

The State of Small Business Britain 2022:

From Crisis to Crisis



The Enterprise Research Centre (ERC) is an independent research centre which focuses on growth, innovation and productivity in small and medium-sized enterprises (SMEs). The ERC is a partnership between Warwick and Aston Business Schools. The Centre is funded by the Economic and Social Research Council (ESRC), The Department for Business, Energy & Industrial Strategy (BEIS), Innovate UK, the British Business Bank, and the Intellectual Property Office. The views expressed in this report are those of the authors and do not necessarily represent those of the funders.

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Introduction

The State of Small Business Britain report is the Enterprise Research Centre's annual review of trends and issues affecting small and medium sized enterprises (SMEs) in the UK. The report draws together and summarises several different strands of the Centre's research to give a picture of the landscape for the UK's SMEs in 2022.

2022 has been another extremely challenging year for the UK's SMEs. Many have spent the year dealing with a range of after-effects associated with the pandemic, whilst also facing Brexit impacts, rising energy prices and sharp increases in the cost of doing business.

Through the year ERC research has explored the impact of these challenges, as well as longer-term trends on our priority themes including innovation, net zero adoption, trade, productivity and workplace wellbeing. Together, this varied collection of work offers valuable insights for anyone with an interest in creating an environment in which the UK's SME community can not only survive, but also grow and thrive.

Much of the ERC's research in 2022 was undertaken in partnership with other individuals and organisations, as well as with the financial support and participation of policy colleagues. We firmly believe our work is most insightful when we work in collaboration with others and are pleased to have developed new relationships this year. We are grateful to everyone for their involvement and support and look forward to working with you in 2023.

Please do get in touch if you would like to discuss any of our research further or if you'd just like to find out more. You can contact the team at info@enterpriseresearch.ac.uk, or via the staff contact details on the ERC website at: <https://www.enterpriseresearch.ac.uk/>

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Executive Summary

The State of Small Business Britain report is the Enterprise Research Centre's annual review of trends and issues affecting small and medium-sized enterprises (SMEs) in the UK. The review discusses the findings from ERC research and analysis carried out and/or published in 2022, including the results from our second Business Futures Survey.

2022 has been yet another challenging year for the UK's SME community. Shortly after most of the restrictions associated with the COVID-19 pandemic were lifted, we headed into a new crisis, with businesses and households this year having to confront soaring prices and energy costs.

In this review we give an overview of some key insights from ERC research published and progressed over the past year. We reflect on how these insights help us to better understand the kinds of challenges businesses are facing, and, crucially, how policymakers, practitioners and business leaders might best build foundations for recovery and longer-term growth. Key insights from the review include:

Business trends

- Findings from the Global Entrepreneurship Monitor (GEM) confirm that the UK is a nation of entrepreneurs, with around one in three adults now either running a business or looking at starting one. The number of individuals in the early stages of setting up a new business is at the highest level since the GEM Global project started in 1999. Female early-stage entrepreneurial activity is also at a high, with the gender gap closing.
- But SMEs have faced severe financial challenges in 2022. According to the ONS Business Insights and Conditions Survey (BICS) data, the proportion of businesses in the UK reporting that they have 'no cash reserves' has increased since 2020. At the same time, the proportion of financially healthy firms with more than six months cash reserves has also increased.
- The highest percentage of firms with no cash reserves is found among micro-businesses employing 0-9 employees. Less than 25 per cent of micro-businesses and about one third of small businesses estimated that their cash reserves would last more than six months, compared to around 50 per cent of medium and large businesses.
- Businesses have become increasingly more concerned over the year by increases in energy prices, inflation, and interest rates. In November,

around 22 per cent of businesses said they were concerned by energy prices, increasing from 15 per cent in March. One in four businesses expressed concern about inflation of goods and services compared to around one in five previously.

- The ERC's Small Business Price Index (SBPI) shows that business cost increases during the first half of 2022 were higher than at any time since 2008 when we first started the Index. Business cost inflation eased somewhat in 2022q3 but it still remained positive, 'locking in' the cost increases of earlier periods.
- The ERC's Business Futures 2022 survey does show a more encouraging picture regarding turnover and employment growth compared to 2020. In 2022 there were more businesses that said they experienced turnover and employment growth in the past 12 months than those who experienced a decline. However, the situation varies considerably between sectors.

Trade patterns

- Looking at the global context, international trade made a strong comeback in 2022 after the pandemic, but this bounce back by-passed the UK. Between the period 2019 to 2022, the UK economy performed less well than the economies of most of its peers. Among the exporting countries, the UK is an outlier, with zero export growth during 2019Q1–2022Q1.
- EU exit and the new trade relationship defined by the EU-UK Trade and Cooperation Agreement (TCA) had a strong, negative, and significant impact on UK bilateral trade with the EU countries in 2021. UK exports to the EU declined by 26 per cent on average over the period 2019–2022.

Innovation

- UK Innovation Survey data published this year on firms' innovation activity pre-pandemic (during 2018–20), suggested a welcome increase in the overall proportion of UK firms which were classed as 'innovation active'. However, levels of innovation activity remained significantly below the levels seen earlier in 2012–14 and 2014–16 for both SMEs and larger businesses.
- Indications are that the pandemic has had a negative impact on innovation. In the 2022 ERC/Innovation Caucus Innovation Survey, half of the firms surveyed said that they were experiencing continued disruption of their R&D activities.

- Around a third of firms were reducing and re-prioritising some R&D activities, and around one in ten had either stopped some, or all, of their R&D. More positively, around one in five firms had increased their R&D activity in the three months prior to the survey.
- ERC research this year has highlighted some of the issues faced by 'deep-tech' companies seeking to scale, including difficulty in navigating the complex support landscape in the UK, issues with financial provision, ecosystem gaps, and the variable quality of services available. Firms also identified challenges in accessing suitable premises for scaling, in terms of management and leadership, and in advice around IP issues.

Adoption of net zero practices

- The ERC's Business Futures 2022 survey found that nine in every ten UK SMEs said that they considered environmental implications when taking business decisions, slightly higher than we found in 2020.
- However, consideration is not always transformed into action, with two-thirds of firms saying that they have undertaken actions to minimise environmental impact. Smaller firms were less likely to have undertaken steps to reduce environmental impact than larger SMEs. Just over a third of UK SMEs are not engaged in undertaking any active steps to reduce business carbon footprint.
- The survey also showed that the three main barriers to the decarbonisation of UK SMEs were: (1) uncertainty related to the pandemic; (2) the cost of meeting regulations and standards, and (3) lack of information on low carbon technologies. There was some variation by size, with smaller firms slightly more likely to be concerned with the cost, and larger firms with the information barrier.
- Three in four firms who have taken steps to reduce environmental impact, find that these measures resulted in an actual decrease in carbon emissions.
- But these are not the only benefits. The second most cited benefit relates to the improvement of firm's identity and reputation, with around three in five firms citing this advantage. Responses from around four-in-ten firms suggested benefits that would increase revenue, including 40 per cent of firms who reported that adopting net zero practices helped to develop new products and services.
- The informational barrier appears as one of the most important obstacles preventing firms to achieve net zero. Knowing where to find reliable information emerges as a key characteristic of firms that are acting on climate change.

Adoption of digital technologies

- There is evidence that the pandemic accelerated digitalisation of small businesses. In 2022 we continued to track the digital adoption behaviour of UK SMEs via our Business Futures Survey. We find that larger SMEs take the lead in the adoption of more advanced emerging technologies such as AI and machine learning.
- In further research this year we explored the factors driving adoption in more depth, and found these were related to growth, key business or industry requirements, and the COVID-19 pandemic. Despite high reported usage and intensity, most SMEs said they were interested in using new digital technologies, or better using/integrating existing technologies.
- SMEs have different digital technology needs at different points in their business journeys and, respectively, require different types of business support. In a separate evaluation of the implementation of the Evolve Digital programme, we found evidence of the potential value of short online training courses to support digital adoption in small firms.

Workplace mental health and wellbeing

- Our 2022 survey of mental health and productivity in Midlands firms indicates that mental health related sickness absence levels are creeping back up after declining in 2021. Similarly, having declined in 2021, the proportion of firms reporting 'presenteeism' also increased in 2022, although it has not yet regained pre-pandemic levels.
- The evidence also indicates a greater uptake of some mental health-related initiatives among employers, including raising awareness for staff of mental health issues, and providing line manager training in mental health issues.
- However, smaller firms are still considerably less likely to offer initiatives than their larger counterparts, probably reflecting resource constraints and lower levels of formal HR functions. These activities were also notably less common amongst family firms, which early analysis indicates appears to be linked to financial constraints.

Inequalities in entrepreneurship

- Research published this year on rural/urban enterprises shows that some obstacles to business development are felt particularly keenly in rural locations: broadband quality, provision of public transport, and transport infrastructure. These effects were amplified in more remote rural areas, with decreasing quality of these infrastructure factors reported in rural villages, hamlets and isolated areas compared to town and fringe locations.

- The research also found different patterns of business connections among rural and urban enterprises, with rural firms in villages and hamlets and isolated dwellings less likely to report that they know, interact with, and feel supported by, other businesses.
- In separate research we find evidence that the COVID-19 pandemic appears to have had a disproportionately negative effect on entrepreneurial attitudes and perceptions in rural areas. Before the pandemic hit, rural respondents were more positive about their ability to start a business and had a lower fear of failure than urban respondents, but these differences had largely disappeared by 2021.
- Concern about the relatively low levels of female entrepreneurship in the UK is long-standing. Although the GEM data shows that more female-led businesses than ever before were launched in 2021, new data made available this year via the Gender Index suggests that a sizeable gap still exists in terms of business ownership. At the UK level in 2021, 16.8 per cent of businesses were female owned compared to 60.3 per cent of businesses which were male owned.

SMEs and pro-social actions

- Data from the ERC Business Futures Survey 2022 shows that 46 per cent of UK SMEs said that they 'undertook steps to actively generate social benefits for people and communities' over the last year. Medium-sized firms were more likely to undertake these 'pro-social' actions compared to small and micro firms.
- Compared to other businesses, ethnic minority-led enterprises were more likely to take pro-active measures to create social benefits for individuals and communities and to consider social concerns when making business choices.
- The results of UK SMEs' pro-social efforts were generally positive. As a result, approximately three out of four businesses that took action to assist the community and society claimed that doing so not only enhanced their own identity and reputation but also had a good effect on the community.
- Other internal performance benefits for the company were also significant, including helping with employee recruitment and retention and employee skill development. Additionally, more than half of enterprises that actively participated in pro-social activities said that doing so led to new product or service innovation and the creation of new business possibilities.



2023 looks set to be a difficult year for many SMEs, with a range of challenges for policymakers and practitioners to tackle. Our research insights indicate the following six areas as priorities for policy and research:

Innovation

Innovation is critical to future growth and productivity, but during 2022 many SMEs reduced their R&D and innovation investments. Supporting SME innovation needs to be a key policy objective, and spatially differentiated R&D and innovation policies will be needed to address rural/urban inequalities.

Net-zero adoption

Although most SMEs say that they consider sustainability issues when making businesses decisions, there is still room for improvement when it comes to taking action, particularly amongst the smallest firms. Looking forward, the provision of trusted sources of information will be key in supporting firms to implement sustainability practices.

Digital adoption

Digital adoption is important for improving productivity in SMEs. Although the use of digital technologies increased during the pandemic, many SMEs still have an appetite for introducing new technologies and improving the use of the technology they already have in place. Targeted support programmes have been shown to be helpful in raising the confidence of SME leaders in technology adoption.

Management and leadership

Good management and leadership are vital for business survival, productivity and growth. Management training programmes tailored to small businesses that involve an element of peer learning, such as the recently launched Help to Grow programmes play an important role in challenging the mindsets of business leaders, raising ambition and confidence and should continue to be prioritised. Our research also indicates that businesses that seek advice during periods of crisis are significantly more likely to engage in ongoing advice seeking, with long term business benefits. This is important in the current difficult economic climate: encouraging firms to seek external advice during this period may help them become consistent advice seekers in the future.

Mental health and well-being at work

The pandemic and its after-effects have had major implications for the mental health and wellbeing of the workforce and of SME business leaders, with implications for business performance. Although there is evidence of increased awareness of mental health issues amongst employers and more initiatives to improve employee mental health support have been introduced, there is still room for improvement, particularly amongst the smallest firms.

1. From crisis to crisis – the SME landscape in 2022

In this section of the review, we explore what the headline research evidence tells us about the UK SME landscape in 2022, drawing on key findings from ERC research as well as some analysis of secondary data sources.

At the start of the year, although most of the COVID-19 restrictions had been lifted, the effects of the pandemic were still being felt by businesses across the country. It is true that the previous year had seen some positive trends, with many organisations changing business models and adapting to new ways of working, but many SMEs still found themselves in a vulnerable position. Firms were struggling with rising costs as well as workforce issues such as increases in absenteeism and mental health challenges, and for some, growing skills shortages. But, as the year unfolded, the challenges began to deepen as the effects of the Ukraine-Russia conflict began to hit, with implications for fuel and energy costs.

As we approach the end of the year, the UK faces a bleak economic outlook, with the cost of living rising at its fastest rate in almost 40 years. So, what does the research evidence tell us about the experiences of the UK's SMEs within this broader context?

1.1 Trends in entrepreneurial activity

The most up-to-date, reliable information on trends in entrepreneurial activity and business dynamism is found in the UK Global Entrepreneurship Monitor (GEM) survey¹. The results from the GEM UK Adult Population Survey (APS) and National Expert Survey (NES) for 2021 provided a unique opportunity to lift the lid on a range of issues which lie at the heart of the entrepreneurial process as we began to emerge from the COVID crisis².

Few would have predicted that the last 12 months would create such an intense backdrop of global and domestic uncertainty for the UK's entrepreneurs to negotiate. The GEM UK survey was undertaken in the second and third quarters of 2022, with the war in Ukraine intensifying, with an energy crisis yet to feed through into the costs for business and inflation yet to reach its highest point in 2022.

The findings from GEM, against this challenging backdrop, once again confirm that the UK is a nation of entrepreneurs, with around one in three adults now either running a business or looking at starting one. The number of individuals in the early stages of setting up a new business is at the highest level since the GEM Global project started in 1999 and is a clear indicator of the entrepreneurial resilience of the UK. Many entrepreneurs revived start-up plans that had been shelved in 2020 when many aspects of society and the economy were shut down for long periods.

Total Early-stage entrepreneurship (known as the GEM 'TEA rate') is at an historical high level (11.5%), and within that headline so too is female early-stage entrepreneurial activity, with more female-led businesses than ever before launched in 2021 (9.7%). It is no longer the case that 'women are half as likely as men to start their own business', as found in the previous GEM report. These increases are due to a rise in nascent entrepreneurship. They are also associated with the postponement of start-up decisions identified in the 2020 survey, and also the recovery of the economy as COVID lockdown restrictions were eased completely on what was termed 'freedom day' on 19th July 2021.

International comparisons show that The TEA rate of 11.5 per cent in the UK is statistically significantly higher than that of Germany (6.9%), France (7.7%) in 2021, but still lower than that of the US (16.5%) (figure 1).

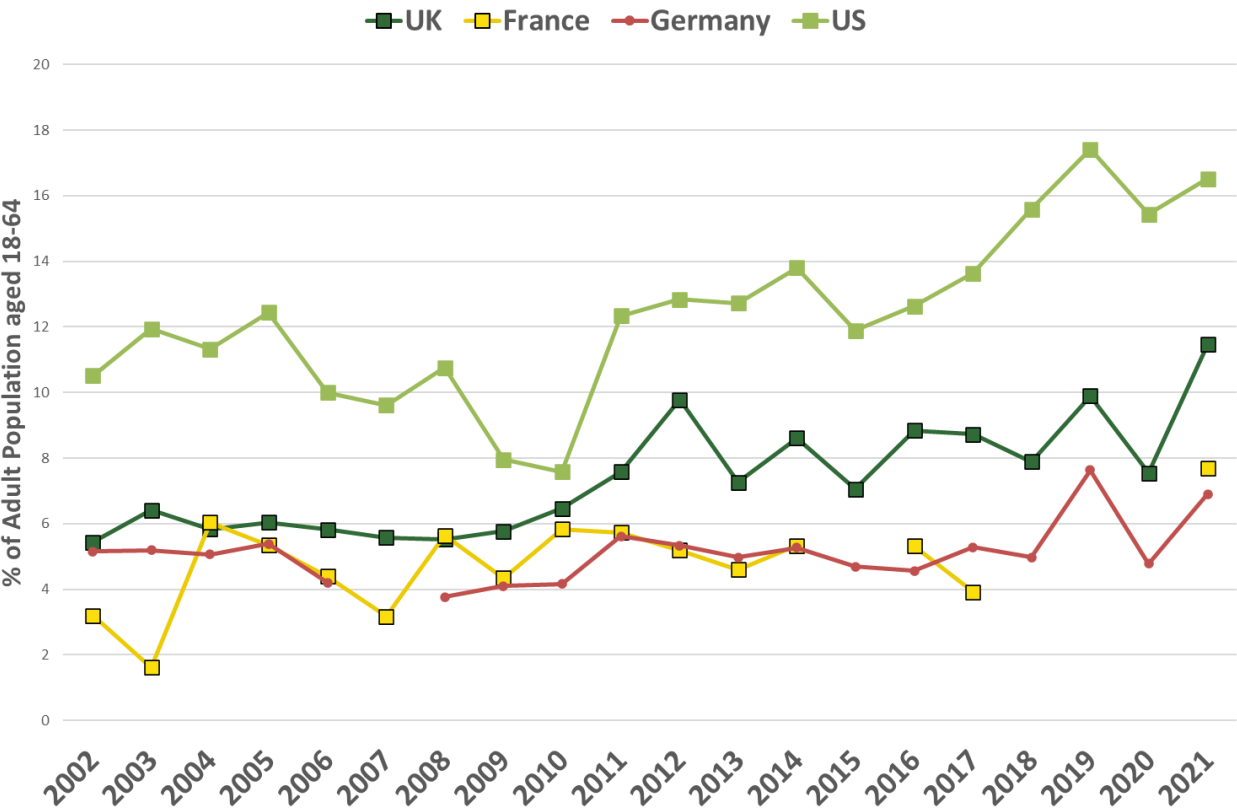
However, the absolute level of early-stage start-up is not the only important measure here. The growth ambitions of these fledgling entrepreneurs and those who have survived the pandemic are also key. Here we find that more early-stage entrepreneurs and established business owners are engaged in 'high value activities' in the UK in 2021 (high job expectations, new products and exporting). This is an improvement on the situation in 2020.

