the funded in the key economic impact measures. If this is not the case, there is a concern that some unobserved characteristics remain, and these have put the funded businesses on a different growth trajectory prior to support.

Table C-2: Balance Tests for Models I, II and III, Unfunded

Below in Tables C-3 and C-4 is the balance of the variables before and after the matching. Looking at table C-3, matching to the unfunded applicants, before matching the variables were – unsurprisingly – only slightly different. For many variables, there was insignificant differences in the characteristics before matching. There are a few exemptions: for example, for model I, before matching, 13% of the unfunded applicants were tracked by Beauhurst and after matching, this number remained the same. Looking at model II, before matching, the number of businesses in high knowledge intensive sectors was 18% and after matching, this decreased to 12%, getting closer to the funded level of 13%. Finally, looking at model III, the percentage of businesses being tracked by Beauhurst improved with the matching and, unlike model I and II, as did past turnover. The table shows that the matching process effectively creates a group of unfunded businesses that is similar to the group of funded businesses.

Table C-2: Balance Tests for Models I, II and III, Unfunded

	Model I BSD unfunded	Model I BSD unfunded	Model I BSD unfunded	Model II BSD unfunded	Model II BSD unfunded	Model III BSD unfunded	Model III BSD unfunded
	Funded	after matching	before matching	after matching	before matching	after matching	before matching
Live local units	1.51	1.53	2.11***	1.57	2.62**	1.61*	2.62**
Patent owner	3.3%	3.6%	1.06%***	2.8%	1.21%***	3.0%	1.21%***
High Knowledge Intensive	12.8%	12.6%	7.38%***	10.7%	7.18%***	7.1%***	7.18%***

High Manufacturing	1.6%	0.47%*	0.54%***	1.4%	0.6%***	1.1%	0.6%***
UK Only	99.4%	94.32%***	95.84%***	92.27%***	94.72%***	93.38%***	94.72%***
Scaleup business	2.1%	2.8%	1.7%	2.7%	1.7%	2.1%	1.7%
IUK Project Before	5.0%	3.8%	1.08%***	1.26%***	1.5%*	1.10%***	1.5%*
BH Tracked	16.7%	0.63%***	0.91%***	0.95%***	0.93%***	0.4%***	0.9%***
BERD	11.2%	6.62%***	4.26%***	6.473%***	4.91%***	4.73%***	4.91%***
Employment (log)	2.33	2.25	1.95***	2.27	2.08***	2.26	2.04***
Real turnover (log)	6.66	6.78	6.17***	6.73	6.35***	6.68	6.35***
Lagged Log Emp	2.19	2.32***	1.93***	2.43*	2.06*	2.32*	2.06*
Lagged Log Real Turnover	6.52	6.64	6.16***	6.79***	6.34**	6.7*	6.34**
Employment Growth, 2 years before support	0.27	0.01***	0.031***	-0.05***	0.03***	-0.02***	0.03***
Turnover Growth, 2 years before support	0.27	0.17	0.02***	-0.02***	0.03***	-0.02***	0.03***
Count of businesses	634	634	1362627	634	1508418	634	1508418
* show the significance level; *** significant at the 1% level; ** at 5%; * at 1%. Standard errors are robust.							

Source: Belmana

Table C-3: Balance Tests for Models I, II and III, Wider BSD

	Model I BSD unfunded	Model I BSD unfunded	Model I BSD unfunded	Model II BSD unfunded	Model II BSD unfunded	Model III BSD unfunded	Model III BSD unfunded
	Funded	after matching	before matching	after matching	before matching	after matching	before matching
Live local units	1.51	1.53	2.11***	1.57	2.62**	1.61*	2.62**
Patent owner	3.3%	3.6%	1.06%***	2.8%	1.21%***	3.0%	1.21%***

High Knowledge Intensive	12.8%	12.6%	7.38%***	10.7%	7.18%***	7.1%***	7.18%***
High Manufacturing	1.6%	0.47%*	0.54%***	1.4%	0.6%***	1.1%	0.6%***
UK Only	99.4%	94.32%***	95.84%***	92.27%***	94.72%***	93.38%***	94.72%***
Scaleup business	2.1%	2.8%	1.7%	2.7%	1.7%	2.1%	1.7%
IUK Project Before	5.0%	3.8%	1.08%***	1.26%***	1.5%*	1.10%***	1.5%*
BH Tracked	16.7%	0.63%***	0.91%***	0.95%***	0.93%***	0.4%***	0.9%***
BERD	11.2%	6.62%***	4.26%***	6.473%***	4.91%***	4.73%***	4.91%***
Employment (log)	2.33	2.25	1.95***	2.27	2.08***	2.26	2.04***
Real turnover (log)	6.66	6.78	6.17***	6.73	6.35***	6.68	6.35***
Lagged Log Emp	2.19	2.32***	1.93***	2.43*	2.06*	2.32*	2.06*
Lagged Log Real Turnover	6.52	6.64	6.16***	6.79***	6.34**	6.7*	6.34**
Employment Growth, 2 years before support	0.27	0.01***	0.031***	-0.05***	0.03***	-0.02***	0.03***
Turnover Growth, 2 years before support	0.27	0.17	0.02***	-0.02***	0.03***	-0.02***	0.03***
Count of businesses	634	634	1362627	634	1508418	634	1508418

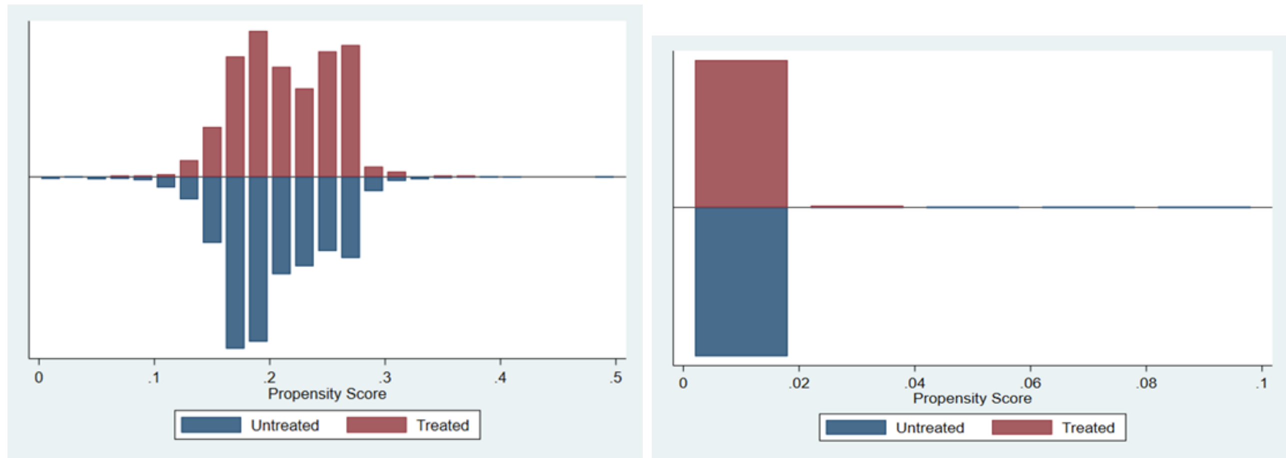
*** show the significance level; *** significant at the 1% level; ** at 5%; * at 1%. Standard errors are robust.**

Source: Belmana

Figure C-1 plots out the propensity scores for model I matching to the BSD and model III matching to the unfunded. This tests for the common support assumption of propensity score matching, that a comparable business can be found. Visual checks can identify whether the matching has covered the range of propensity scores.

The two plots indicated support the general finding that matching to the unfunded applicants is more robust. For the wider BSD, the distribution of propensity scores for the matched sample are bunched at the low end of propensity scores. For the unfunded applicants, there is a greater variation of scores and the matching then provides comparison businesses for these scores.

Figure C-1: Propensity score plots of Model I BSD and Model III Non-Funded



Source: Belmana

An important test for matching is looking into pre-treatment trends in employment. If businesses were growing at very different rates before treatment, this means the comparison group is not similar to the treatment group. Pre-treatment trends are tested checking if growth in employment before support differs in the funded businesses from the matched group.

Figure C-2 indicates the trends in employment growth for the businesses funded through BBB, the matched comparable businesses and the pools of businesses from which matching was undertaken. The funded businesses were growing in the years before support, and that growth was faster than the wider business population. This indicates the importance of selection modelling as businesses funded by BBB were already on a growth path, and this underlines the preference for the results using this model, specifically matching model III. For the BSD matching, the matched control groups do not follow the funded group as closely.

Figure C-2: Pre Treatment Employment Growth matched to Unfunded Applicants

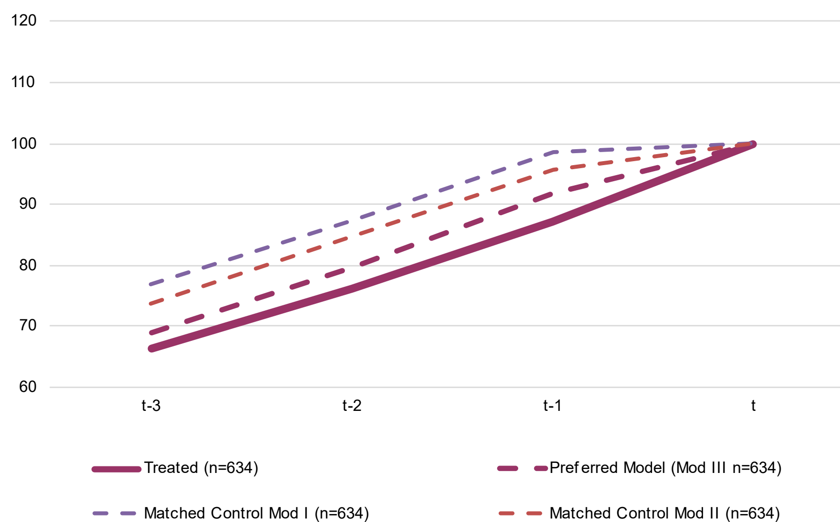
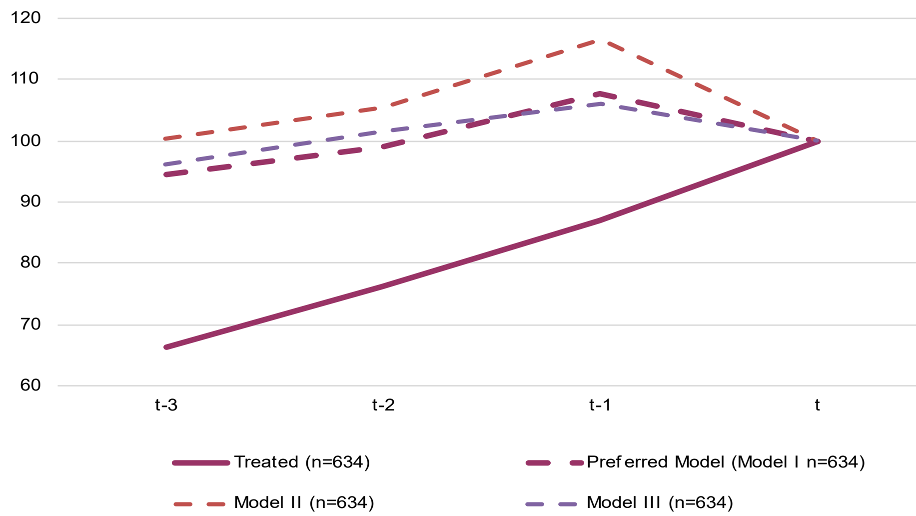


Figure C-3: Pre Treatment Employment Growth matched to BSD



Source: Belmana

Annex D Additional information on Covid-19 emergency funding

Table D.1: Overview of Covid-19 emergency financial support for businesses from the British Business Bank

	Bounce Back Loan Scheme (BBLS)	Coronavirus Business Interruption Loan Scheme (CBILS)	Coronavirus Business Interruption Loan Scheme (CBILS)	Recovery Loan Scheme[61]	Future Fund	Future Fund: Breakthrough (FF:B)
Business type	SMEs	SMEs (with turnover of up to £45m)	Mid-larger businesses (turnover over £45m)	Businesses of any size	"Innovative businesses with good potential", previously raised £250k+ in equity	Innovative, R&D-intensive UK companies operating in breakthrough technology sectors", previously raised £5m+ in equity
Amount	**£2,000 - £50,000**	**>£50k to £5m**	**Up to £200m**	**Up to £10m** in loans, overdrafts, invoice finance, asset finance	**£125k to £5m** (convertible loans), investors must match	Equity funding. Must be raising a minimum investment round size of £30m
Repayment period	Loan repaid over **6 years** (extended to **10 years**)	Loan repaid over **6 years**	Loan repaid over **3 years**	Up to **3 years** for overdrafts/invoice finance facilities. Up to **6 years** for loans/asset finance facilities	Loan matures after 3 years	Depends on investor
Interest/ terms	First 12 months of interest payments covered by	First 12 months of interest	First 12 months of interest payments	Exact terms depend on lender.	Interest rate no lower than 8%,	Max FF:B share is 30%, FF:B will invest on the