Yet an examination of the Entrepreneurial Framework Conditions (EFC) that entrepreneurs face as they develop their businesses still identifies some challenges ahead. Typically, the UK's framework conditions mirror relatively closely the US EFCs,

¹ <https://www.gemconsortium.org/>

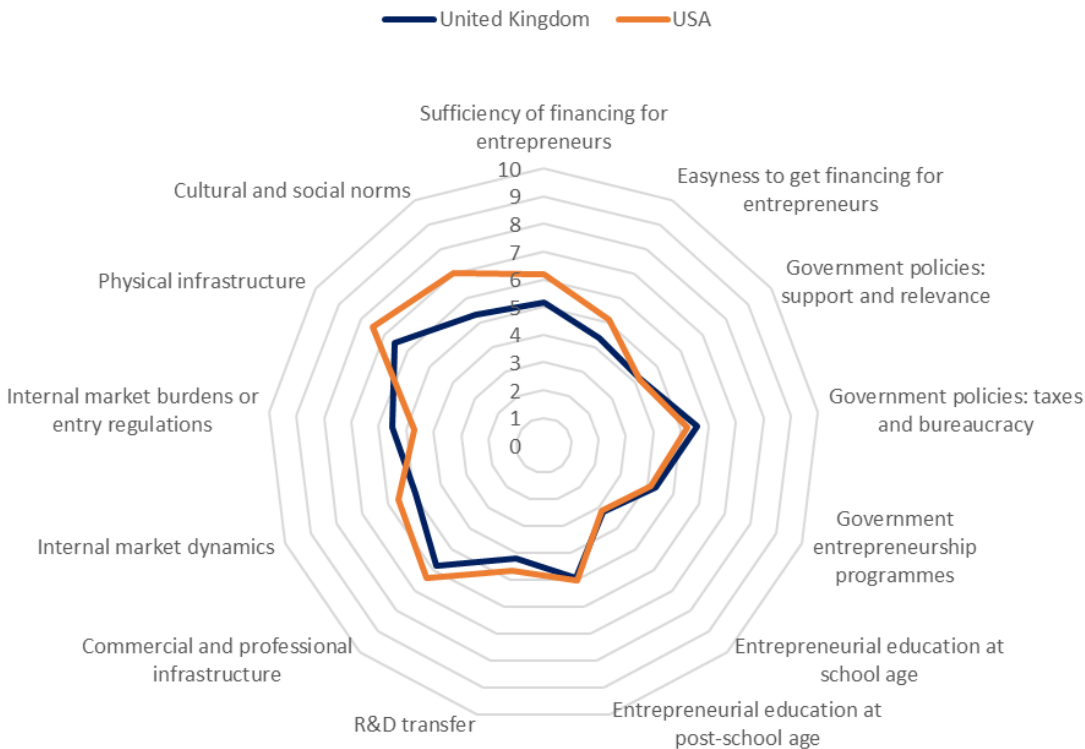
² Reports available for download here - https://www.enterpriseresearch.ac.uk/global-entrepreneurship-monitor_-gem/

Figure 1. Total early-stage entrepreneurial activity in UK, US, France and Germany (2002-21)



Source: GEM APS 2002-2021

Figure 2. Entrepreneurial Framework Conditions (EFC) in the UK and US



Source: GEM National Expert Survey (NES) 2021

except for statistically significantly lower scores for cultural and social norms in terms of support of new and growing firms. Entrepreneurial finance, physical and professional infrastructure, as well as internal market dynamics also scored lower in the UK than in the USA in 2021, although the difference is not statistically significant (figure 2).

One dimension for which the UK shows consistently higher scores than the US, however, is ease of market entry for new and growing firms and internal market burdens and regulations. This is again the case in 2021 - the UK ranked 7th for this framework condition, among 50 countries which participated in NES in 2021.

GEM analysis has shown that the entrepreneurial foundations of the economy and society in the UK are still strong, and these will be crucial for the recovery after the pandemic and in dealing with headwinds of the cost of living crisis, supply chain disruption, the war in Ukraine and the on-going economic fallout from Brexit.

1.2 Business insights and conditions

Turning to look at broader business trends, the Business Insights and Conditions Survey (BICS, previously called the Business Impact of COVID-19 Survey) administered by the Office for National Statistics (ONS), continues to provide a valuable source of up-to-date information on a range of trends in UK SMEs³. The survey asks businesses for example about their perceptions of financial performance and resilience, as well as about issues related to trade, workforce and energy prices on a fortnightly basis. We outline some notable trends below.

SME financial health

Waves 67 (live from 3 October 2022 to 16 October 2022), 68 (17 October 2022 to 30 October 2022) and 69 (31 October 2022 to 13 November 2022) of the BICS provide some of the most recent data (at the time of writing) on the financial health of UK businesses. One key measure here is cash reserves, or the money firms keep aside to meet their short-term and emergency funding needs. Figures 3 and 4 show how long businesses think their cash reserves will last by sector and size respectively.

Around 55 per cent of currently trading business report that they only expect their cash reserves to last for up to six months. In most sectors this varies from between around 50 and 60 per cent (figure 3). However, more than 70 per cent of currently trading businesses in education expect their cash reserves to last for up to six months.

The highest proportion of businesses who expect their cash reserves to last for *more* than 6 months is observed in information and telecommunications (41.4 per cent), followed by manufacturing and professional, scientific and technical activities (32.3 per cent). An alarmingly high percentage of businesses report 'no cash reserves' in education (20.7 per cent of currently trading businesses), transportation and storage (19.2 per cent), construction (16.9 per cent), administrative and support service activities (14.4 per cent) and accommodation and food services (14.3 per cent).

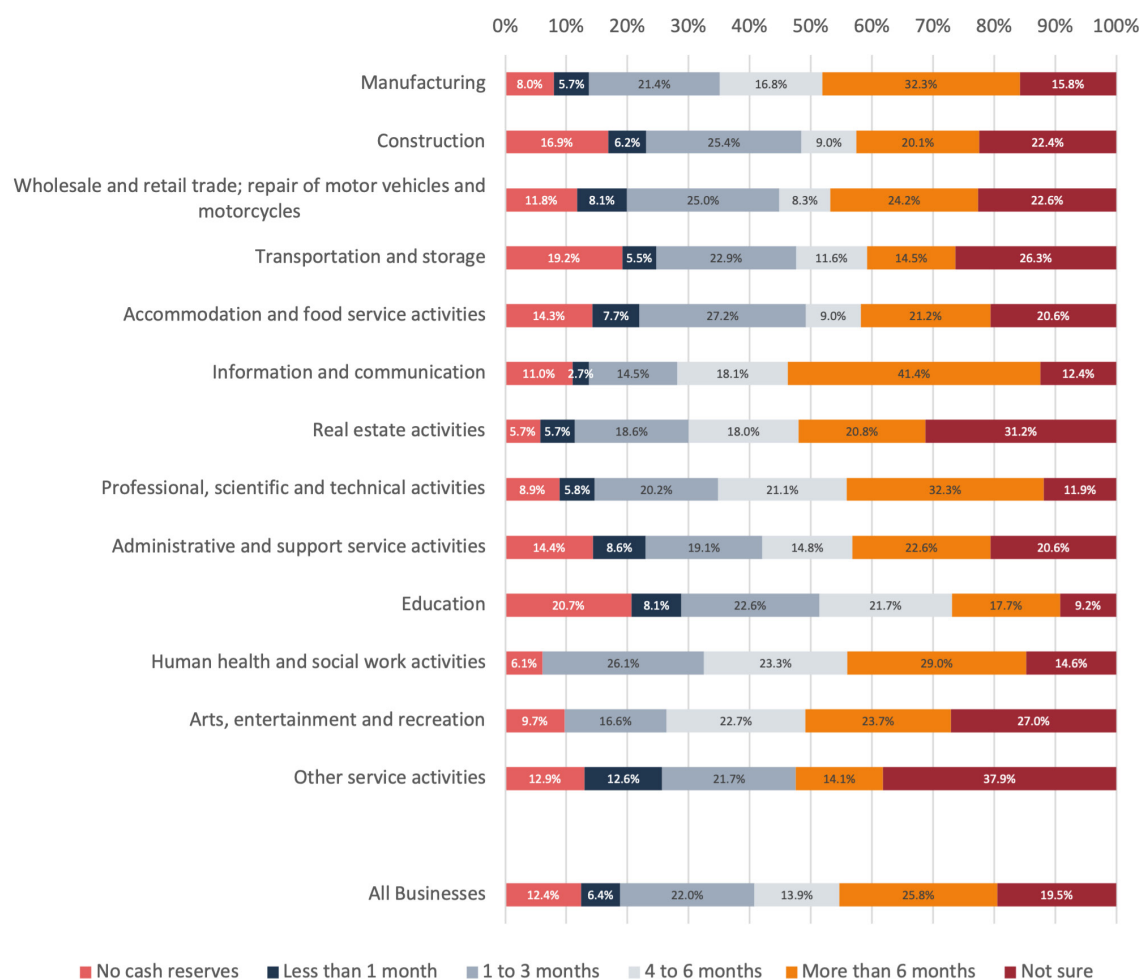
When looking at the breakdown by business size (figure 4), the highest percentage of firms with no cash reserves is observed among micro-businesses employing 0-9 employees (13.2 per cent) and small businesses with 10 to 49 employees (5.9 per cent). Less than 25 per cent of micro-businesses and about one third of small businesses estimated that their cash reserves would last more than six months, compared to around 50 per cent of medium and large businesses, reflecting the financial challenges the smallest businesses face.

Figure 5 provides a snapshot of how business cash reserves have evolved since summer 2020 by summarising data from Wave 7 to Wave 67 of the BICS. As we might expect, it shows that the proportion of businesses with 'no cash reserves' increased over this period. Thus, from 9.3 per cent in autumn 2020 (wave 17 of the BICS) it increased to 11.8 per cent in 2021 (wave 43) and to 12.4 per cent in 2022 (wave 67). On the opposite side, the proportion of financially healthy firms with more than six months cash reserves has also increased, which may indicate that some businesses have been reinforcing their financial position, perhaps to better weather the uncertainty of current energy and cost of living crisis.

Figures 6 and 7 below show the perceived risk of insolvency by size and sector. Four per cent of businesses in 'transportation and storage' and three per cent of businesses in 'real estate activities' estimated the risk of insolvency as 'severe'. Just under one in four business in accommodation and food services estimated risk of insolvency as moderate (25 per cent), followed by 17 per cent of businesses in education, and 14 per cent of businesses in other service activities. The highest proportion of businesses with 'no risk' was recorded in 'human health and social work activities' sector (around 50 per cent). When looking at the breakdown by firm size, the highest proportion of businesses evaluating the risk of insolvency as severe or moderate (10.2 per cent) is observed among micro firms.

³ <https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/businessimpactofcoronaviruscovid19survey>

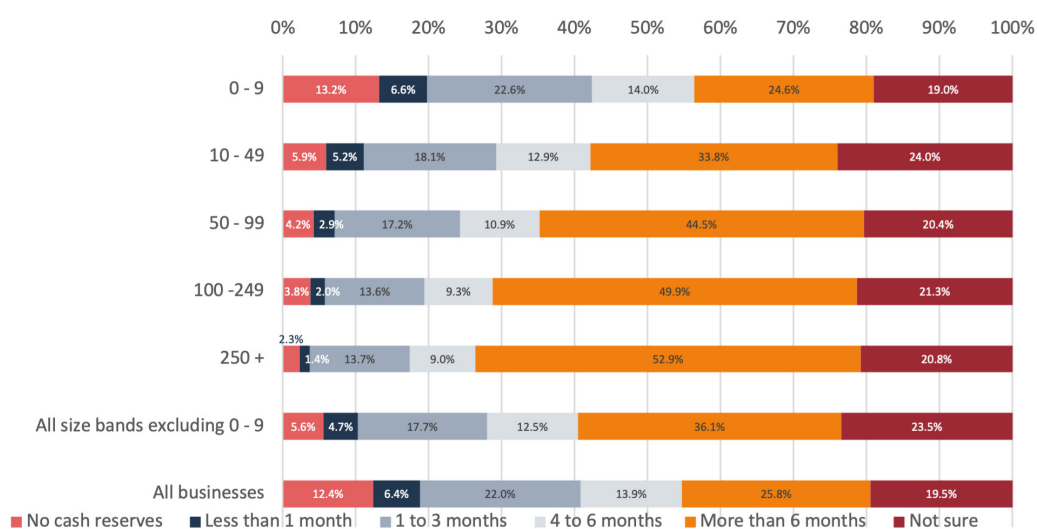
Figure 3. Businesses cash reserves by sector



Source: ONS Business Insights and Conditions Survey data, Wave 67

Notes: Question: 'How long do you think your business's cash reserves will last?'; as percentage of currently trading businesses weighted count, UK; Water supply, sewerage, waste management and remediation activities sector is excluded because of low counts for confidentiality reasons; same for 'less than 1 month' responses for Human health and social work activities sectors and Arts, entertainment and recreation and for '4 to 6 months' responses for Other service activities.

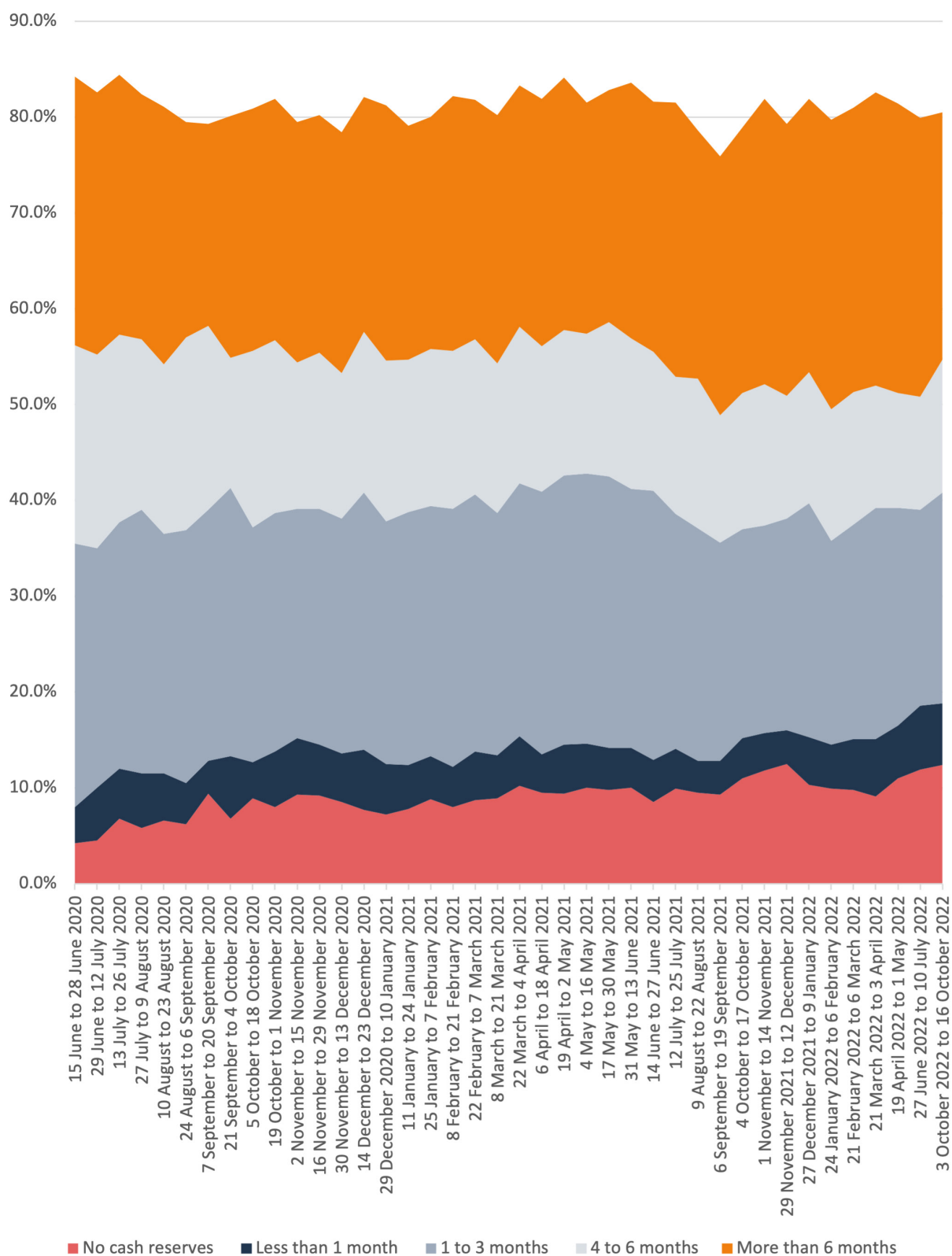
Figure 4. Businesses cash reserves by firm size



Source: ONS Business Insights and Conditions Survey data, Wave 67

Notes: Question: 'How long do you think your business's cash reserves will last?'; as percentage of currently trading businesses, weighted count, UK.

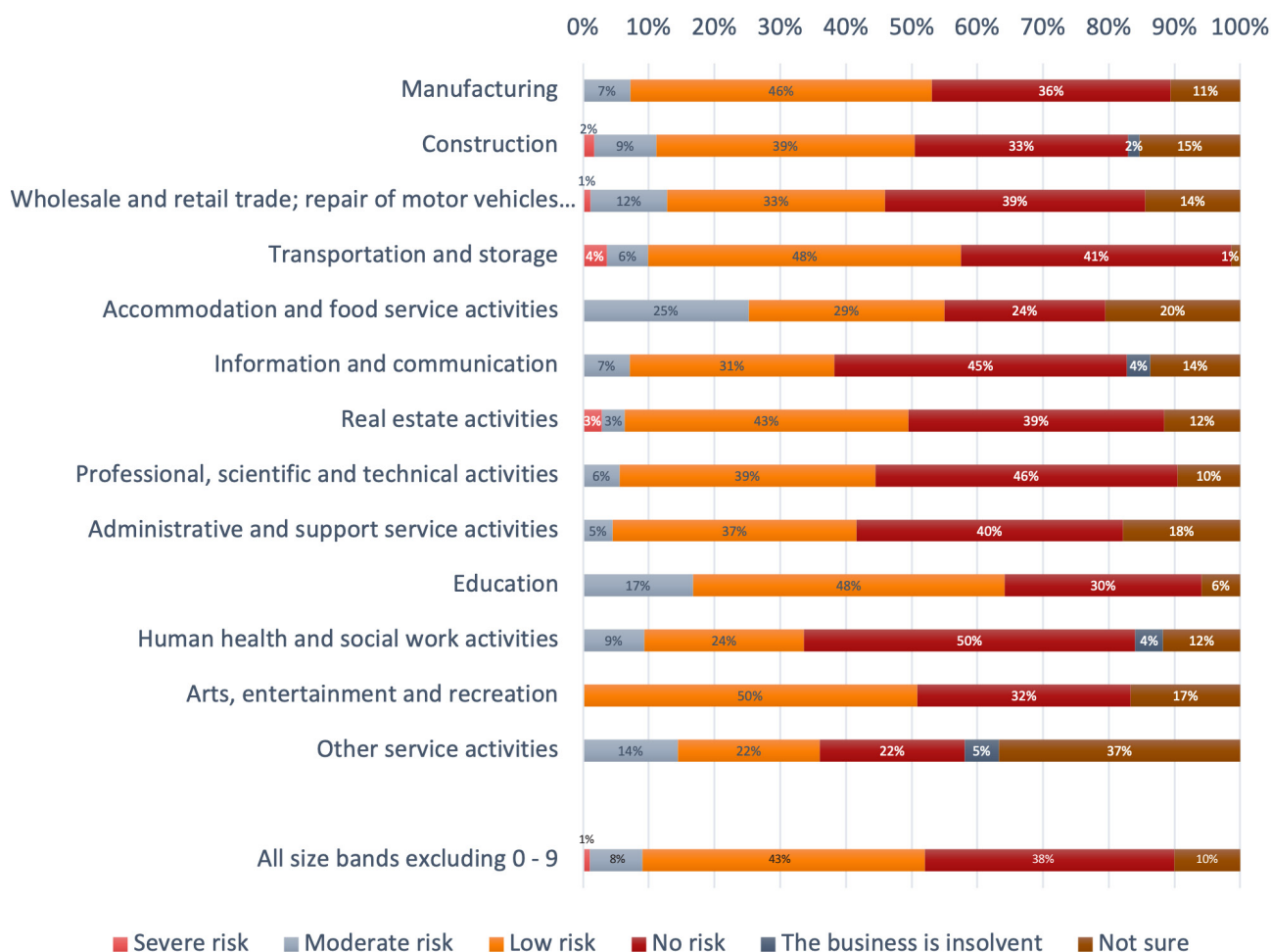
Figure 5. Businesses cash reserves: evolution over time 2020-2021



Source: ONS Business Insights and Conditions Survey data, Waves 7 to 67

Notes: Question: 'How long do you think your business's cash reserves will last?'; as percentage of currently trading businesses, weighted count, UK; all businesses.

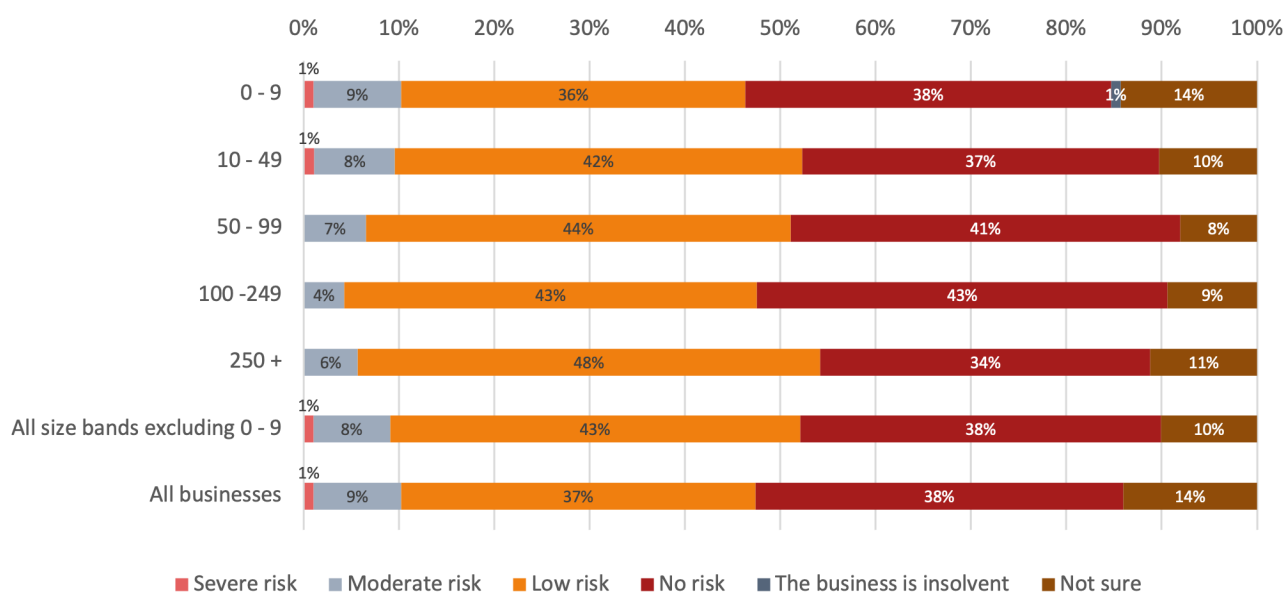
Figure 6. Risk of insolvency by sector



Source: ONS Business Insights and Conditions Survey data, Wave 69 (31 October 2022 to 13 November 2022)

Notes: Question: 'What is your business's risk of insolvency?'; as a percentage of businesses not permanently stopped trading, weighted by count, UK; Water supply, sewerage, waste management and remediation activities sector is excluded because of low counts for confidentiality reasons; idem for 'severe risk' responses for Manufacturing, Accommodation and food service activities, Information and communication, Professional, scientific and technical activities, Administrative and support service activities, Human health and social work activities, Arts, entertainment and recreation, and Other service activities sectors; 'The business is insolvent' was reported by 0 per cent of businesses in Real estate activities, Professional, scientific and technical activities, Administrative and support service activities, Education, and Arts, entertainment and recreation, sectors; data for all other sectors was removed for confidentiality reasons.

Figure 7. Risk of insolvency by firm size



Source: ONS Business Insights and Conditions Survey data, Wave 69 (31 October 2022 to 13 November 2022)

Notes: Question: 'What is your business's risk of insolvency?'; as a percentage of businesses not permanently stopped trading, weighted by count, UK. 'Severe risk' is excluded because of low counts for confidentiality reasons for businesses with over 50 employees; same for 'the business is insolvent' for all size categories except for micro-businesses.

SMEs and late payments

Issues surrounding payment and cashflow, and the particular problem of late payments, has risen higher up the agenda this year in the context of a more challenging financial environment for SMEs.

We discussed SME payment issues in two of our podcasts this year, which included conversations with the current and previous UK Small Business Commissioner - a position dedicated to addressing the issue of late payments.

Delayed and slow payments are a major problem for SMEs, with the office of the Small Business Commissioner stating that a third of payments to small businesses are late, and 20 per cent of small businesses have run in to cash flow problems due to late payments. Clearly, this has negative implications for productivity and growth.

[*Exploring Enterprise Podcast Episode 10: Changing the late payment culture*](#)

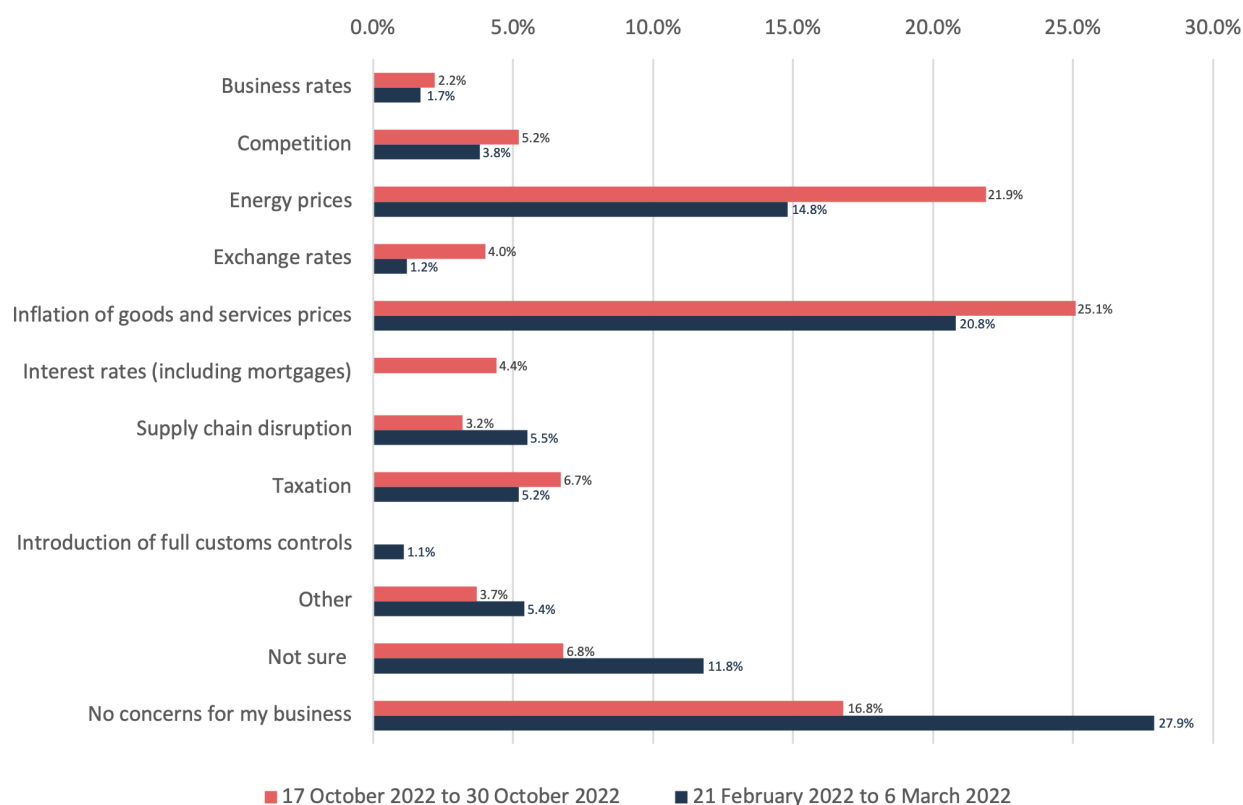
[*Exploring Enterprise Podcast Episode 12: Small businesses in financial crisis*](#)

Rising business concerns

As we might expect, businesses are increasingly more concerned by recent increases in energy prices, inflation, and interest rates. In November, around 22 per cent of businesses said they were concerned by energy prices, this increased from 15 per cent in March (figure 8). Around one in four business is concerned about inflation of goods and services compared to around one in five previously. A new matter for business concern too is related to raising interest rates, with 4.4 per cent saying it will be the main concern in November 2022. Only 16.8 per cent of businesses said they did not have any concerns in November, compared to 28 per cent earlier in the year in March.

Figure 9 shows that energy prices and inflation are the main concerns for businesses across all size categories. This varies by sector (figure 10): for example, businesses in manufacturing and construction are more often concerned by inflation of goods and services (with 40.6 and 50.1 per cent reporting that it will be their main concern in November 2022) while businesses in transportation and storage (30.1%) and accommodation and food service activities (57.2%) are more often concerned by energy prices.

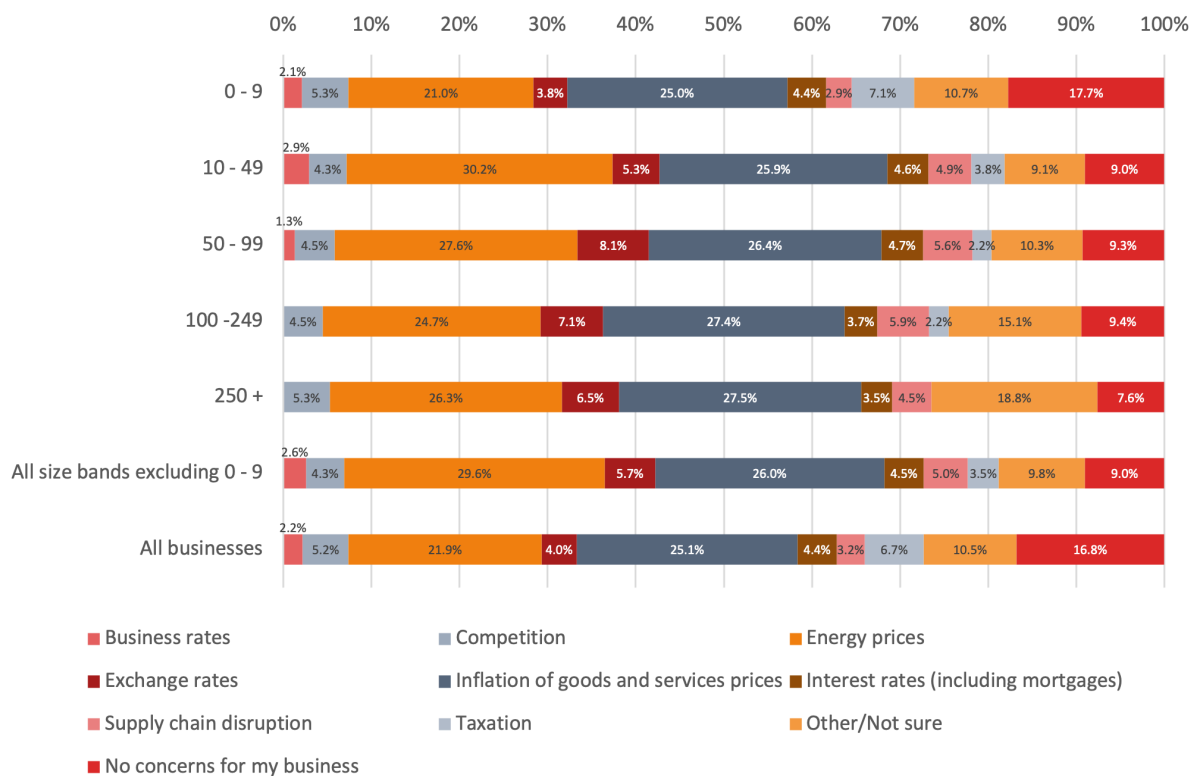
Figure 8. Business concerns



Source: ONS Business Insights and Conditions Survey data, Waves 51 and 68

Notes: Question: 'Which of the following, if any, will be the main concern for your business in November 2022?'; as a percentage of businesses not permanently stopped trading, weighted by count, UK.

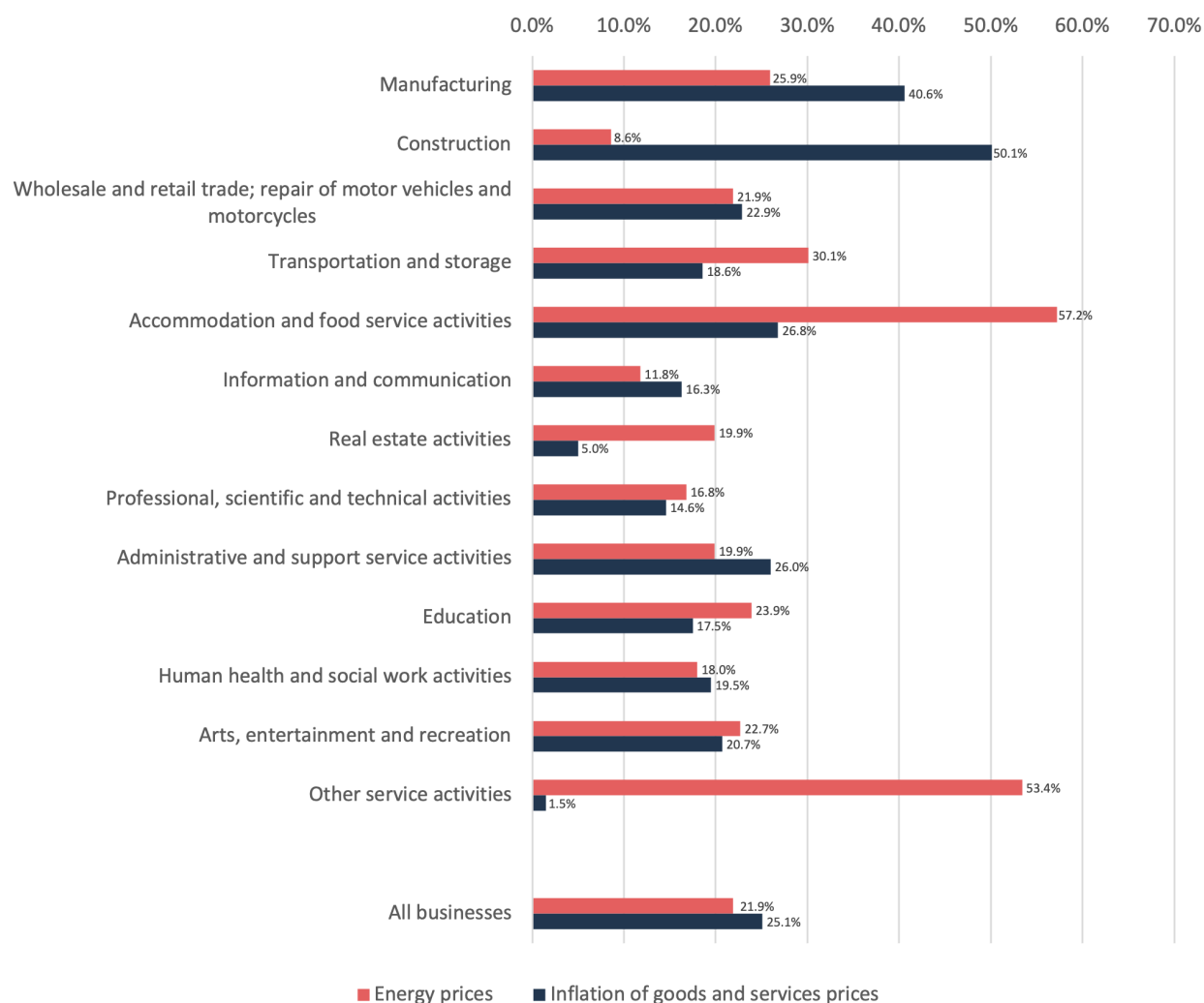
Figure 9. Business concerns by firm size



Source: ONS Business Insights and Conditions Survey data, Wave 68

Notes: Question: 'Which of the following, if any, will be the main concern for your business in November 2022?'; as a percentage of businesses not permanently stopped trading, weighted by count, UK.