[61] Replace CBILS and BBLS which ended on 31st March 2021

	Government, Government-backed guarantee New “Pay as You Grow” measures[62]	payments covered by Government Government-backed (80%) guarantee	covered by Government Government-backed (80%) guarantee	Government-backed (80%) guarantee	but exact terms depend on lender	same terms as the lead investor
Lender type	Issued by accredited lenders	Issued by accredited lenders		Issued by accredited lenders	Investor led	Applications made by lead investor
Application timeframe	May 2020-March 2021	March/April 2020-March 2021	April-December 2021	May 2020-January 2021	July 2021-TBC	

Source: https://www.british-business-bank.co.uk/ourpartners/coronavirus-business-interruption-loan-schemes/; https://www.gov.uk/guidance/recovery-loan-scheme; https://www.gov.uk/government/collections/hm-treasury-coronavirus-covid-19-business-loan-scheme-statistics#history ;

[62] To help businesses manage their cashflow to improve their chances of getting back to growth

Annex E Case Studies

Case study 1: Pimberly

Introduction and context

Pimberly is a Software as a Service (SaaS) platform which focuses on product information and digital asset management.[63] The Manchester-based business was founded in early 2015 to fill a gap in the market between Enterprise Resource Planning platforms and E-commerce platforms. Typical customers are therefore any business which sells its products online, including manufacturers, distributors, and retailers across a wider variety of sectors.

At the time of applying for NPIF (2018), Pimberly employed 12 people. It had a commercially viable product and a small, but expanding, customer base. Up until that point, Pimberly had been funded by the founder's previous business. The firm sought early growth finance to further develop the product and onboard more customers. It successfully secured two equity finance deals through NPIF, which were delivered via three drawdowns in 2018, 2019 and 2020.[64]

Business challenges/opportunities

Pimberly's founders were determined that the growth and success of the company would take place in the North West, specifically Manchester. However, they were faced with a distinct lack of early growth finance options within the region:

"When you are looking to raise money, particularly post-seed, there is simply not much available in Manchester. It is possible, but not easy, to raise significant sums at that stage in London, but not in Manchester"

Finance issues were compounded by the company's relatively short history, and limited collateral, which represented a risky proposition to potential investors. Pimberly held early discussions with other investors, but these were described as "*dismissive*". The firm therefore applied for equity finance from NPIF as it offered the only opportunity to access a substantial sum of funding, at that stage in Pimberly's growth.

Finance additionality and wider finance package

As outlined above, one of the key challenges facing Pimberly in its early years was the lack of growth finance available. The firm **probably would not have been able to obtain similar finance elsewhere for either funding award**:

"We could have got a few hundred grand here and there, but not the injection we needed in order to compete on a global scale. If you are going to create a successful enterprise based on a first-class piece of software, it requires a decent wedge of money"

[63] Specifically, all of the product information and digital assets needed to sell products online, such as images, 3D images, care instructions and installation instruction.
[64] Pimberly secured two deals. One was delivered as a single £1m investment, whilst the other was drawn down in two tranches of £1m each. The monitoring data considers this to be three deals.

The initial NPIF investment of £2m (drawn down in £1m sums in consecutive years), constituted the largest input to the company's Series A investment round, which totalled c. £3m. Other investors were: (i) the management team, who invested £300k, and (ii) a local private equity house, which invested around £800k. NPIF played a key role in leveraging the other investment:

"The private equity company agreed to the investment on the basis that we were in advanced discussions with NPIF at the time"

The second NPIF investment, of £1m in August 2020, also proved to be important in bringing in further investment. At that stage Pimberly was raising Series B investment. Having NPIF on board for a second round gave other potential investors confidence and helped Pimberly to secure £4.25m equity investment from Mercia and a further £1m from the government-backed Future Fund. Overall, **NPIF provided a high level of finance additionality for Pimberly and was crucial in leveraging further investment.**

Implementation to date

The first two years of NPIF funding were used for three main activities:

- **Product development:** When Pimberly initially applied for NPIF, the firm only had the "*bare bones"* of a product, which fell short of what they needed to draw in more customers. The largest proportion of the money (around 50%), was therefore used to further develop the product.
- **Marketing:** In order to successfully commercialise the platform, Pimberly needed to invest a significant proportion of the money (around 40%) into the company's systems, processes and people that would enable effective marketing.
- **Back-office systems:** A smaller amount (around 10%) was used to implement "*the best back-office systems available*". The firm believed that investing in these systems at the start of an expected significant growth trajectory would prevent growth limitations further down the line.

The latest NPIF funding is now being used alongside the other Series B investments to expand the product development team and also to begin the first stage of the firm's expansion into the US market. To date, **NPIF has been one of the most significant sources of funding into the business, it has therefore profoundly affected every aspect of the business' operations**.

Outcomes and impacts to date

The NPIF finance was **central to improving Pimberly's product and bringing it to market**. This, in turn, has resulted in a number of key business benefits. Notably, the company has experienced significant growth, both in turnover and number of employees. At the time of applying for NPIF, Pimberly had 12 employees and a turnover of £300k, it has now grown to 56 employees and a turnover of £2.5m. A significant proportion of this additional turnover (£1m) is attributable to NPIF funding. The achieved (and expected future) growth would not have been possible without a number of improvements that were facilitated by NPIF, specifically:

- **Productivity improvements:** By investing in the best processes and platforms, Pimberly has been able to improve the efficiency with which different parts of the business operate. For example, the firm has invested in a software which enables it to identify a contact on Linkedin and have their full

contact details available within seconds. This is expensive technology which improves productivity in relation to finding and contacting potential customers.

- **Increased workforce skills**: The funding allowed Pimberly to invest directly in staff training including technical training on specific programming languages, financing and tax, marketing and exporting. Moreover, Pimberly has recruited new talent which boosts the existing skillset as learning and best practice is transferred between colleagues. Skills development has also happened *as a result* of Pimberly's growth:

"Being in a growing business means that everyone has the opportunity to grow as well. All of the staff who have been with us from the start have developed alongside the business"

Investing in the workforce has also **improved Pimberly's resilience**. The funding has meant that they can actively recruit "*ahead of the growth curve"* rather than waiting for problems to arise due to capacity constraints. NPIF also **improved Pimberly's resilience to the impacts of the Covid-19 pandemic**. For example, due to the significant investment in internal systems and processes, the firm had all of the necessary technology in place to adapt to home working and mitigate any adverse effects of the transition. In addition, Pimberly has benefited from having a fund manager advising the board who has provided guidance throughout the pandemic. The fund manager not only brought "*level headedness"* at a time of great uncertainty, but was also proactive in looking beyond the pandemic towards the next stage of fundraising activity.

Overall, the outcomes achieved to date are largely attributable to NPIF: without the funding it would have taken Pimberly more than **2 years longer to achieve the same results**, mainly due to the finance additionality outlined earlier:

"Raising money takes a lot of time and effort, if you are perpetually raising money you cannot focus on the business and the business plan is dragged out."

Other than the additional funding sources identified (which NPIF helped to bring in), no other factors were acknowledged as contributing significantly to the outcomes achieved. Indeed, NPIF was identified as the **critical contributory factor.**

The latest round of NPIF funding has been part of the Series B finance package. This is currently being used to lay the groundwork for future outcomes and impacts associated with overseas expansion.

Future outcomes, development and finance needs

Looking forward, Pimberly expects to create 100 new jobs, safeguard a further 60, and increase turnover by 300% in the next three years. This ambitious level of growth is to be fuelled by significant expansion into the US market. The most recent NPIF funding is allowing Pimberly to scope this expansion by exploring the most promising markets in the US. Initially, Pimberly will target the fashion and apparel market, focusing on the east coast. The firm will then consider duplicating its operations on the west coast and expanding into other sectors (such as automotive and pharmaceuticals). Alongside its geographical expansion, Pimberly is working to grow and improve its product offering, with a

particular focus on making it easier for its customers to get its products into a more global marketplace.[65]

Pimberly expects to be raising Series C investment towards the end of 2023. The value of this will depend on the company's success in the next two years, but it is expected to be in the region of £20m. Although specific sources have not been identified, the firm will aim to attract both UK and US equity investors.

Conclusions and lessons learned

In this case, NPIF has undoubtedly **filled a gap in the finance landscape to provide an innovative company with important growth funding**. This has already resulted in a number of benefits to the business including improved skills, enhanced productivity and resilience, and growth in terms of employees and turnover. These benefits are expended to be even more significant going forward, as the firm continues to grow and expand overseas.

The consultee highlighted a **lack of awareness of NPIF** as the main limiting factor to the programme's future success:

"Most of the entrepreneurs I speak to have never heard of NPIF – this shows that more marketing is needed"

Increasing the level of marketing would attract more high growth potential businesses. The importance of follow-on funding and the ability of NPIF to reinvest in success to generate financial returns that can then support other businesses was also highlighted, to both support growth of its existing portfolio and widen its reach across the North.

Case study 2: Fit Cloud Technology

Introduction and context

Established in 2010, Fit Cloud Technology Ltd is a gym management software company which enables gym owners, personal trainers and clients to interact with each other more effectively. Trading as 'Membr', the firm provides a cloud-based whole gym management solution for the fitness industry. The app offers two main functions:

- 'Manage' which includes access control solutions, cloud-based bookings, and automated billings
- 'Coach' where gym members can book classes, receive personalised training plans, and log workouts and track progress.

The business has two sites in Greater Manchester, plus several overseas offices including Tokyo, USA and South Africa, and currently employs just under 50 members of staff. The firm is active in twenty countries worldwide. It has a contract covering Europe and Asia-Pacific with the franchise Anytime Fitness alongside agreements with several independent gyms in the UK (namely JD Gyms and Simply Gym).

[65] This process is making Pimberly easier to connect to online market places (e.g. Amazon, eBay, Walmart) and eComm platforms (e.g. Megento, Shopify, SAP, Oracle) so that Pimberly's customers can list their products more easily on these sites, and so reach a large and more global audience.

Prior to NPIF, the company had received equity finance from angel investors and one VC, 24 Haymarket, and debt finance from British Business Bank's (BBB) Enterprise Capital Fund to invest in software development. The company has received two investments from NPIF: a loan of £250k from FW Capital in December 2018, and £1.25m in equity investment from Maven in September 2020. Both investments have financed the continual development of the software and expansion into new markets.

This case study is based on the survey response and a follow-up, in depth interview with the CFO of the company.

Business challenges/opportunities

At the time of seeking NPIF, the business was **seeking to expand into the Japanese market**, but as a pre-profit company it required the additional capital to do so. Therefore, after being signposted by their bank, the firm approached NPIF's debt fund from FW Capital. A couple of years later additional funds were required to continue the expansion into Japan, thus conscious of developing a healthy balance sheet with a mix of both debt and equity, the firm approached NPIF's equity fund managed by Maven. **NPIF was considered a strong strategic fit given its regional focus and its quasi-governmental design.**

Finance additionality and wider finance package

At the time of searching for debt finance, the company approached their bank, but were rejected as the bank lacked the appetite to appetite to invest in a loss making, start-up at that time. However, the bank introduced the company to FW Capital and secured a £250k NPIF loan. In the absence of NPIF, the company **probably would have secured debt finance from elsewhere,** but it may have taken up to six months longer and have been a smaller amount (between 50% and 75%).

Similarly, they **probably would have secured the equity finance elsewhere, but NPIF offered favourable terms** compared to other investors they approached at the time.

At the time of securing NPIF finance the company did not leverage funding from other sources.

Implementation to date

The NPIF finance supported the delivery of a **major project in Japan to onboard c.900 Anytime Fitness gyms**. Specifically, the finance has been used for working capital, office rental, and the employment of staff. Expansion into the Japanese market has **required significant software development work**, including building an accounting system, which has been very time and resource intensive.

In addition to the challenges in Japan, the firm has been **adversely impacted by COVID-19 due to the closure of gyms** for many months. Many gyms temporarily paused membership payments which meant the firm wasn't paid for its software. Worldwide approximately 50 customers remain closed and inevitably concerns remain over the future implications of the pandemic. Despite the challenges, **NPIF has supported the resilience of the firm during COVID-19** because of the flexibility of the Fund Manager (see below). More broadly, the consultee felt that because the Fund is government-backed it has provided reassurance and credibility during a very difficult trading period.

The relationships with both Fund Managers have been positive to date. Engagement with FW Capital is light touch, but they have a good relationship, and the Fund Manager has been very proactive with regards to deferring repayments during the pandemic. Maven acts as a board observer, have consent rights for all decisions, and are active in the day-to-day running of the business.

Following NPIF, the firm has **secured further external finance from two lenders**. First, the firm was granted a £350k Coronavirus Business Interruption Loan Scheme (CBILS) loan from their bank in May 2020, and then following this a further £290k CBILS loan was secured from FW Capital (note, the FW Capital loan is again provided via the NPIF debt fund). The loans have supported the firm during the adverse impacts of the COVID-19 pandemic. Furthermore, Maven has been very helpful, particularly in accessing the follow-on equity investment. The firm expects to **imminently complete a follow-on NPIF equity investment** from Maven of £750k[66], which would be used to bridge the gap before the firm becomes profitable. The NPIF finance the firm received significantly influenced their ability to secure follow-on external finance because through NPIF they had developed relationships with the Fund Managers.