Figure 10. Businesses concerned by energy prices and inflation by sector



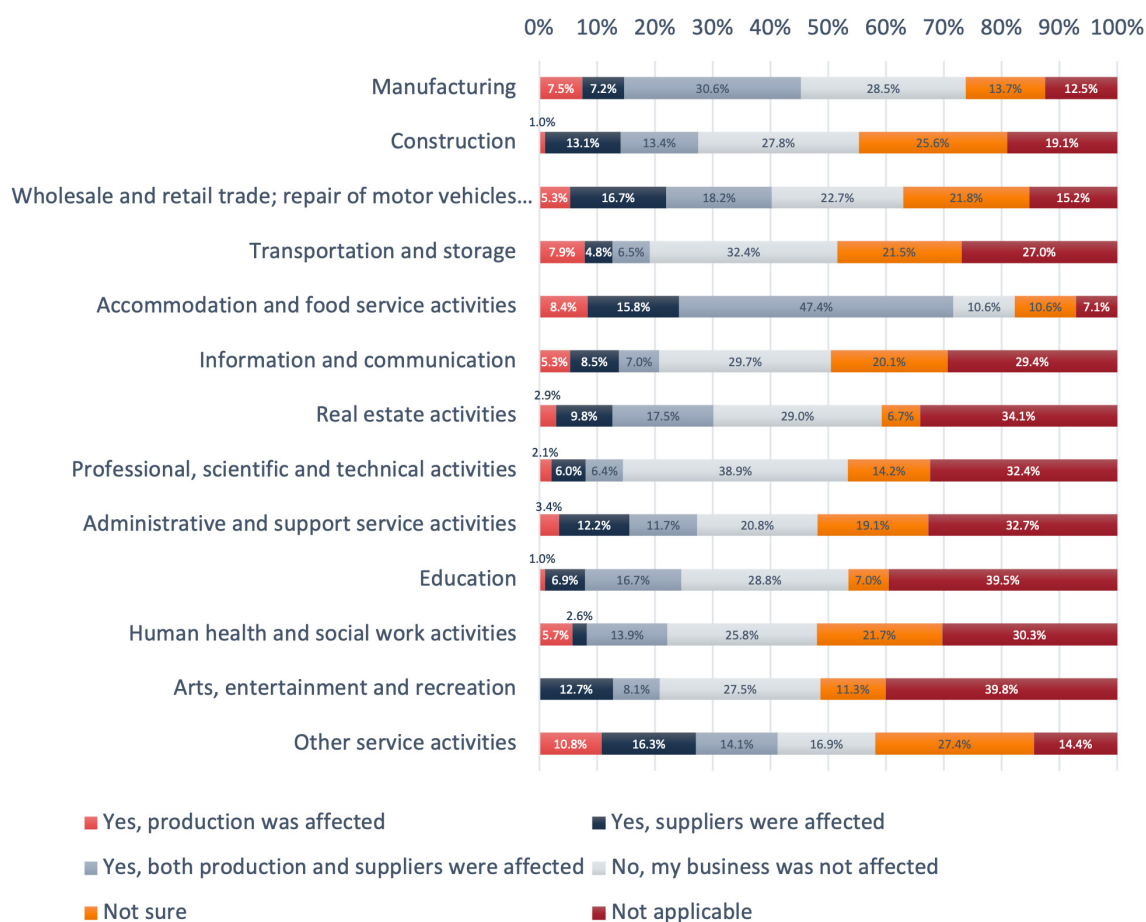
Source: ONS Business Insights and Conditions Survey data, Wave 68

Notes: Question: 'Which of the following, if any, will be the main concern for your business in November 2022?'; as a percentage of businesses not permanently stopped trading, weighted by count, UK.

How the energy price increase has affected production and supply chains varies by sector (figure 11) and by size (figure 12). Around one in two business in accommodation and food services said that energy price raises affected both business production and suppliers, with additional 8.4 per cent of businesses stating that this affected production only, and 15.8 per cent suppliers only. One in three manufacturing business reported both production and supply

chains to be affected. The professional, scientific and technical activities sector was the least affected sector, with about two in five business reporting not being affected by recent increases in energy prices. A smaller proportion of micro businesses reported that energy prices increase affected their production (4.1 per cent), suppliers (10.4 per cent) or both (14.7 per cent) compared to businesses with ten or more employees (5.6, 16.2 and 21.4 per cent respectively).

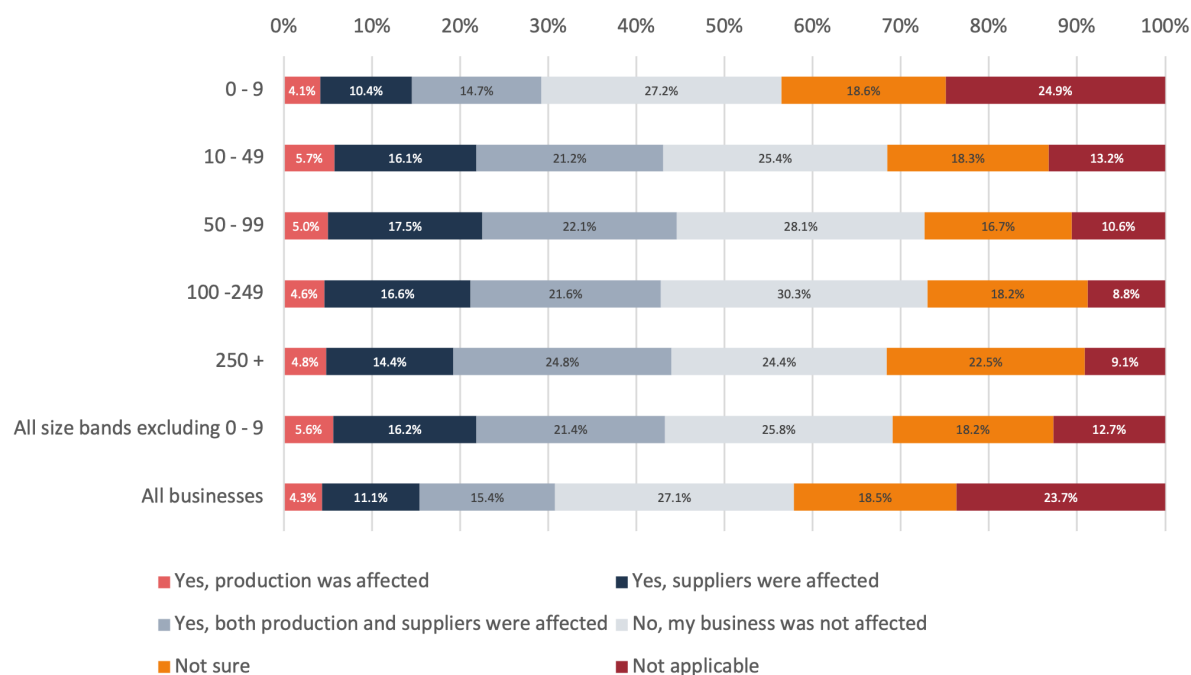
Figure 11. Effect of energy price rises on production and supply chain by sector



Source: ONS Business Insights and Conditions Survey data, Wave 69 (31 October 2022 to 13 November 2022)

Notes: Question: 'Has your business been affected by recent increases in energy prices?'; as a percentage of businesses not permanently stopped trading, weighted by count, UK.

Figure 12. Effect of energy price rises on production and supply chain by firm size



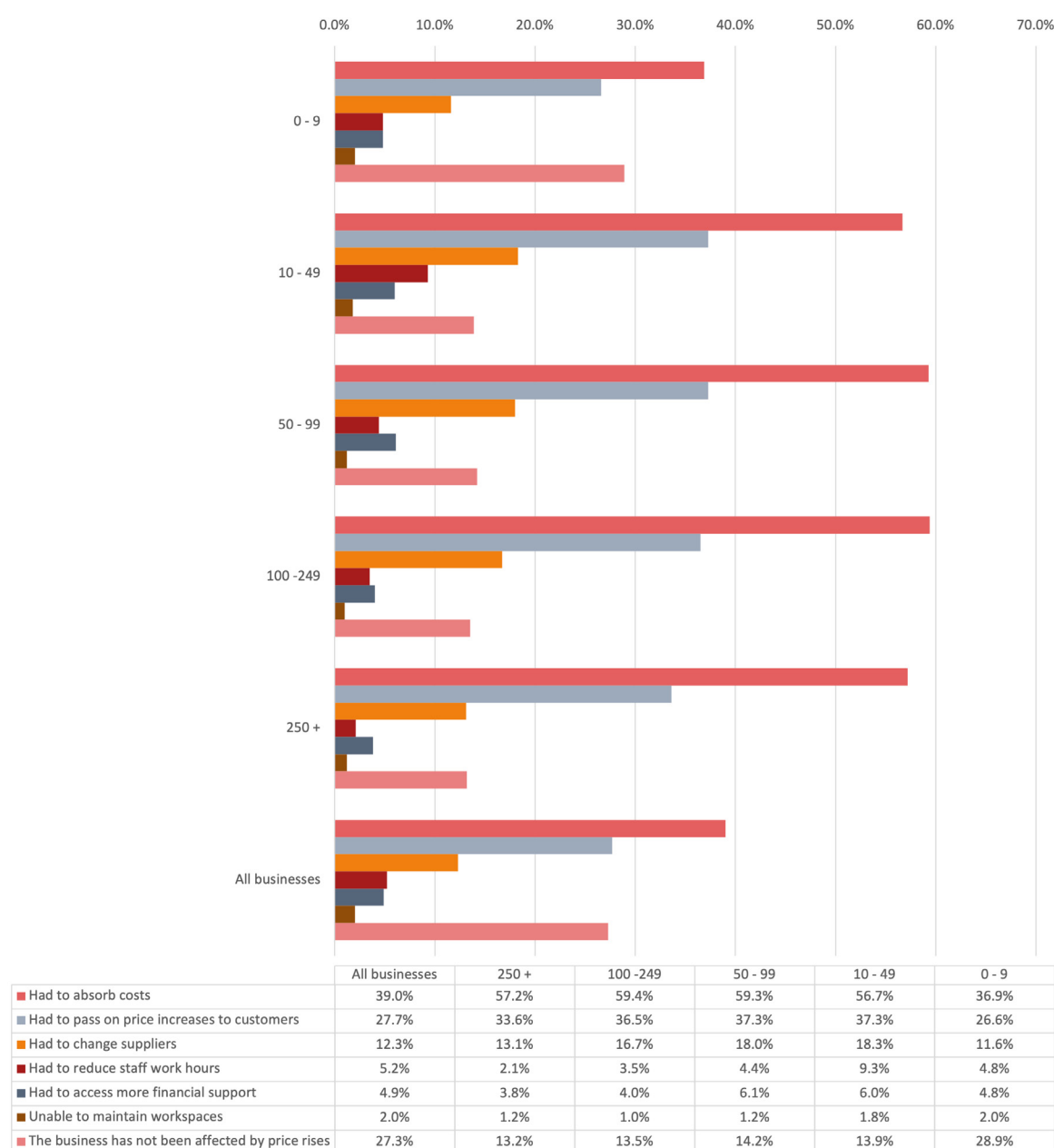
Source: ONS Business Insights and Conditions Survey data, Wave 69 (31 October 2022 to 13 November 2022)

Notes: Question: 'Has your business been affected by recent increases in energy prices?'; as a percentage of businesses not permanently stopped trading, weighted by count, UK.

Figures 13 and 14 show the implications of the recent price rises more generally (beyond energy costs) on UK SMEs and large businesses. Only 27 per cent of respondents reported that the price rises did not affect the business. Just under two in five businesses reported that they had to absorb costs (39 per cent), around one in three said they had to pass on price increases to customers (27.7 per cent), and one in ten had to change suppliers (12.3 per cent). Other implications included the reduction of staff work hours (5.2 per cent), the necessity to seek financial support (4.9 per cent) or to reduce workspaces (2 per cent).

Interestingly when looking at the split by size (figure 13), there is not much variation between SMEs and large businesses, while the percentages of micro-firms reporting different implications was slightly lower compared to other size categories. Similar to the case with energy prices, overall price rises have had an uneven effect across industries (figure 12). The accommodation and food services industry is the most heavily impacted, with 58.5 per cent of businesses in the sector reporting having had to absorb the costs, 44.3 per cent passed on price rises to customers, 33.3 per cent said they needed to reduce staff working hours, and 15.3 per cent sought financial support.

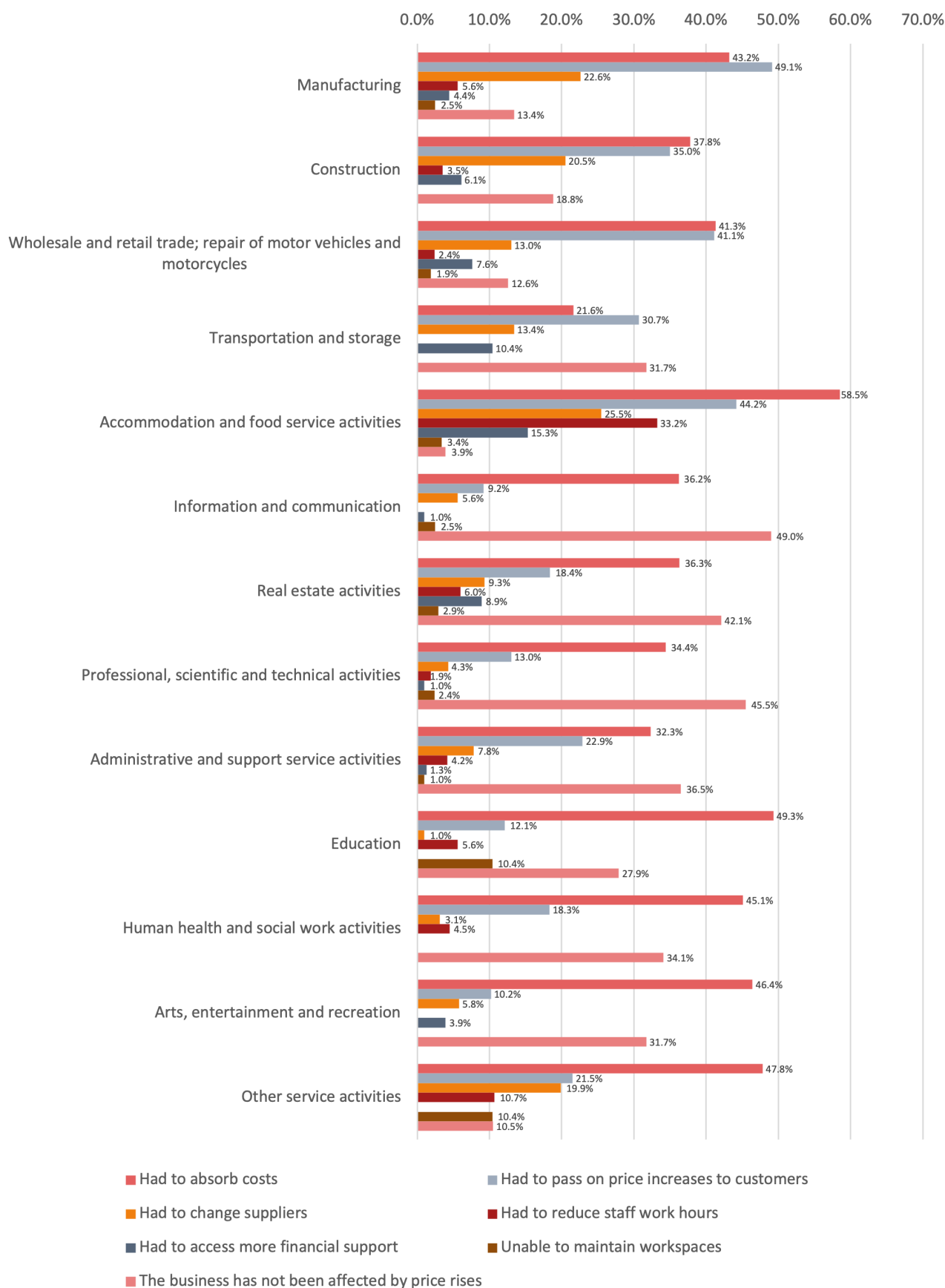
Figure 13. Effect of price rises by firm size



Source: ONS Business Insights and Conditions Survey data, Wave 69 (31 October 2022 to 13 November 2022)

Notes: Question: 'In which of the following ways, if any, has your business been affected by price rises?'; as a percentage of businesses not permanently stopped trading, weighted by count, UK. 'Discontinued lines of sale' and 'Had to make redundancies' responses are excluded because of low counts for confidentiality reasons.

Figure 14. Effect of price rises by sector



Source: ONS Business Insights and Conditions Survey data, Wave 69 (31 October 2022 to 13 November 2022)

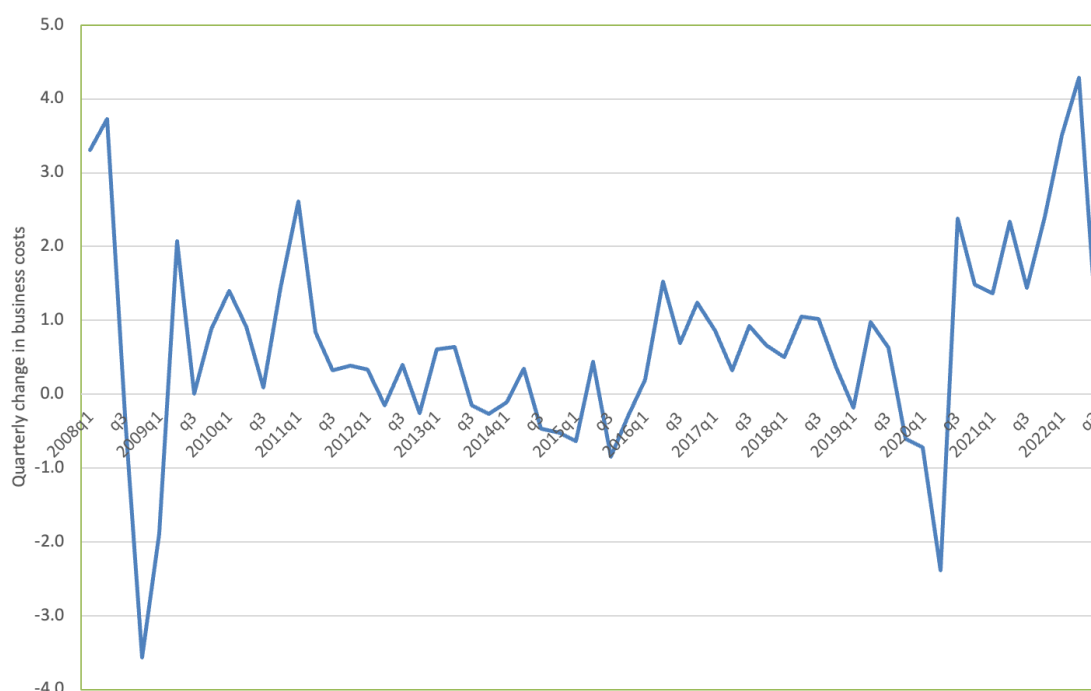
Notes: Question: 'In which of the following ways, if any, has your business been affected by price rises?'; as a percentage of businesses not permanently stopped trading, weighted by count, UK. 'Discontinued lines of sale' and 'Had to make redundancies' responses are excluded because of low counts for confidentiality reasons.