Outcomes and impacts to date

The NPIF investments have generated the following key outcomes and impacts for the business:

- Invested an **extra £1.5m in R&D** (compared to c.£250k annual R&D investment pre-NPIF)
- **Increased employment by 20 employees,** including five members of staff in Japan
- **Further developed the app** (by incorporating an accounting function) and are in the process of onboarding Japanese gyms
- **Cumulative impact on sales since the first NPIF award of £1.3m,** of which 90% is export sales
- The firm estimated that the **company valuation has increased** from £9.5m at the time of the first NPIF award to £17m.
- In the survey, the consultee stated that they **outcomes above would have happened anyway, but on a smaller scale** in the absence of NPIF (25% lower). The consultee explained that the project in Japan has been costly (for example, establishing an office, employing software developers), so without the NPIF finance it would have been difficult for the pre-profit firm to have progressed their plans on the same scale.

Future outcomes, development and finance needs

Going forwards, the firm expected future outcomes to include:

- **Employment growth:** 15 FTE jobs created, plus five jobs safeguarded
- **Social benefits:** the app has the ability to support health improvements, for example, by encouraging people to visit the gym more frequently and providing tailored digital training plans
- **Profitability:** the firm should **become profitable** once all gyms in Japan have been onboarded
- **Increased efficiency:** deliver **a more efficient and effective product for gyms** by rolling out the accounting function (developed for Japan) across other markets
- **Increased turnover: the consultee expected revenue to double** once all Japanese gyms are onboarded (expected by 2022).

Going forward, the business will focus on completing the project in Japan. There is also an opportunity to expand further into the USA (the biggest fitness market in the world), UK and/or Australia, which will

[66] Note, the firm originally applied for £2m, but initially £1.25m was approved.

have major implications for the growth of the firm. Diversification is also an important objective for the firm, for example, by partnering with more independent gyms or acquiring smaller software developers. Furthermore, software development is always ongoing, including exploration into the use of artificial intelligence.

Beyond completing the follow-on equity deal with Maven, the firm does not expect to seek further external finance at this stage.

Conclusions and lessons learned

This case study demonstrates NPIF's contribution to an **innovative business with high growth potential,** which lacks the capital to exploit large scale expansion opportunities at pace. NPIF has supported the business to grow its R&D investment, employment and sales and further develop its product which will benefit markets beyond Japan. Furthermore, positive relationships with the Fund Managers have led to follow-on funding opportunities for the firm.

In terms of the NPIF process, feedback highlighted that it is costly (for example, paying for consultants) and admin intensive. This said, the 'red tape' is considered worthwhile given that the Fund provides access to Series A finance and its quasi-governmental design is perceived to provide greater flexibility during difficult trading periods (compared to private lenders).

Case study 3: Knowledge Powered Solutions Ltd

Introduction and context

Established in 2004, Knowledge Powered Solutions Ltd is a software company which specialises in providing Knowledge Management Software for organisations across various industry sectors. The software can be used in two environments: contact centres and internally in organisations. The overall premise is to provide employees and internal and external customers with access to required knowledge and information through a simple to use natural language interface. The company currently employs seven members of staff and is based in Birkenhead.

Prior to NPIF, the company received a loan of £61k from their bank through the Coronavirus Business Interruption Loan Scheme (CBILS) to support the firm during COVID-19. The company has received two microfinance investments from NPIF: a loan of £51k in November 2020 and a further loan of £50k in April 2021 from the same NPIF Fund Manager. Both investments have provided working capital and financed the continual development of the new product and associated marketing activities.

This case study is based on the survey response and a follow-up, in depth interview with the Managing Director of the company.

Business challenges/opportunities

At the time of first seeking NPIF, the company was developing a new cloud-based service product. This is a new model for the firm and should have a lower cost of deployment, services and maintenance and be more scalable than the previous product (which was delivered on premise on customer's hardware).

To continue the development of the new product throughout COVID-19, **the business required additional finance to support the development of the software and continue operating during a**

period in which sales were lower. The NPIF microfinance loan therefore enabled the firm to continue to innovate during Covid-19.

Finance additionality and wider finance package

In the absence of NPIF, the company **probably would not have secured similar finance from elsewhere.** At the time of searching for finance, the company approached their bank and received a small CBILS loan. However, the amount received was less than needed to support the business during Covid-19 and pursue R&D activities. The bank was also reluctant to lend more because the firm had made a loss in the previous year – however, that had been because the firm had made a strategic decision to hire new members of staff to develop the new product.

At the time of securing NPIF finance the company did not leverage funding from other sources, aside from the CBILS loan.

Implementation to date

The NPIF finance has supported a range of activities alongside **working capital, including the adoption of new and improved processes, the development of the new product, marketing and the continued employment of staff during COVID-19.** The development of the new product has required the adaptation of existing marketing and sales processes including improving search engine optimisation. Furthermore, to increase the efficiency per customer prospect, the firm has broken down the product into different components and developed accompanying videos and summaries, with the next stage being to include these in the product as tutorials.

The firm has been **adversely impacted by COVID-19 with reduced sales**: opportunities to generate new business were reduced and existing customers were not renewing contracts. In this context, **NPIF has supported the resilience of the firm and enabled it to survive during COVID-19**. Also, although the firm used the Job Retention Scheme, they did not have to utilise it for the development team and so the development of the new product could continue, and software developers remained at the firm. Finally, the consultee noted that the firm **has not secured further external finance since NPIF.**

Outcomes and impacts to date

The NPIF investments have generated the following key outcomes and impacts for the business:

- **Avoided business closure,** with it expected that without the investment this would have happened already
- **Progressed the development of the new product and developed new marketing materials,** including videos and summaries of components of the new product
- **Improved productivity through introducing more efficient processes**, including reviewing processes and implementing systems and software to ensure visibility and communication across the firm
- **Increased skills in the existing workforce** through enhanced cross skilling between different team members
- Invested an **extra £80k in R&D** as a result of the NPIF finance using a combination of internal funds and NPIF

- **Retained staff** and limited use of the Government's JRS throughout COVID-19
- The firm has been able to continue operating, and as such has been able to **retain staff in the North** during the Covid-19 pandemic

In the survey, the consultee stated that **none of the benefits would have happened** in the absence of NPIF finance. The consultee explained that the firm would have had to furlough developers which would have in turn stalled the development of the product, so therefore NPIF was **critical in achieving these outcomes.**

Future outcomes, development and finance needs

In the future, the firm expect outcomes to include:

- **Employment growth:** two FTE jobs created, plus seven jobs safeguarded, with new roles expected to be in IT consulting
- **Increased turnover:** the consultee expected turnover to increase by 100% over the next three years
- **Increased exports:** the firm has developed new iterations of the product which includes support for all European languages, which will enable lead generation in new countries
- **Increased efficiency:** the new processes introduced will continue to reduce costs for the firm and also for customers through the new cloud-based service model

Going forward, the business will focus on completing the development of the product, to deliver a scalable multi-tenanted environment in which the firm can have multiple customers all on the same deployment and software. The consultee explained that the next year is seen as a consolidation year, with the aim being to then accelerate delivery so that by October 2023 the firm will be in a position that it is attractive either to competitors (who might buy the firm) or customers.

The firm has not got any specific plans to seek further external finance at this stage. The consultee did note that, looking forward, the firm may consider establishing a US presence which would likely require further funding, but this has not been considered in detail at this time.

Conclusions and lessons learned

This case study highlights the role of NPIF in supporting an **innovative business with high growth potential, and enabling the firm to continue R&D activities during COVID-19.** NPIF has supported the business to develop its processes and improve productivity, sustain employment and enhance skills, grow its R&D investment and to further develop its product. Furthermore, NPIF has supported the firm's resilience to COVID-19 during a difficult trading period.

In terms of the NPIF process, feedback highlighted that the documentation required to receive the funding was admin intensive. Despite this, the rigour of these processes was recognised as necessary, and it was noted that the information provided has been clear throughout, and the team has been approachable and helpful. The consultee valued that the fact NPIF was prepared to look at the firm as an organisation and reflect on their future prospects without them having a proven track record of profitability.

Case study 4: Castings Technology

Introduction and context

Castings Technology international (CTi) are a Rotherham-based company with a century long history operating in one of the Sheffield City Region's key sectors; the metal manufacturing and casting industry. With their base for the last decade being the Advanced Manufacturing Park, CTi have been able to remain at the cutting edge of the industry and build a global reputation for their multi-functional foundry and high quality services and technical expertise. CTi's customers include a range of casting manufacturers, users and wider buyers, and are currently servicing several long-term supply agreements and multi-billion pound contracts, predominantly for the Defence sector.

"There are some phenomenally good people in the SCR, and being close to the Hub of northern manufacturing truly benefits our business. The NPIF loan has been instrumental in our takeover of CTi, which has maintain the employment of 70 highly skilled people and sustain a crown asset."

In the last ten years, under ownership of the University of Sheffield, CTi received significant investment to develop its casting facilities, meaning it now has one of the world's largest vacuum melting facilities, enabling the firm to cast almost any type of metal alloy. However, in 2020 the University outlined plans to close the firm due to differences in focus and priorities between CTi's commercial direction and the University's motivations towards R&D-based activities. This decision was also influenced by a period of uncertainty during the early stages of COVID-19 over the potential impact of the pandemic on the company's future. Two entrepreneurs with notable experience in the manufacturing industry saw this as an opportunity to takeover the company, and initiated a buyout process. In order for them to prove they could sustainably take over CTi, fundraising at the scale of £2m was required. As a result, the NPIF Debt Finance loan was identified as one of several relevant funding sources, with the buyers securing a £500k loan in January 2021.

This case study is based on a survey and in-depth interview with the firms' new Executive Chair.

Business challenges and opportunities

Prior to the takeover, CTi was maintaining a strong order book, explaining why significant levels of finance were required to evidence the new Owner's ability fund the company's ongoing activities. The new Owners felt they were entering the firm during an opportune period to not only sustain CTi's activities, but to enhance and grow the business. The Debt Finance loan became a core part of the fundraising process, with finance needed for a **range of working capital activities**, as well as a series of **capital and revenue investments to improve the firm's capabilities**.

Whilst considering the NPIF loan, the Owners explored other loans from private sector sources, but chose not to pursue them due to their unfavourable terms compared to NPIF. That said, alternative sources of finance were also used to reach the required target, including third party loans and customer invoice financing. The fact that **CTi had been through the NPIF process supported the firm's applications to other sources of finance**, as the due diligence being completed through NPIF raised confidence from other lenders. As such, the Consultee stated that being accepted for NPIF accelerated the overall takeover process, which was important considering proof of sufficient finance had to be provided within a short timeframe, otherwise the takeover risked falling through.

Finance additionality and the wider finance package

Accessing finance through the NPIF proved to be imperative for the takeover of the firm. If the new Owners had not accessed the Debt Finance loan they would have been unable to complete the

MBO, meaning CTi would have been closed, resulting in the loss of over 60 jobs and a number of ongoing contracts and valuable future opportunities.

Additionally, **the consultee reported they struggled to find finance with such attractive terms elsewhere.** The NPIF loan offered a one year capital and interest free holiday, after which it has to be repaid over a 24 month period. These terms directly met the company's working capital requirements, as by not having to make excessive repayments during the initial periods of the new ownership enabled them to build capacity to generate income in future. This also provided assurance for the firm whilst they operated in a highly uncertain period in the market, with the pandemic creating a number of challenges in terms of customer demand and supply chains.

The process of receiving the loan was reported to be more of 'a partnership' between CTi and the NPIF fund manager (Mercia) than the consultee had expected. Mercia was proactively and closely involved in the firm and its Board, both during and after the buyout to ensure the impact of the loan was maximised. For example, the fund manager has supported CTi in profiling customers and future contracts, provided ongoing advice on the firm's finance options, as well as introducing CTi to other lenders and bank facilities.

"[Through the NPIF scheme] We have been given not just access to a loan, but also a hugely beneficial support system. The team at Mercia have gone above and beyond our requirements, and we couldn't have asked for more"

Implementation to date

The loan has primarily been used for working capital, covering a range of overheads for raw materials, labour, and covered the costs of the ongoing operation of CTi's facilities. The consultee reported that there had been no barriers to implementing the loan, with Mercia providing direction where needed, and all communications and reporting being undertaken smoothly.

With the new Owner's motivations strongly set on growing the business, the loan has also been used to **fund a number of internal investments**, including in new machinery and equipment and recruitment in a range of commercial positions, leading to improvements in business development activities including a re-branding and re-design of the firm's website.

The loan has been integral to the take-over of the firm, therefore the consultee reported **that it did not divert attention away from other business development activities that would have otherwise been completed**, as without the loan all activities would have closed. Additionally, whilst the loan has provided resilience against potential risks due to COVID-19, the consultee reported the firm has operated relatively smoothly during the pandemic, and therefore money has not been used to mitigate against any negative consequences.

"The debt finance funding has been central to firm's survival, and without it there would have been no other activities to focus on."

Outcomes and impacts to date

The consultee reported that since the buyout was completed, a number of outcomes have been achieved to date as a direct result of the NPIF Debt Finance loan. These include:

- **Avoiding business closure, retainment of staff and increased resilience,** as without the investment the firm would have closed.