ERC Small Business Price Index

Hard on the heels of the most severe phase of the COVID-19 pandemic has come Russia's invasion of Ukraine and resulting energy price increases. This has had profound implications for household and business costs. ERC's Small Business Price Index (SBPI) tracks the cost implications for small firms (with less than 50 employees). Similar to the Consumer Price Index for consumers, the SBPI uses a basket of 20 cost items purchased by small firms to provide an indication of how changes in individual input prices are impacting costs overall.

Due to the energy cost price rises, cost increases during the first half of 2022 were higher than at any time since 2008 when we first started the SBPI (Figure 15). Business cost inflation eased somewhat in 2022q3 but remained positive 'locking in' the cost increases of earlier periods. Perhaps more worrying were early signs of second round effects following the energy cost rises of early 2022: sharp increases in wage costs, service and input costs and the costs of insurance. All of these seem likely to be continuing pressures during early 2023 and beyond.

Figure 15. ERC Small Business Price Index: All Firms



Source: SBPI 2022q3. Available at: <https://www.enterpriseresearch.ac.uk/publications/the-cost-of-doing-business-2022q3-data-from-the-small-business-price-index/>

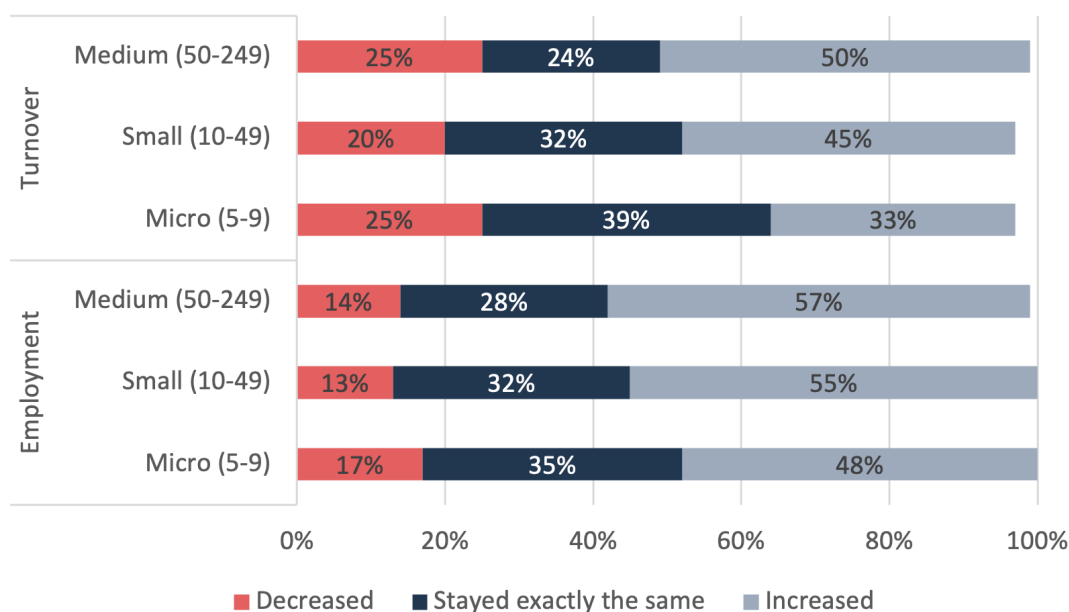
1.3 Business Futures Survey headlines

2020 saw the ERC launch its own new large-scale survey of UK SMEs - the Business Futures Survey, adding other useful measures to the evidence base on SME attitudes and behaviour. We carried out the second wave of this survey in Spring 2022. Data was collected from around 1,000 SMEs across the UK. The questionnaire replicated some of the questions asked in the 2020 survey in relation to business priorities, environmental practices, and use of digital technologies, as well as a series of new questions designed to gain more understanding of the 'pro-social' behaviour of SMEs. Some of the headline findings are outlined below.

Turnover and employment – back on track?

The 2022 results of the Business Futures survey depict a more encouraging picture regarding turnover and employment growth compared to 2020, when a larger proportion of UK SMEs saw a decline in turnover and employment than growth. In 2022, across all size categories, there were more businesses who said they experienced turnover and employment growth in the past 12 months than those who experienced a decline (figure 16). However, the degree of recovery varied by firm size, with a significantly smaller proportion of micro firms reporting an increase in turnover (33 per cent) and employment (48 per cent) compared to small (45 and 55 per cent respectively) and medium firms (50 and 57 per cent).

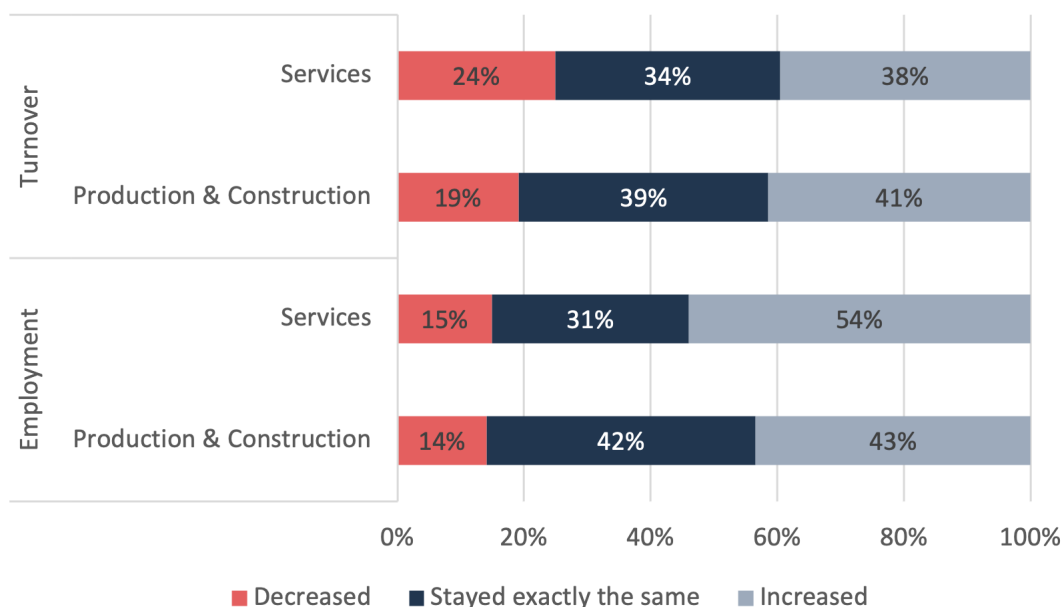
Figure 16. Change in SME turnover and employment in the past 12 months (percentage of businesses by size)



Source: ERC Business Futures 2022

Base: all firms (micro – 213; small - 537; medium - 253), weighted to be representative of the UK SME population.

Figure 17. Change in SME turnover and employment in the past 12 months (percentage of businesses by sector)



Source: ERC Business Futures 2022

Base: all firms

In line with a range of other data sources, including the ONS BICS, the Business Futures 2022 finds that the situation is uneven across sectors with some sectors remaining somewhat untouched by the effects of the pandemic, or benefiting from emerging opportunities, while others paid a heavy toll during 2020-2021 resulting in more fragile financial health and growth performance. Figure 14 shows that while less than one in five SMEs in production and construction (19

per cent) reported a decline in turnover, it was about one in four (24 per cent) in services.

Evolution of business priorities

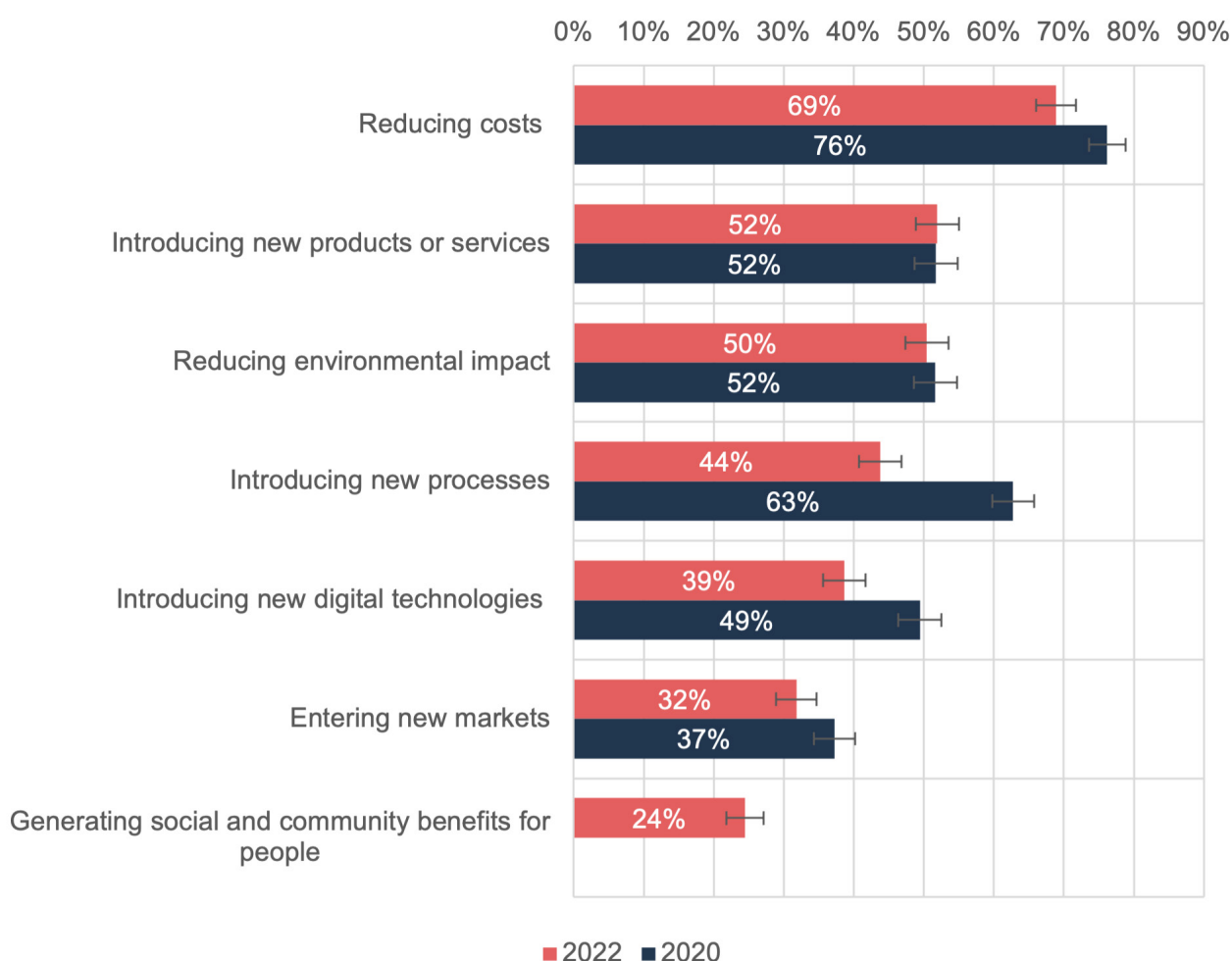
The Business Futures Survey also sheds light on the business priorities of UK SMEs, and how these evolved in 2022 in comparison to 2020 (figure 18). Understandably, cost reduction remained the key business concern for firms, with 69 per cent of UK

SMEs citing this as a priority, although this is a significant decrease from 76 per cent of firms in 2020. For around half of SMEs, ‘introduction of new products or services’ and ‘reducing environmental impact’ was stated as a business priority, and this did not change compared to 2020. In contrast, the share of firms citing ‘introducing new processes’ and ‘introducing new digital technologies’ as business priority reduced significantly in 2022 compared to 2020, perhaps reflecting the fact that businesses have adapted to the changes to business models and working practices prompted by the pandemic. For

one third of SMEs, ‘entering new markets’ was stated as a priority, a slight decrease compared to 2020.

In 2022, the survey also sought to explore the extent to which UK SMEs consider the benefits for community and society when doing business, in response to speculation that the pandemic has had an influence on pro-social behaviour amongst enterprises. Here the survey found that just under a quarter of UK SMEs said that ‘generating social and community benefits for people’ was a priority for the business in the past 12 months. This is an issue we will return to later in this report.

Figure 18. Business priorities of SMEs in 2022 and in 2020



Source: ERC Business Futures 2022, ERC Business Futures 2020, Ri and Mole (2022)⁴
 Base: all firms (in 2022 – 1,003; in 2020 – 1,019); black bars indicate 95% confidence intervals.

⁴ <https://www.enterpriseresearch.ac.uk/publications/taking-small-steps-business-priorities-environmental-and-social-responsibility-in-uk-smes/>

From adversity to advice

Taking external advice can contribute to a firm's knowledge, reduce business risks, improve strategy decisions, and offer support and reassurance for business leaders dealing with complex and multi-dimensional issues. However, smaller firms are often reluctant to seek external advice, relying instead on informal routines and a focus on daily operations.

In new research undertaken this year, we analysed the relationship between the experience of a crisis and advice-seeking in small firms. Conceptualising a business crisis as a trigger for advice seeking, and using survey data from 2,089 small firms, we find a strong and significant relationship between experiencing a crisis and seeking external business advice up to five years after a crisis. This sustained effect on advice seeking is particularly strong for firms who also sought advice at the time of the crisis. Additionally, we find that the effect of a business crisis on sustained advice seeking is stronger for firms subject to a crisis with external origins.

Our findings have potential implications for policy and practice. Demonstrating that businesses are most likely to seek external advice in the face of an external crisis contributes to our understanding of small firm behaviour and has implications for small business support agencies and policymakers as they develop and hone their programmes.

From adversity to advice: Survival threats as a trigger for sustained engagement with external business support in small firms (2022)

<https://journals.sagepub.com/doi/full/10.1177/02662426221105004>

1.4 Trade patterns

Of course, access to global value chains is important for SMEs, and ERC research published this year has found that UK SMEs trading internationally have encountered unprecedented challenges over recent years due to the COVID-19 pandemic, coupled with Brexit uncertainty.

Looking at the bigger picture, global trade made a strong comeback in 2022 following its pandemic-triggered collapse and decline. Renewed demand for goods, disruption of production, and geo-political uncertainty caused by the Russian invasion of Ukraine have fuelled global prices. The pandemic has also exposed the vulnerabilities of just-in-time supply chains. Relying on a single source of goods or components can leave a company scrambling when that source is disrupted, and firms have been alerted to the benefits of sourcing goods from different geographical locations. Despite all this, according to the UNCTAD, total global trade was 10 per cent higher in May 2022 than in 2019, reaching \$7.7 trillion in 2022Q1.⁵ Although the upward trend is expected to end in the rest of 2022 (Figure 19 overleaf), it can be said that most developed economies had a very positive year in trade terms.

The trade boom, however, has bypassed the UK. Between the period 2019 to 2022, the UK economy performed less well than the economies of most of

its peers. Its GDP growth was lower than the average growth of the OECD, the G7, and the EU27. Among the exporting countries, the UK is an outlier, with zero export growth during 2019Q1–2022Q1 (Figure 20 overleaf).

What explains UK's exceptional underperformance in international trade? Our research finds that the EU exit and the new trade relationship defined by the EU-UK Trade and Cooperation Agreement (TCA) has had a strong, negative, and significant impact on UK bilateral trade with the EU countries in 2021 (Du and Shepotylo, 2022). Updating to the most recent bilateral export data till 2022Q1, we find that UK exports to the EU have declined by 26 per cent on average over the period of 2019–2022, worsened by 4 per cent compared to the last estimate for 2021Q1–2021Q3 (Du et al 2022). The post-Brexit export challenges are significant and persistent.

Unlike exports, UK imports has recovered from a large decline in 2021, indicating that the TCA effect on UK imports may be regarded as a teething problem. A reduction in import bottlenecks might help exports to rebound, but this recovery is likely to be offset by the rising costs of imports.

EU exit has also led to a significant contraction of trading capacity in terms of the varieties of goods exported to the EU. Du et al (2022) estimate as many

⁵ <https://unctad.org/news/global-trade-hits-record-77-trillion-first-quarter-2022>.

Figure 19. Global trade in 2022

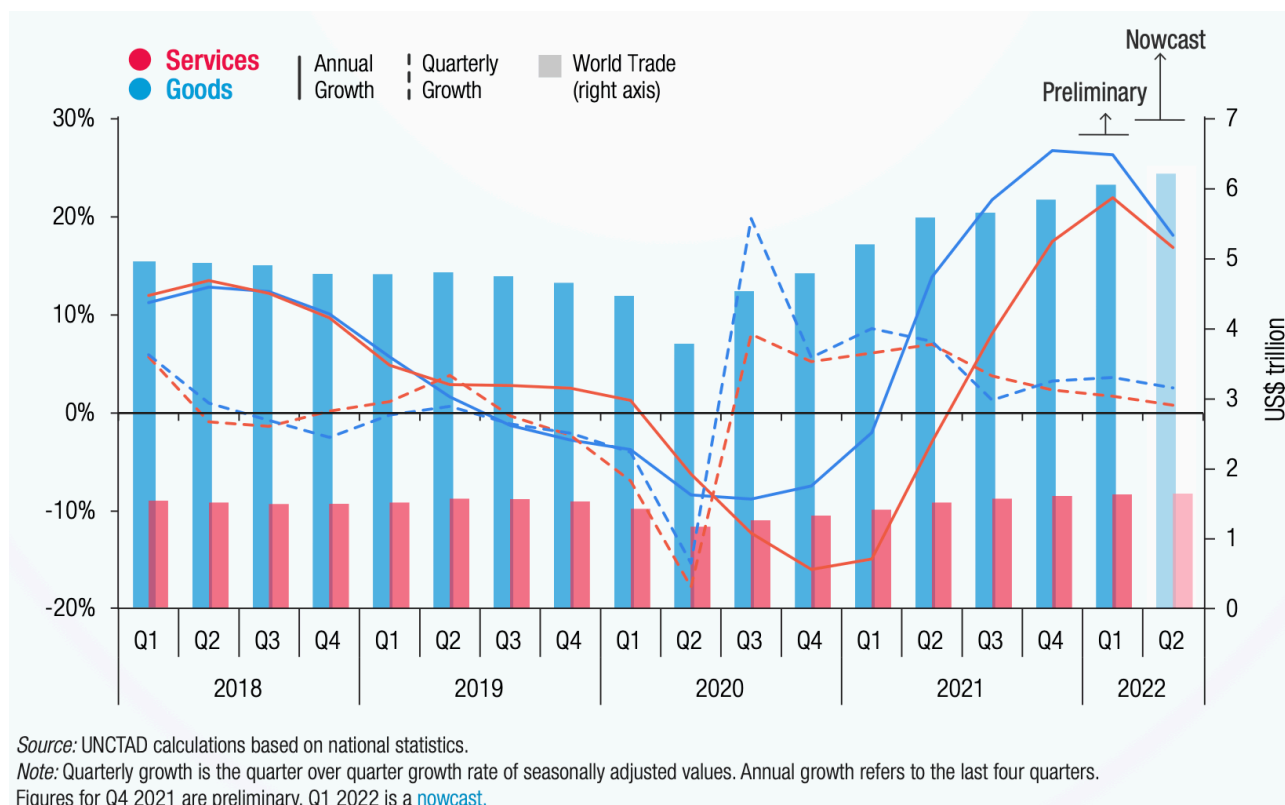
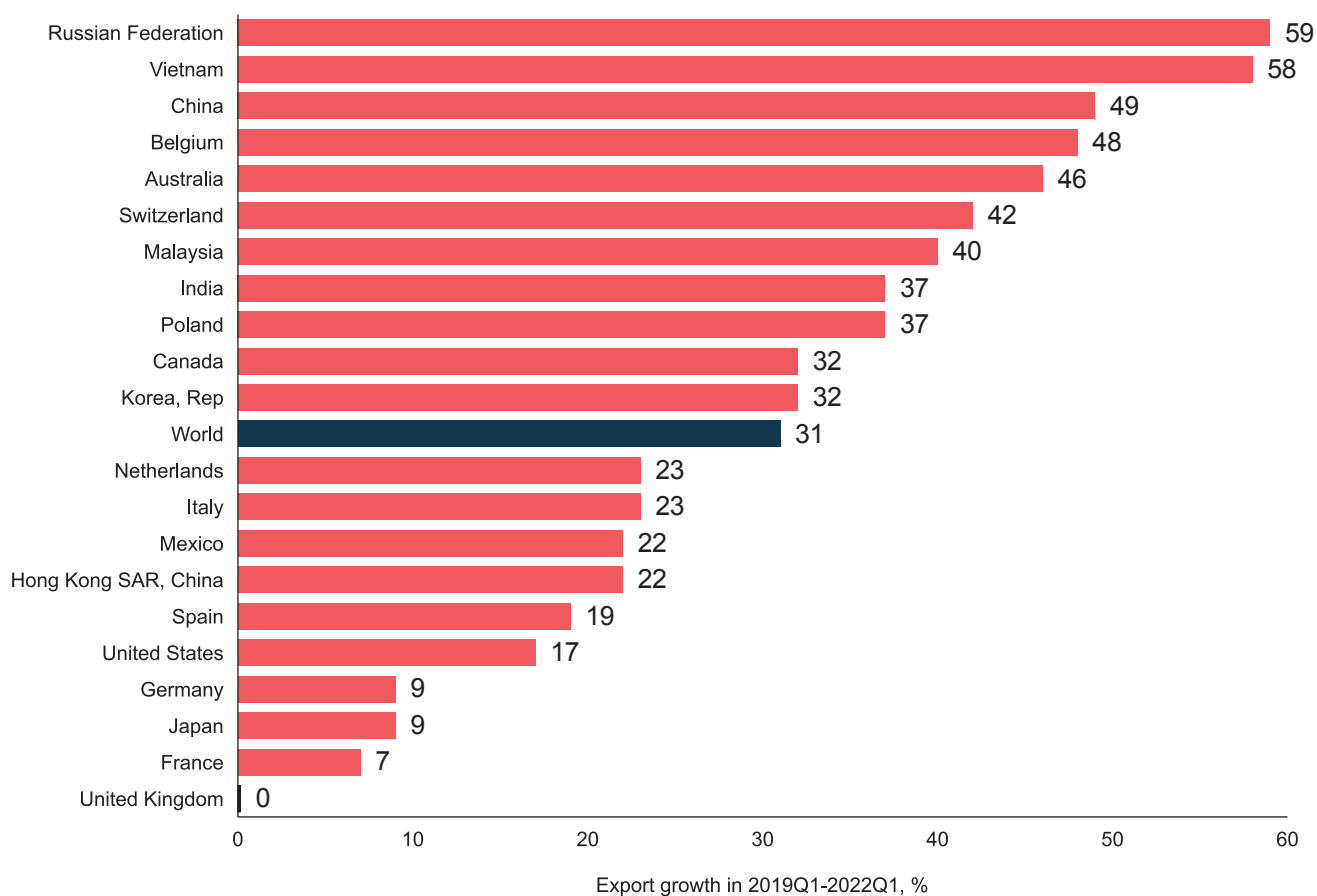


Figure 20. Trade in goods of leading trading countries in 2019-2022



as 42 per cent of the product varieties previously exported to EU have disappeared during the 15 months following January 2021. This could be because a significant number of exporters ceased to export to the EU, or the remaining exporters have streamlined their product lines, as well as less new exporters entering EU markets. Many of the negatively affected exporters are likely to be small, resource-constrained firms who exported single products or a limited range of products, and they exported less intensively relative to the overall sales. Impaired ability to export is detrimental to firm productivity, not the least because of sunk costs of exporting. Access to global markets represents opportunities to learn best practice and seek better technologies, in addition to increasing economies of scale. Losing this access weakens the pipeline for future export growth and harms the UK's productivity.

One of the key factors that explain UK's specific trade challenge is non-tariff measures (NTMs). Our research shows that in the first six months of 2021, the increased frictions for goods exposed to NTMs could explain as much as 70 per cent of the UK's recorded export decline (Du and Shepotylo, 2022).

1.5 Summary

2022 has thrown many new challenges the way of the UK's SMEs, many of whom were still dealing with pandemic-related business impacts. Although there are some encouraging signs in terms of entrepreneurial resilience, the financial stability of many SMEs has declined, particularly amongst the smallest businesses, with strong sectoral differences at play. Concerns have been steadily rising about the costs of doing business, inflation and interest rates. Looking internationally, exports to the EU have declined in response to Brexit. With many businesses under severe financial pressure, cost reduction has understandably remained a key concern for firms, which will have important knock-on implications for business behaviour and investment in the coming years.

In the next chapter we turn to focus on the attitudes and behaviour of SMEs, with a particular focus on innovation and the adoption of net zero practices.



2. Innovation, net zero and digital adoption

Innovation, or the introduction of new products, services and ways of doing business, is a central research theme at the ERC, and this year we added to our knowledge base in this area, with a particular focus on attitudes and behaviour in terms of the adoption of net zero practices in SMEs, and a continuation of our work focusing on digitalisation.

We know from our previous research on the impact of recessions that R&D and innovation activity are pro-cyclical, tending to fall during recessions and rise during periods of growth. This may reflect the fact that perceived market opportunities appear more uncertain in recessionary periods. We know too that when crisis hits, levels of R&D and innovation activity can fall quickly and sharply and then recover slowly, and recessionary impacts tend to differ sharply between sectors and regions.

Building on this, we have been interested in recent years in exploring the impact of the pandemic and its after-effects on innovation activities within firms. Given the broader context of the climate crisis and the increasing pressure being placed on businesses to change their practices to mitigate this, we have been

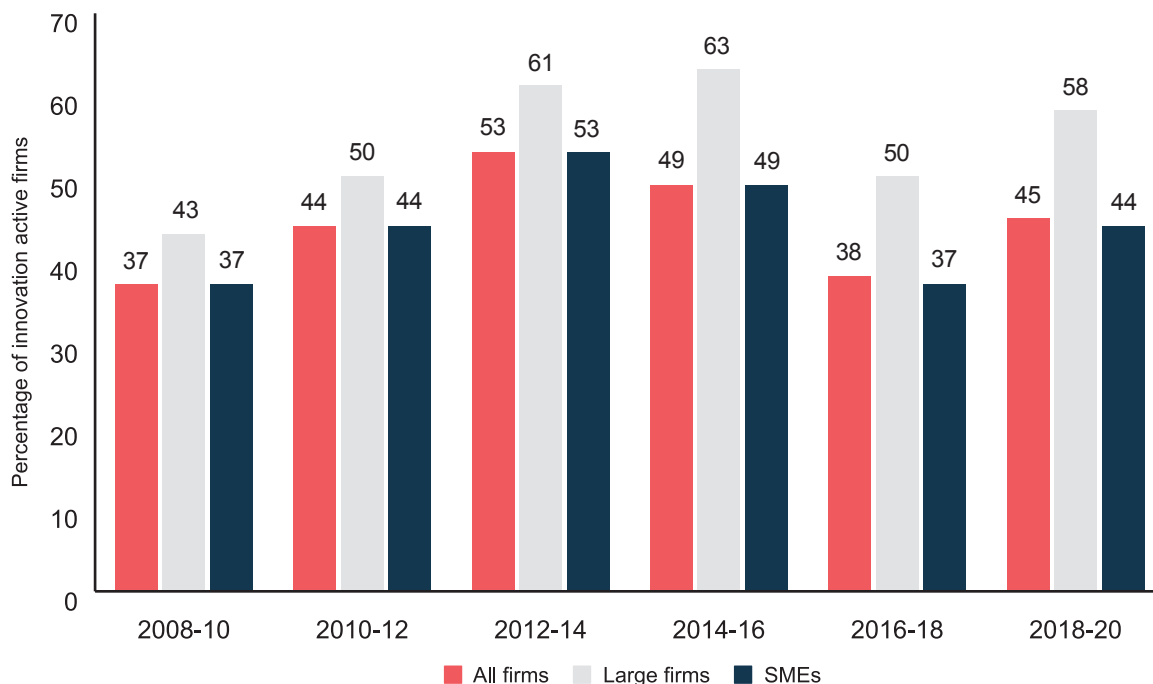
particularly focused on understanding the processes of innovation and change going on within SMEs in relation to the 'green transition'. We have also been interested in trends in digital adoption and the impact on business models and performance, and in the links between digitalisation and net zero adoption.

2.1 R&D and innovation activity

So, starting with the general picture, what do we know about recent trends in R&D and innovation activity? In May 2022, the results of the flagship UK Innovation Survey, covering firms' innovation activity during 2018-20 were published. Essentially a pre-COVID baseline, this survey suggested a welcome increase in the overall proportion of UK firms which were classed as 'innovation active' (figure 21). However, levels of innovation activity remained significantly below the levels seen in 2012-14 and 2014-16. This was the case both for larger firms (with 250 or more employees) and those SMEs (with 10-249 employees) covered by the UK Innovation Survey.

Future waves of the UK Innovation Survey will provide a robust picture of the impact of COVID-19 on UK

Figure 21. Percentage of innovation active firms: UK Innovation Survey data



Source: UK Innovation Survey, Data Tables, May 2022.

firms' innovation activity. In the meantime, however, a more immediate indication of the potential impacts of COVID-19 and the related uncertainty comes from a series of five surveys that have been conducted by ERC and the Innovation Caucus for Innovate UK. The most recent (fifth) wave of this survey was conducted on-line between 25th May 2022 and 14th June 2022 and provides a comparison with the earlier surveys conducted in June 2020, October 2020, February 2021, and November 2021.

So, how have UK firms have changed their R&D and innovation behaviour in response to COVID-19? The earlier surveys in this series, carried out in 2020 and 2021 emphasised the seriousness of the COVID-19 pandemic, indicating that it has had a significant short-term negative impact on R&D and innovation in the UK, making the Government's target of reaching 2.4 per cent of GDP devoted to R&D by 2027 look ever more challenging to achieve.

In the 2022 survey, looking at the impact of the pandemic on disruption, 51 per cent of firms said that they were experiencing continued disruption of their R&D activities in the three months prior to the survey. In terms of the availability of finance, we see broadly similar levels of disruption throughout the period since June 2020. 23 per cent of firms surveyed reported cash flow as 'critical' in June 2022. This is a broadly similar level to November 2021 and higher than that during late 2020 and 2021, perhaps reflecting the longer-term and cumulative impacts of the pandemic. Firms' approaches to dealing with limited liquidity during the pandemic have remained relatively similar through 2020-22. Reducing costs has been the main coping mechanism, followed by trying to maximise revenues.

In June 2022, around a third of firms were reducing and re-prioritising some R&D activities, and around one in ten had either stopped some, or all, of their R&D. More positively, around one in five firms had increased their R&D activity in the three months prior to the survey suggesting some potential for recovery.

Asked in June 2022 about their intentions over the next three months, the signals were also somewhat mixed. The proportion of firms planning to stop or reduce their R&D investments - 46 per cent - was marginally higher than that in any of the three previous surveys. This was also reflected in a slight increase in the proportion of firms stopping or reducing the scale of their Innovate UK projects. Balancing this was an intention to increase, rather than reduce, R&D collaboration with all types of partners over the next three months.

2.2 Supporting R&D intensive start-ups

R&D intensive or 'deep-tech' SMEs - very many of which are university spin-outs - play a significant role in developing the innovative technologies which can address the 'grand challenges' which societies face - such as global warming, ageing populations, etc. While the UK has a strong international reputation for its academic research, the pathway to commercialisation is less well developed. As the Innovation Strategy (2021) acknowledged:

'The case for government to promote innovation in deep and transformative technology is strong. Prospective investors and customers of deep-tech may be unwilling to take chances on new and unproven technology or may not fully understand its potential. The journey of tech- based innovation to market can be long, complex, and often non-linear. The UK excels at certain stages of this process but is weaker at others. We should pursue these signals of weakness and address the underlying issues. ... The UK government can build on that model, identifying barriers to innovation that are felt acutely in deep and transformative tech, and articulating how government can empower industry to overcome them'.

Two studies undertaken this year by ERC highlight some of the issues faced by deep-tech companies seeking to scale. Research undertaken for the Institute of Physics highlighted deep-tech firms' difficulty in navigating the complex support landscape in the UK and the variable quality of services available. In another study of chemistry-based 'deep-tech' firms conducted with the Royal Society of Chemistry, we identified a range of eco-system gaps which are constraining the development of deep-tech firms in the UK. These included a need for increased proof of concept funding and angel investment, particularly outside the Golden Triangle. Firms also reported a significant equity gap which means that deep-tech chemistry SMEs often struggle to secure intermediate levels of funding to enable scale up and the commercialisation of new technologies. Our research suggests there is a quantitative shortage of available equity investment, but interviewees also perceived a lack of scientific understanding and expertise among potential investors.

Addressing gaps in financial provision in isolation may not be sufficient, however, as firms also identified challenges in accessing suitable premises for scaling, in terms of management and leadership, and advice around IP issues. There was a widespread acceptance amongst the SMEs involved in this research that initiatives that aim to develop entrepreneurial, innovation management

and leadership skills are necessary and would be useful. This might involve formal training, but also the inclusion of business models in post-graduate science training programmes. There was also a perceived need for sector specific IP guidance that considered the complexities of chemistry innovation. Accordingly, there would be clear merit in securing more widespread HEI engagement with best practice in addressing IP and associated licensing issues.

2.3 Doing and creating value from innovation: How does IP protection help?

We know that innovation adds value for firms, driving growth and profitability and increasing the chance of survival. Performance outcomes, however, depend upon the extent to which a firm captures the profits generated by an innovation (Teece, 1986; Levin et al., 1987). If an innovating firm is unable to limit imitation by others, the firm fails to secure the returns to its innovation and is unable to gain and sustain a competitive advantage - a phenomenon widely known as the 'appropriability problem' (Arrow 1962). As a firm's incentive to invest in innovation derives from its expectation of returns, an anticipated failure to appropriate returns leads to an under-investment in R&D and innovation. To help overcome this problem, firms incorporate intellectual property (IP) protection into their innovation strategies to help capture returns (Greenhalgh and Rogers, 2007).

IP protection works by making an innovator's knowledge excludable and allowing the innovator to appropriate the returns from an innovation. In so doing, firms' use of IP protection encourages further investment into innovation (Grandstrand 1999).

Innovating firms of all sizes face the risk of imitation by existing competitors and new firms entering the market (Hurmelinna-Laukkanen, 2009). Unfortunately, the resource and capability barriers that small firms face in relation to innovation mean that they face challenges in relation to the use of IP protection. For example, enforcement of IP protection can be difficult for small firms who can find the IP protection process complex and may perceive the costs of IP protection to be high. Indeed, evidence suggests a large disparity between the use of IP protection in smaller firms compared with larger firms - just 9 per cent of SMEs in Europe owned at least one IP protection method (patent, trade mark or registered design), compared with some 60 per cent of larger firms (EPO/EUIPO, 2021). Collectively, this has negative implications for economy-wide R&D, innovation and growth.

As an extension to previous ERC research to understand the role of IP protection in UK firms' growth, productivity and innovation, we undertook new research this year examining the part played by IP protection in the process by which small firms create value through innovation. The research contributes to understanding of the relationship between firms' holdings of IP protection (part of knowledge stocks), as measured by patent, trade mark and registered design stocks, and innovation output indicators. We explore whether accumulated IP protection generates value for small firms by improving their ability to innovate and to profit from an innovation. By doing this we are able to determine whether the innovation benefits of IP protection are different for smaller firms compared to firms more generally.

Using UK IP protection data (patents, trade marks and registered designs) for the 1995-2018 period provided by the Intellectual Property Office (IPO), and three waves of the UK Community Innovation Survey (UKIS) covering the 2012-2018 period, we consider two stages during the innovation process where a firm's IP protection may generate value.

First, we consider the exploration stage, where IP protection could affect firms' propensity to innovate. Here, we expect the use of IP protection to protect a firm's technological knowledge and allow the firm to appropriate returns, thus incentivising engagement in innovation activities and increasing the probability of innovation. Second, we consider the commercialisation stage, where IP protection can affect firms' ability to profit from innovation. Here, we expect the use of IP protection to protect market-related knowledge and positively influence a firm's ability to profit from an innovation.

The results suggest that, across all firms and in small firms, a firm's stock of registered designs is positively related to the probability of innovation. Patents and trade marks have no statistically robust direct effect on the probability of innovating. However, when firms' holdings of patents increase, there is an indirect effect with patents enhancing the impact of registered designs on the probability of innovating. In small firms, we also see registered designs enhancing the impact of patents on the probability of innovating. There is no similar indirect effect from trade marks in this stage of the innovation process.