- **Increased investment in R&D,** with new machinery being purchased that enables the firm to **provide an entirely new service** by expanding the firm's offer away from manufacturing only, to a full scale design and production offer.
- **Introduced more efficient processes,** through staff time (as funded through the loan) being invested in the business introducing lean manufacturing and value stream mapping, leading to quantifiable savings in the firm's 'On Time In Full Delivery' metrics, which has **also led to new customers.**
- **New contracts and exports** have also been secured as a result of the loan. CTi have recently provided a customer in Japan with what is believed to be the largest cold shell titanium casting that has ever been made.
- **Following the investment in marketing** resources and staff, the firm have been able to promote notable contract wins (such as the above) to a wider audience, and have received far more online recognition.
- **Increased the skills of the existing workforce,** with a range of training programmes having targeted every level of staff, including Board-level training, health and safety and management training. **The firm has also recruited new staff,** including commitment to a strategy of taking on three apprentices per year. At the senior level, the board has grown with four internal promotions being made, and three new Non-Executive Directors being onboarded.

Furthermore, and prior to being implemented, the NPIF loan also contributed to the success of the buyout process itself. The consultee reporting that without it, it is very unlikely they would have got enough finance together to complete the process, and although other sources of finance did also contribute to the outcomes achieved above, the NPIF debt finance loan was the largest amount single source of funding, and had a role in levering other sources of finance at later stages.

Future outcomes, development and finance needs

The consultee was confident about CTi's future prospects, **which are linked to the activities that the NPIF loan have enabled.** With the loan enabling enhanced resources being allocated to sales activities and investment in marketing, the firm is now more visible and recognisable. This is supporting the realisation of business development opportunities, including current quotes being developed for a number of long term contacts, and a push to expand into the Nuclear sector.

The firm's future priorities are aligned to a strategic plan the new Owners recently released. This involves developing a more rounded service offering, that takes clients from design stages right through to production. Ultimately, CTi are seeking to become closer to their customers, with plans to expand its consulting arm, which offers direct advice to other companies that are either buying or making castings on best foundry practices. Accessing further sources of finance will be high on the agenda, and necessary for continued expansion. CTi's equipment is in need of constant maintenance and often requires upgrades, and the firm are planning to buy new software that simulates the metal pouring process, which will help improve the manufacturing of the moulds that metal is poured into. There are also R&D plans to explore how AI and robotics can be integrated into CTi's processes, specifically to reduce imperfections in castings before they go the customer. The Owners demonstrated confidence in the current position of the company, following the NPIF investment, and as a result were optimistic that accessing finance in the future will be achievable.

"Since the success of the takeover, we are ready to grow the business for the future. We don't plan on standing still."

Conclusions and lessons learned

The consultee stated the main lesson learned throughout this process is that when seeking sources of finance, it is vital to have the business plan ready from the outset, and that all of the workforce have an in-depth understanding of this, including any growth projections. The rigorous application process required for the NPIF debt finance loan has encouraged detailed business planning, which in turn has confirmed owners ability to seek finance in the future.

“This is a deal that has cemented the importance of CTi and our industry. We have an enthusiastic workforce, a great board, and are very grateful for the support we have received.”

The activities enabled by the NPIF loan and support provided by Mercia have been essential to the buy-out process. This case study highlights the importance of the Debt Finance loan and its applicability to supporting not only the survival of a firm, but its future growth. It also demonstrates the value of the wider support package provided by the Fund Manager, and versatility of this offer.

Case study 5: Citi Logik

Introduction and context

Citi Logik is a Leeds-based technology company that uses anonymised locational data gathered by mobile network operators to generate valuable insights on mass population movement, either on foot, or via vehicle or train. Citi Logik’s clients have historically been public sector bodies that deliver road, rail or urban development projects, such as local or regional authorities, or the private sector consultancies supporting them, however with recent expansions into new markets, such as the optimisation of Electric Vehicle Charging deployment, the company now also service a wider range of private sector clientele.

The firm was founded in 2012 and currently has 17 employees, with the majority based in their Leeds headquarters. Since being established, Citi Logik has mainly focused on providing one service, which involves customising individual datasets for clients in a specialist manner. The firm has been very successful in this, building a strong reputation, repeat customers and are able to compete with a number of larger providers. However, in recent years Citi Logik have sought to diversify their income stream and customer range by improving their capabilities and developing new services, with ultimate aims of growing and enhancing competitiveness in a changing market. This has formed the rationale for seeking a range of business support solutions and investment.

This case study explores **the £2m Equity Finance investment** Citi Logik received through the Northern Powerhouse Investment Fund (NPIF), delivered in three separate rounds over two years by Mercia, the NPIF Fund Manager for Yorkshire and Humber. The first round of investment (£1m) was made in January 2019, followed by a second (£250k) in March 2020 and finally (£500k) in August 2020. The company are yet to draw down the final £250k. This is based on a survey and consultation conducted with the Citi Logik’s Founder and Chief Innovation Officer (CIO) who recently retired in December 2021.

Business challenges and opportunities

Over the last three years, Citi Logik have been pursuing a growth plan centred on developing the capacity to give customers access to data and insights in less bespoke but more affordable packages, with examples including visualisation and analytics tools, a self-service people movement portal and a repeat access subscription service. These are expected to attract a wider range of customers and enable the firm to meet evolving demand for the use of mobile network data. Citi Logik has prior

experience accessing public sector innovation finance to support their growth, having previously utilised a loan and R&D support from Innovate UK to begin the process of developing and piloting several prototype tools. This led to the identification of further R&D activities necessary for finalising the technical development and commercial release of the services.

Since then, **the have firm continued to face a number of challenges in developing new services and launching them in the market independently**, limited by their small size and inability to resource in-depth internal R&D activities. Like many other small companies, Citi Logik have to prioritise managing cashflow and revenue generating activities over R&D and commercialisation of new services.

Pursuing equity investment was seen to be the most suitable type of finance for the business, due to the unpredictability of the firm's future activities and loan payback times. Prior to applying for the NPIF equity finance, Citi Logik were actively seeking investment but **struggling to find deals with favourable terms and investors that understood the firm's plans and wanted to be involved in the long term.** Citi Logik's introduction to the NPIF equity finance scheme was unplanned, with the company meeting a representative of Mercia at an investor community event, which led to conversations around Mercia's offers, and an understanding that the NPIF equity finance scheme was well suited to Citi Logik's needs. The company decided to apply, and undertook valuations and consolidated business plans to demonstrate how the investment would be used and the impact it could have on the firm's growth. In order to strengthen the case for investment, the consultee noted that pitches made to Mercia had to exhibit the range of downstream benefits that the new services could create on a societal scale, such as reduced congestion, travel time and carbon emissions. Building a strong mutual understanding of the detail behind these outcomes was key, and facilitated by open communications with Mercia, as well as a sufficient level of interest and time commitment from the Fund Manager in return.

In early 2019 Citi Logik **successfully pitched for a deal worth £2m**, with the terms including an agreement that the finance could be drawn down in several stages. Initially, Citi Logik chose to draw down £1m, and review their position and need for further finance on an ongoing basis. The consultee reported that these terms were highly favourable and indirectly created further value for the company by enabling the Management team to maximise attention to delivering the growth activities planned and achieve time savings by not having to apply to additional finance again.