We measure the returns to innovation using a standard measure - the proportion of firms' sales derived from innovative products. In considering firms' returns to innovation, the results suggest that, across all firms and in the small firm group, a firm's stock of trade marks is negatively related to the proportion

Innovation novelty, exporting and productivity

Innovation plays a key role in exporting, as it allows firms to develop products and services suitable for exports, and once they export, they have access to new ideas and information from foreign markets, which they can use to further innovate. In research published this year we interrogated the complex interlinkages between exporting and export persistence, innovation and innovation novelty, and productivity. We used data on a large, unbalanced panel of UK firms using econometric methods to identify the causal mechanisms in these relationships.

The findings, based on analysis of the longitudinal element of the UK Innovation Survey, suggest that innovations that are truly novel and new to the market or industry drive exports, but innovations that are only new to the business do not. This suggests that invention, not adoption, drives exports. Exporting, in turn, drives both forms of innovations, encouraging both invention and adoption.

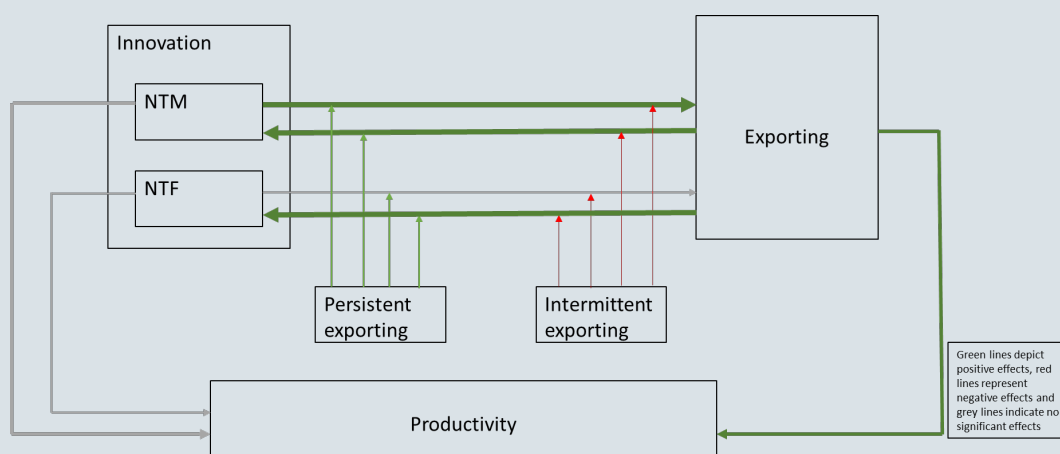
However, not all exporting firms experience these positive interlinkages between innovation and

exporting- only those that export persistently over time. This suggests that consistent exposure to foreign markets is crucial for any learning effects, and firms that export intermittently lose out.

In terms of productivity, our findings show a direct positive impact of exporting on productivity. However, innovation has only an indirect effect on productivity through its positive links with exports. That is, innovation increases productivity only for exporting firms (figure 22).

Our findings suggest that the benefits of innovation support measures with the aim of stimulating exporting are greatest for firms that already have a technological advantage in the domestic market and are achieving greater sales from their radical innovations. This suggests that identifying companies which are domestic market leaders but not exporting and targeting these firms for export support may create the greatest productivity improvements through greater and faster returns on their innovations. The research also suggests that export promotion policies should encourage sustained and committed engagements with export markets to maximise the value of learning.

Figure 22. Causal relationships in exporting, innovation novelty and productivity



Of chickens and eggs: exporting, innovation novelty and productivity

<https://www.enterpriseresearch.ac.uk/publications/of-chickens-and-eggs-exporting-innovation-novelty-and-productivity/>

of its turnover coming from innovation. This is due to established products benefitting more than innovative products from firms' trade marks. Patents have no significant direct or indirect effect here, but registered designs do have significant indirect positive benefits on trade marks.

In summary, we find evidence to suggest that registered designs combined with patents promote

product or service innovation by protecting intellectual assets during the exploration and development stages of an innovation. To some extent, trade marks combined with registered designs boosts the returns to innovation by protecting a firm's market-oriented capabilities. Both effects prove rather similar for smaller firms as they are to the general population of businesses.

2.4 Innovation in rural firms

This year we have progressed econometric research (not yet published) exploring the innovation strategies of rural firms. Whilst the innovation advantages of an urban locations have been widely recognised (Scott and Storper, 2015; Rammer, Kinne and Blind, 2020), the possible innovation advantages of rural locations have received less attention.

Previous studies of rural innovation have stressed the role of proximity to urban locations and the impact of extreme rurality as critical issues in shaping rural firms' innovation activity (Glückler, 2014; Grabher, 2018; Mayer and Baumgartner, 2014; Shearmur, 2017). More remote rural areas are likely to provide fewer external innovation advantages such as knowledge spillovers - emphasising the importance of the efficient internal organisation of innovation (Grillitsch and Nilsson, 2015; Isaksen and Karlsen, 2016) and strategic efforts towards innovation by individual firms (Copus, Skuras, and Tseggenidi, 2008; McAdam, McConvery, and Armstrong, 2004; North and Smallbone, 2000).

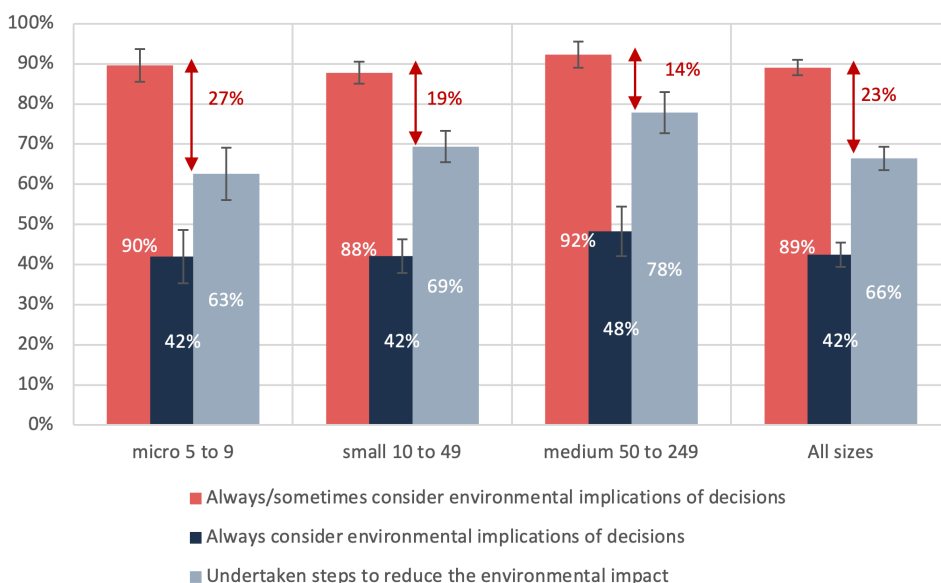
The contrasting innovation advantages of urban and rural locations suggests the potential for differences between urban and rural firms' innovation strategies. These differences are particularly important for spatially divided economies such as the UK. The unrealised potential for innovation in regional economies in the UK has gained interest in relation to the Government's 'levelling up' agenda.

In our research we explored whether rural areas provide innovation advantages that firms may be able to exploit. We also looked at how innovating firms compensate for the innovation disadvantages associated with rural locations. We empirically tested these research questions using three waves of the biennial UK Innovation Survey data collected in 2015, 2017 and 2019.

The results of the empirical analysis partially support previous case study evidence (Edler and Trippl, 2019) and suggest that among firms in peripheral areas, both compensation and exploitation strategies are evident. Although our results did not capture a clear-cut distinction between urban and rural areas, the empirical evidence provides some support for the notion that rural firms adopt different compensation and exploitation strategies. For example, we found some evidence that rural firms are able to exploit rural innovation advantages relating to lower 'knowledge leakages' by reducing their investment in IP protection mechanisms. More precisely, innovation active rural businesses invest less in IP protection at lower levels of local collaboration and invest more at higher levels of local collaboration.

Overall our findings suggest similarity - rather than difference - between rural and urban innovators, at least in the context of the UK, and the common applicability of standard conceptualisations of collaborative innovation and absorptive capacity. The implication is that where differences in rural and urban innovation do occur, they may be more strongly linked to differences in the characteristics of rural and urban businesses as

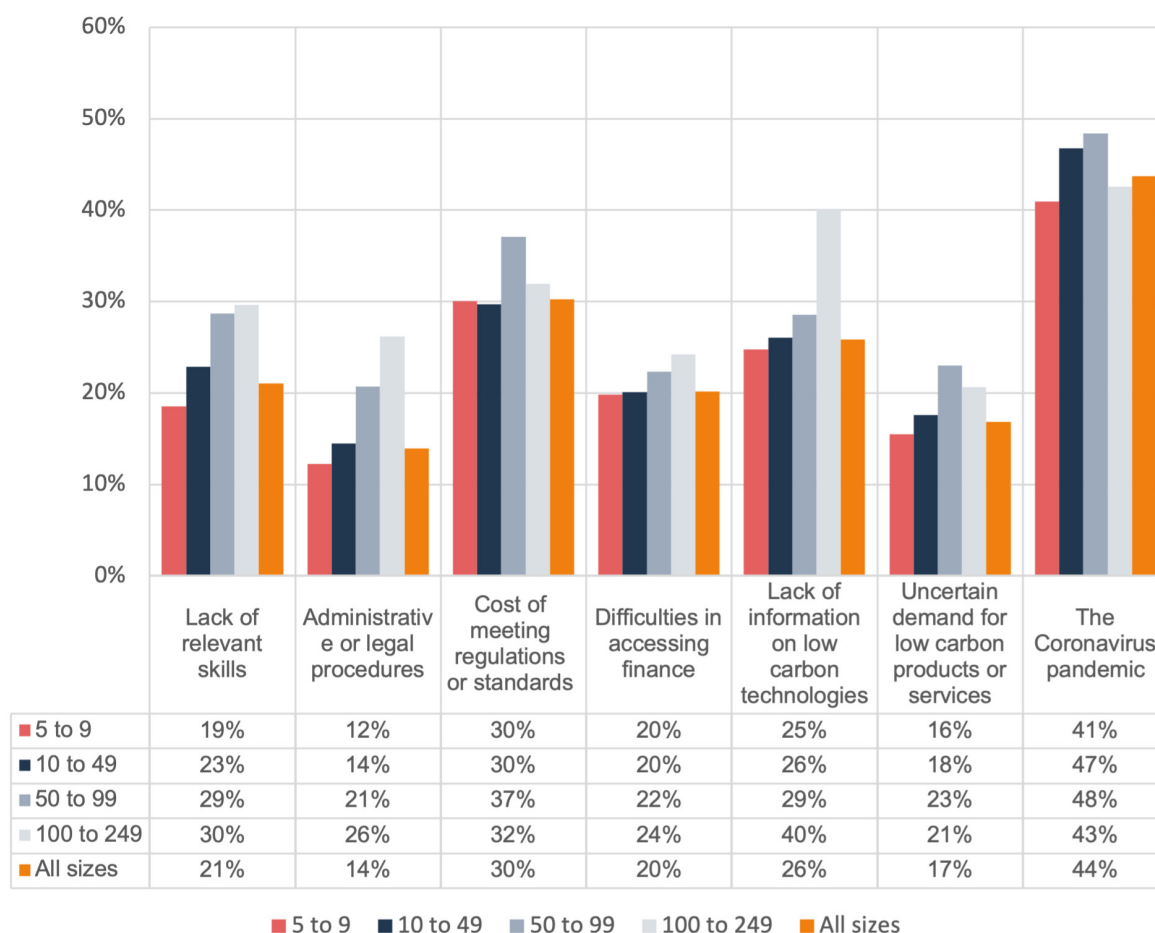
Figure 23. Environmental impact – gap between considering environmental implications and environmental action



Source: ERC Business Futures 2022, Ri and Mole (2022)

Base: all firms (1,003), 213 micro (5 to 9 employees), 537 small (10 to 49 employees), 253 medium (50 to 249 employees); black bars indicate 95% confidence intervals.

Figure 24. Barriers to decarbonisation by firm size



Source: ERC Business Futures 2022.

Base: all firms (1,003), 213 micro (5 to 9 employees), 537 small (10 to 49 employees), 253 medium (50 to 249 employees).

well as the type of innovation activity rather than firms' adoption of locationally specific strategies. Accordingly, our results have both implications for theory - urban and rural innovation can be examined within a common framework - and for those seeking to support innovative activity in more rural locations.

2.5 Net zero attitudes and practices

Our Business Futures survey carried out in April 2022 included a range of questions on a specific aspect of innovation - namely attitudes and practices associated with the move towards net zero emissions. This is an issue of considerable concern at present given the context of the climate crisis.

Our survey found that nine in every ten UK SMEs said that they considered environmental implications when taking business decisions (89 per cent of all firms). This is slightly higher than we found in the 2020 survey (83 per cent) and is true for all firms irrespective of their size (figure 23). At the same time, however, the evidence suggests that this consideration is not always transformed into action, with 66 per cent of

firms saying that they have undertaken actions to minimise environmental impact. Therefore, around 23 per cent of UK SMEs, despite paying attention to the environmental impact of business decisions, have not yet introduced any practices to reduce this impact.

Contrary to the consideration of environmental implications, for which firm size does not seem to play any important role, pro-environmental *action* does depend on size, with smaller firms being less likely to have undertaken steps to reduce environmental impact than larger SMEs.

The 2022 Business Futures Survey reveals that the three main barriers to the decarbonisation of UK SMEs are: (1) uncertainty related to the pandemic; (2) the cost of meeting regulations and standards, and (3) lack of information on low carbon technologies (see figure 24). This varies depending on firm size, with smaller firms being slightly more likely to be concerned with the cost, and larger firms with the information barrier. Medium-sized SMEs were also more likely to cite the lack of relevant skills and the administrative burden.

Table 1. Net zero practices adoption rates by firm size

	2022				2020
	micro 5 to 9	small 10 to 49	medium 50 to 249	All sizes (5 to 249)	7 to 249
No net zero steps	39%	31%	22%	35%	34%
Undertaken environmental reports or audits	11%	18%	24%	15%	22%
Changed processes or transport/logistics to reduce carbon emissions					39%
Introduced new or improved production processes with environmental benefits	19%	20%	24%	20%	
Introduced new or improved delivery, transport, or distribution systems	17%	17%	27%	17%	
Invested in research and development related to the environment	7%	10%	19%	9%	14%
Introduced air pollution monitoring and filtering	5%	12%	17%	9%	19%
Conducted training on environmental matters	17%	24%	27%	21%	26%
Conducted market research related to low carbon products or services	8%	12%	20%	11%	16%
Introduced new low carbon products or services	20%	20%	31%	21%	25%
Switched to more renewable energy	20%	24%	28%	22%	30%
Recycled waste, water, or materials (circular economy)	44%	46%	46%	45%	
Other	4%	4%	1%	4%	4%

Source: ERC Business Futures 2022, Ri and Mole (2022), ERC Business Futures 2020.

Base: all firms (1,003), 213 micro (5 to 9 employees), 537 small (10 to 49 employees), 253 medium (50 to 249 employees); in 2020 – all firms (1,019).

The Business Futures 2022 survey reveals that the adoption rates of net zero technological and organisational practices in 2022 are broadly in line with those in 2020, albeit slightly lower⁶ (Table 1). Just over a third of UK SMEs are not engaged in undertaking any active steps to reduce business carbon footprint.

In line with the previous findings, the most frequently introduced practice relates to changes in production (20 per cent of respondents), followed by distribution processes (17 per cent). The next most used practice is the use of renewable energy (22 per cent), followed by training on environmental matters (21 per cent), and introduction of new low carbon products and services (21 per cent). Around one in ten of the surveyed firms said they conducted low carbon market research (11 per cent) and invested in R&D on environmental matters (9 per cent).

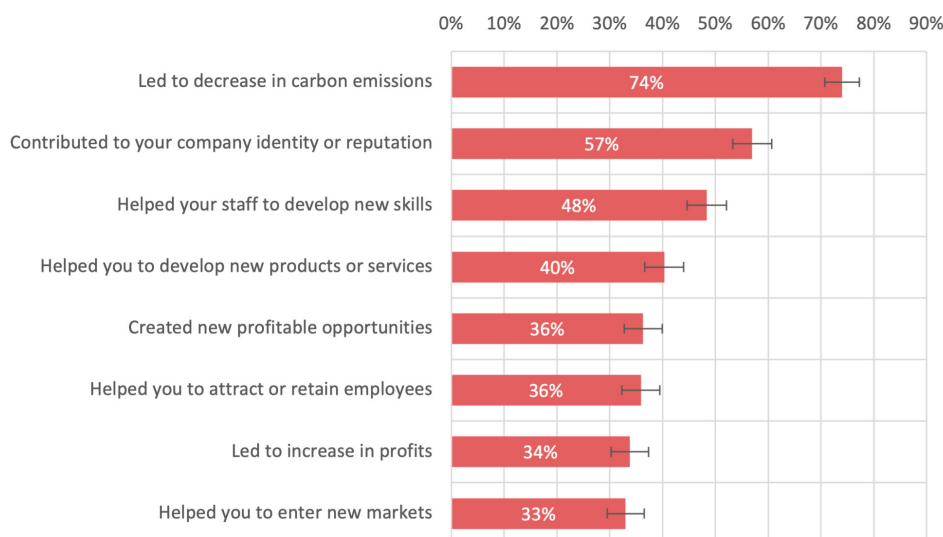
To get some understanding of how businesses

perceive the effectiveness of their net zero actions, the Business Futures 2022 survey also asked firms to report their outcomes from adopting any step to reduce environmental impact. Three in four firms who have taken steps to reduce environmental impact, find that these measures resulted in an actual decrease in carbon emissions.

But these are not the only benefits. The second most cited benefit relates to the improvement of firm's identity and reputation, with around three in five firms citing this (57 per cent). Responses from around four-in-ten firms suggested benefits that would increase revenue, including 40 per cent of firms who reported that adopting net zero practices helped to develop new products and services, 36 per cent who stated that it created new profitable opportunities, and 33 per cent who stated that it helped the firm to enter new markets (see figure 25 overleaf). Net Zero practices can therefore have positive impacts on firm revenue.

⁶ Same as for digital technologies, this slight drop in adoption rates is more likely to be explained by differences in the sample frame (which in 2022 includes micro-firms from 5 to 9 employees) rather than on actual decrease in of the net zero uptake.