"Being able to access pre-arranged finance was a key benefit, as we could focus on delivering the R&D to our best efforts, rather than spending time and resource on more fundraising if it was needed."

Finance additionality and the wider finance package

At the time of interview, the firm had received three rounds of funding, with the level of additionality varying between each round and it's application. The first two rounds were used to provide working capital directly into the business. For the first (£1m), in the absence of NPIF the consultee reported it would have been **very unlikely Citi Logik would have secured equity investment from another source, and if so it would have taken several months to a year longer to achieve and been on less favourable terms.** For the second round (£250k), the consultee stated that the company **definitely wouldn't have been able to obtain this elsewhere,** ultimately because it was part of the terms of the original agreement and required very little burden to receive.

The third round of funding (£500k) was utilised in August of 2020 for a slightly different purpose. In light of the Covid-19 pandemic, Mercia encouraged the company to use part of the remaining equity finance to access further funding through the British Business Bank's Future Fund. This was identified as a suitable opportunity to increase the firm's resilience and provide a back-up source of working capital. Mercia successfully made the application on behalf of the company, which was match-funded to provide an additional £1m. The consultee reported that during this period, Citi Logik probably could have found

similar amounts of finance independently, however the fact that the process was led by Mercia and enabled through the use of unallocated NPIF finance meant that there was minimal burden for the Management team, leading to benefits in regards to time-savings and efficiencies that would not have occurred without NPIF.

“We really got along well with Mercia and the deal offered has really suited us. The valuation we achieved, amount invested and options to raise further funding have all been so important”

Implementation to date

The first step Citi Logik took when implementing the equity finance was to **increase their working capital spend on ongoing commercial activities, as well as recruiting staff in technical and operational roles.** Both of these actions supported the firm’s resilience during COVID-19, and provided an opportunity to expand capacity in preparation for an anticipated increase in demand from customers following the initial shock of the pandemic. This has led to direct benefits, as with a larger team Citi Logik **have been able to secure contracts in new markets**, for example, the firm are now supporting an electric vehicle charge-point operator to understand the spatial distribution of demand for their charging locations.

Secondly, the firm were able to allocate and finance a significant amount of **resource to deliver R&D activities**. This included an internally led product development process, with pre-existing and new technical staff being given time to complete the development of the new web-portal service, and lead trials with clients. This was directly enabled by the NPIF investment, firstly through the recruitment of a larger technical team, creating increased capacity to handle both commercial work alongside R&D activities, and secondarily through having the working capital available to resource their time. This has led to the team developing a new people movement data self-service portal, which is expected to be released to the market in early 2022.

“Based on the improvements we have been able to make in the business, I can’t see anyone else who will be better in the world at what we do! We are really well placed to lead this market”

The consultee reported that securing and implementing the NPIF funding has not diverted the firm away from other activities, apart from securing investments from other sources. However, due to the success of the activities created by NPIF**, the consultee believes the maximal outcomes of any investment are likely to have been achieved**, especially considering the direct follow-on to the Future Fund, which the consultee noted has since provided an invaluable buffer against some of the negative consequences of COVID-19, including slower payments from clients.

Outcomes and impacts to date

The NPIF investment and additional equity received through the Future Fund have generated the following outcomes and impacts for the firm:

- **Avoided business closure and increased resilience** during the Covid-19 pandemic, with the team being facilitated to deliver both customer work and R&D**, leading to improved productivity and profitability** in existing contracts, and **growth in new markets due to ongoing development of new services** and the **attraction of new customers.**
- **Increased the capacity, capability and skills of the workforce,** through the **recruitment of five additional staff members** across both technical and business development roles. Technical staff were allocated resource for the internal development of the new web service, which resulted in **knowledge development** as well as enhancing the firm’s capabilities.

- **Increased investment in innovation** and **progression of services towards commercialisation** through ongoing R&D and business development work, which is expected to result in the formation of either patented products or new IP.
- **Increase revenue through securing larger contracts,** for example a recent contract delivering significant services to the rail industry to better understand rail demand during Covid-19 and the ongoing recovery. The consultee reported this has been one of the company's largest contracts to date, and although it was not realised as a direct result of the NPIF investment**, the increased capacity and capabilities achieved as a result of the funding** has been imperative in being able to deliver against the contract, and without it, Citi Logik would have struggled to deliver work for other clients simultaneously.

In terms of the overall level of additionality created by the NPIF investment in achieving the above, the consultee reported he would have expected that outcomes related to R&D, progressing new services towards commercialisation and increasing profitability to have happened anyway, but more slowly, in the scale of up to one to or two years later. **Without the NPIF investment, the company would have been more reliant on self-generated finance, and likely continued to face constraints in terms of staffing and working capital.** The investment has facilitated the necessary conditions for R&D to be prioritised, whilst allowing business to be delivered usual. Outcomes related to increased resilience during the pandemic were directly attributed to the NPIF funding, with significant risks and challenges to the business being well protected against.

Future outcomes, development and finance needs

The firm are yet to allocate all investment received from NPIF, and at the time of interview were only part of the way through all planned activities. Alongside the people movement portal, a subscription based payment system will also be released in 2022, which combined will form a new lower cost service and open up new adjacent market opportunities. As Citi Logik works towards releasing this to the market, ongoing investment will be focused on business development activities, with the newly recruited commercial staff beginning to deploy marketing activities that are expected to drive sales. Additionally, Citi Logik made use of the funding to procure the services of an external PR/comms organisation to lead on a range of direct marketing activities and a website refresh. The firm is considering exploring options for another round of fundraising in 2022, which Mercia are currently advising on. This is expected to help fund the firm's next stage of development and growth, following the initiation of the work described above. The consultee stated that they would hope to achieve a comparable amount to the NPIF equity investment.

Conclusions and lessons learned

This case study demonstrates how competitive and attractive the terms of the NPIF equity finance scheme are for a high growth innovative firm. The investment itself, close support from the Fund Manager, and opportunities to access further funding have provided a unique solution to Citi Logik's needs that would have been difficult to match elsewhere. As a result of the process, the consultee has gained an appreciation of the timeliness of securing investment and the value of increased financial resilience, especially considering the unforeseen impacts of the pandemic.

"The investment has enabled us to grow and provided contingency for the future. Being able to build capacity and complete R&D has supported a cyclical growth process, enabling us to enhance our offer whilst improving our reputation and ability to win more work"

The investment has significantly changed the firm’s ability to grow by enabling resource to be applied to innovations that otherwise would have not been prioritised. In turn, Citi Logik have already, and will continue to expand their customer base, and ultimately support more clients with their projects and continue to contribute to the achievement of societal benefits at scale.

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Publication date: April 2022