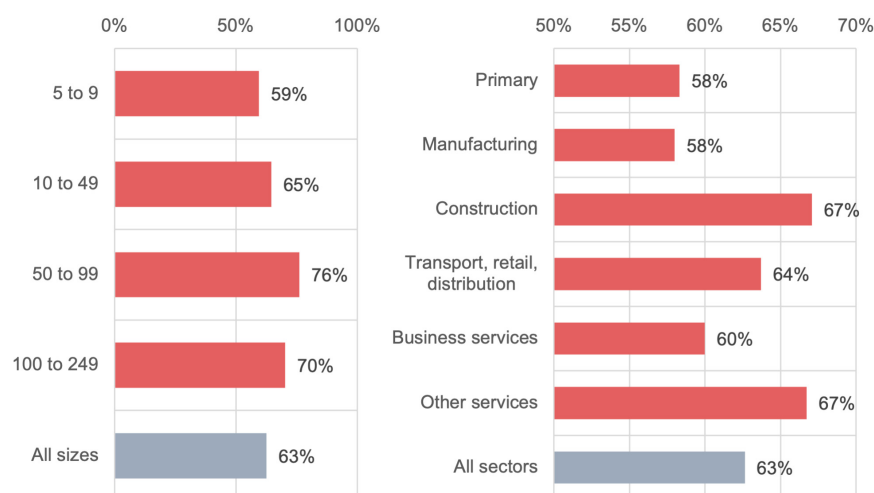
Figure 25. Outcomes of Net Zero practices



Source: ERC Business Futures 2022, Ri and Mole (2022)

Base: all firms who have undertaken steps to reduce environmental impact (685); black bars indicate 95% confidence intervals.

Figure 26. Percentage of firms knowing where to find reliable information on environmental solutions: by size and sector



Source: ERC Business Futures 2022

Base: all firms who replied to the question (952), 201 micro (5 to 9 employees), 511 small (10 to 49 employees), 151 medium (50 to 99 employees), 89 medium large (100 to 249); 44 primary, 177 manufacturing, 83 construction, 259 transport, retail, distribution, 290 business services, 99 other services.

As discussed previously, the informational barrier appears as one of the most important obstacles preventing firms to achieve net zero. And this varies across sectors and regions. Thus, businesses in manufacturing and transport, retail and distribution sectors appear to face informational barriers on average more often than in other sectors, with around one in three firms facing a lack of information on low carbon technologies. Greater numbers of companies report information as an important barrier in Northern Ireland (40 per cent) and in the North East (44 per cent). This may suggest that sub-national programmes may have a role to play in the transition to net zero.

Another barrier firms face is where to find information. Many firms do not know where to find reliable information on decarbonisation. Although the proportion of firms saying that they know where to find reliable information is generally encouraging (nearly two-in-every-three firms believes that they know where to find information), this appears to be an issue in primary and manufacturing sectors where more than two in five firms said they did not know where to find reliable information on decarbonisation (figure 26 overleaf).

From a regional perspective, there are also important disparities. Again, the proportion of firms that know where to find informational is particularly low in the North East, and Northern Ireland (figure 27 overleaf).

This suggests that information programmes targeting sectors and regions may be beneficial.

The survey also asked the firms to identify sources of reliable information. The majority of UK SMEs tend to turn to government website and support schemes. This speaks to the importance of improving the quantity and the quality of information available on these platforms to accelerate decarbonisation. The second-best source of information relevant to firms across all sizes is professional bodies and networks, along with the online search and social media community, although the latter is driven by micro-businesses (figure 28).

Knowing where to find reliable information emerges as a key characteristic of firms that are acting on climate change. In the Business Futures survey, 74 per cent of firms who both considered the environmental impact of their decisions and took action reported that they knew where to find reliable information. Further, 79 per cent firms who did not consider the environmental impact of their decisions yet took action reported that they knew where to find reliable information. A key difference between those who take action on the environment and those who do not is whether they can access reliable information (see figure 29).

2.6 Digital adoption

Another area of focus in our research on the theme of innovation has been digital adoption in SMEs, and this year we have extended our research in this area, further exploring the links between the digital and net zero practices.

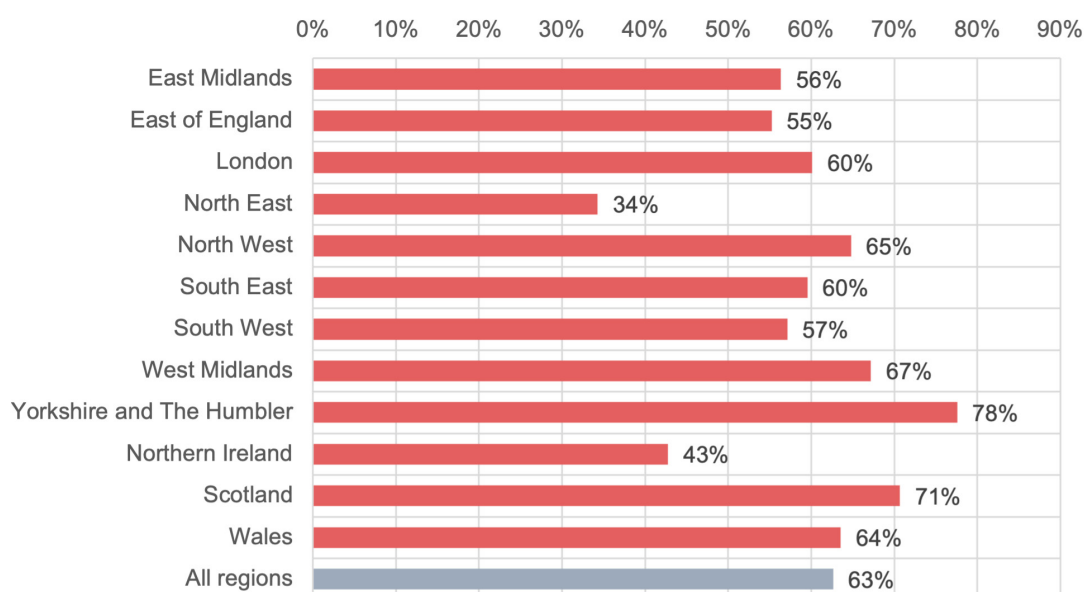
Rates and barriers of adoption

There is evidence that the pandemic has accelerated digitalisation of small businesses. Our 2020 Business Futures Survey revealed that for over three-fifths of businesses, introducing new digital technologies had become a higher priority because of the pandemic. This resulted in much higher uptake rates than in previous years.

In 2022 we continued to track the digital adoption behaviour of UK SMEs, focusing on ten specific digital technologies. Figures 30 and 31 show rates of digital adoption by firm size and broad sector (production and construction vs services). Larger businesses take the lead in the adoption of more advanced emerging technologies, with, for example, 20 per cent of medium sized businesses reporting the use of AI and machine learning, while the percentage is much lower among small and micro-firms. Manufacturing and construction SMEs demonstrate higher uptake rates of Industrial Internet of Things, automated machinery and Enterprise Resource Planning (ERP), while SMEs in services have higher rates of adoption of web sales, online marketing, cloud computing and AI.

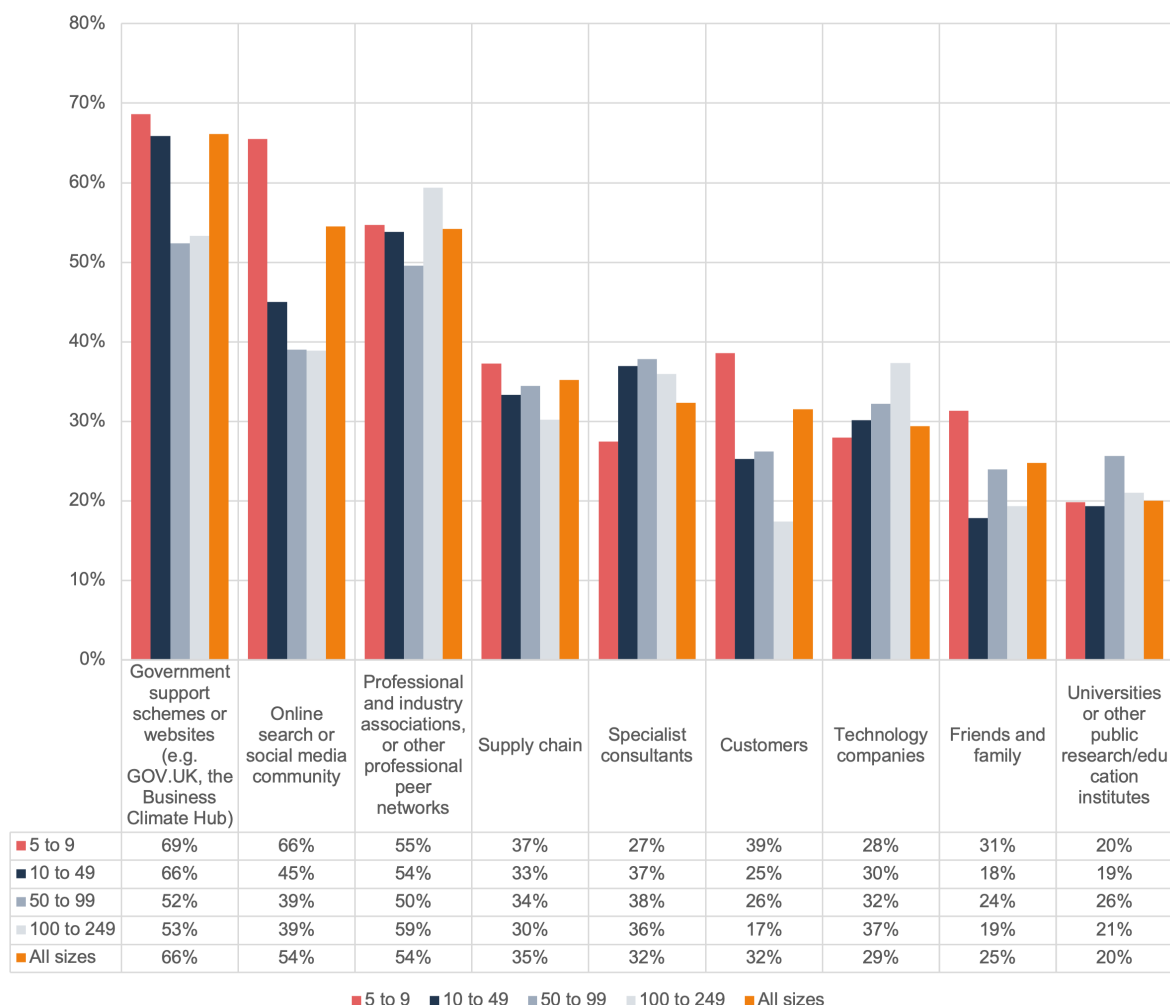
Interestingly, where comparison is possible, the rates of digital adoption in 2022 are lower than in reported in the 2020 Business Futures survey. For example, in 2022, 57 per cent of respondents in small and 48 per cent in medium size groups reported using cloud computing, compared with 59 per cent of small businesses and 70 per cent of medium-sized businesses in 2020. This may be explained in part by

Figure 27. Percentage of firms knowing where to find reliable information on environmental solutions: by region



Source: ERC Business Futures 2022
Base: all firms who replied to the question (952)

Figure 28. Percentage of firms relying on the following sources of information by firm size



Source: ERC Business Futures 2022

Base: all firms knowing where to find reliable information (604), 108 micro (5 to 9 employees), 323 small (10 to 49 employees), 114 medium (50 to 99 employees), 59 medium large (100 to 249).

differences in sampling frame between two waves: in 2020 the survey covered businesses employing between 7 and 249 employees, whilst in 2022 we included businesses with 5 to 249 employees. Another explanation though may be related to the context in which we conducted the fieldwork in 2020 - in the midst of the pandemic - which may have resulted in sample skewness towards better performing and more innovative businesses with higher likelihood of adoption of digital technologies.

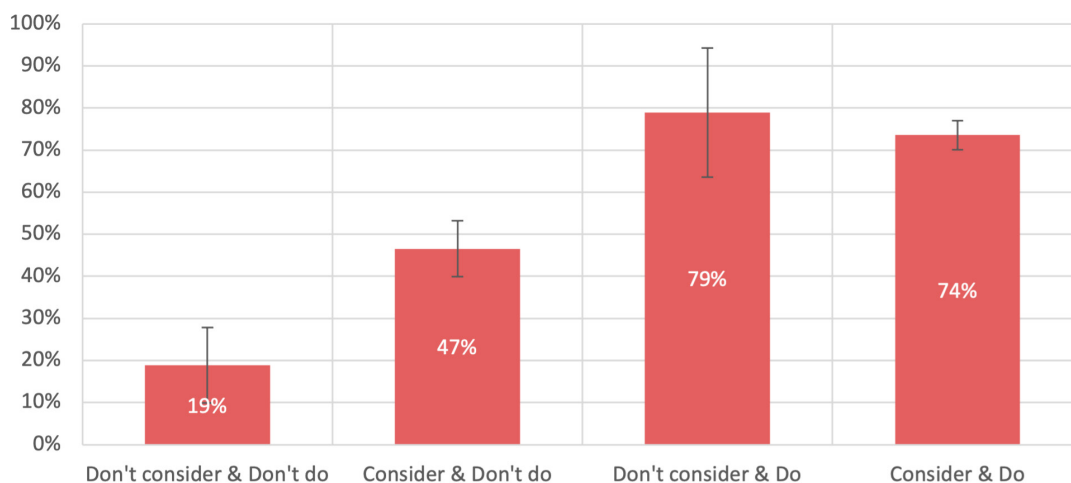
This year we have also undertaken research that has delved further into digital technology adoption patterns, barriers and enablers focusing on SMEs in the West Midlands region. The study, carried out in Summer consisted of a survey of 117 businesses and 27 follow-up interviews with established SMEs.

Consistent with findings from earlier UK studies, the SMEs in this survey reported a high level of digital technology adoption: every surveyed firm reported

using at least one digital technology (with five on average). The most used technologies were online marketing through social media, accounting and remote working (used by over 80 percent of SMEs), while the Industrial Internet of Things and AI/ML were the least used. Despite firms differing in terms of their business characteristics, they showed remarkable similarities in their digital technology use.

Interestingly, while nearly 9 in 10 firms said they experienced barriers to using digital technologies, no barriers prevented adoption. In fact, the reported impacts of barriers were limited, with just a few firms reporting efficiency losses. Plus, no firm had abandoned any of its digital technologies since first starting to use them. The most commonly reported barriers - lack of in-house digital skills/knowledge (61 percent), lack of funding (57 per cent), and lack of external advice/guidance (42 percent) - were also more complex than have been previously theorised. For example, funding issues were associated with return on investment.

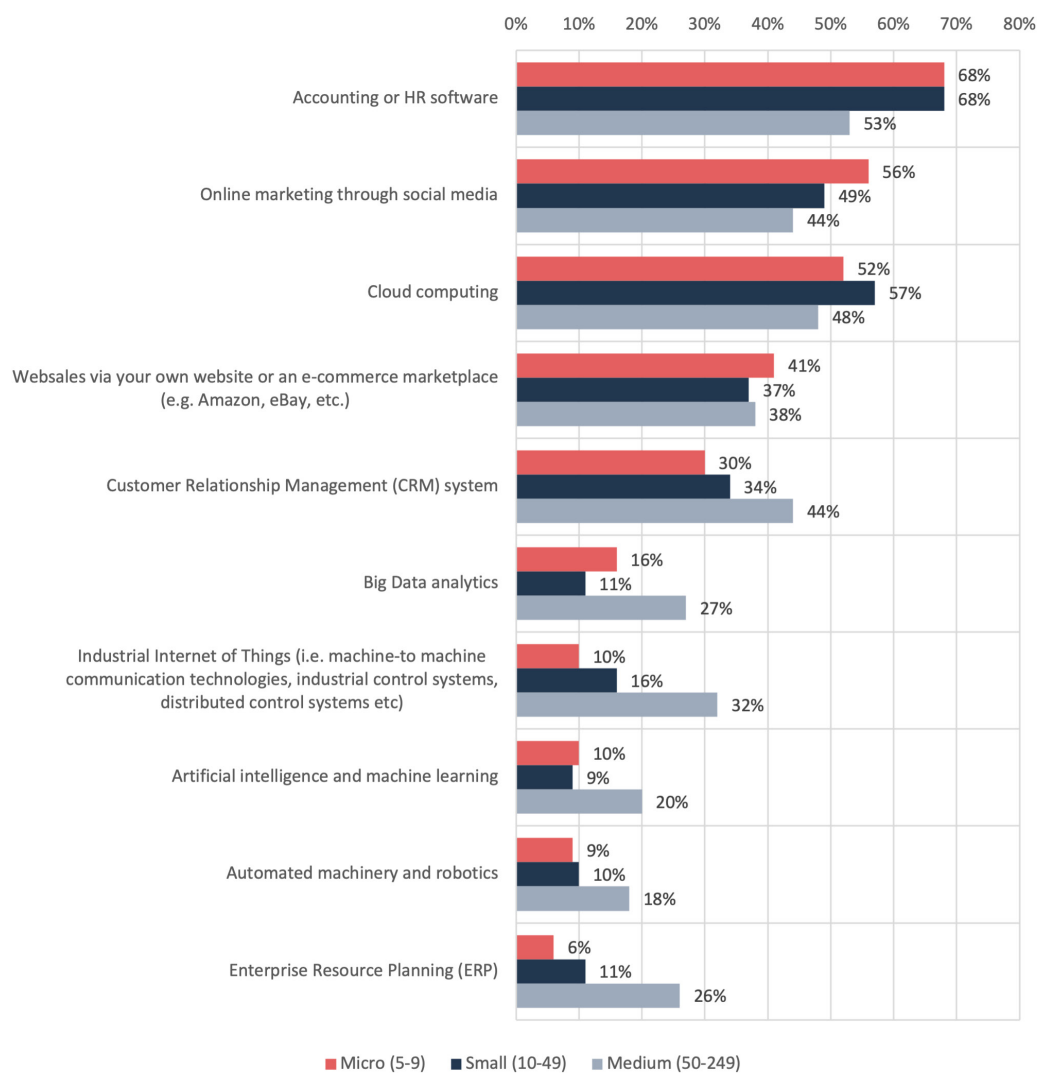
Figure 29. Percentage of firms in each category knowing where to find reliable information



Source: ERC Business Futures 2022

Base: All firms (1003 non missing obs); 'Don't consider & Don't do' (81); Consider & Don't do (237); Don't consider & Do (29); Consider & Do (656).

Figure 30. Proportion of firms using digital technologies by size



Source: ERC Business Futures 2022

Base: all firms (micro – 213; small - 537; medium - 253), weighted to be representative of the UK SME population

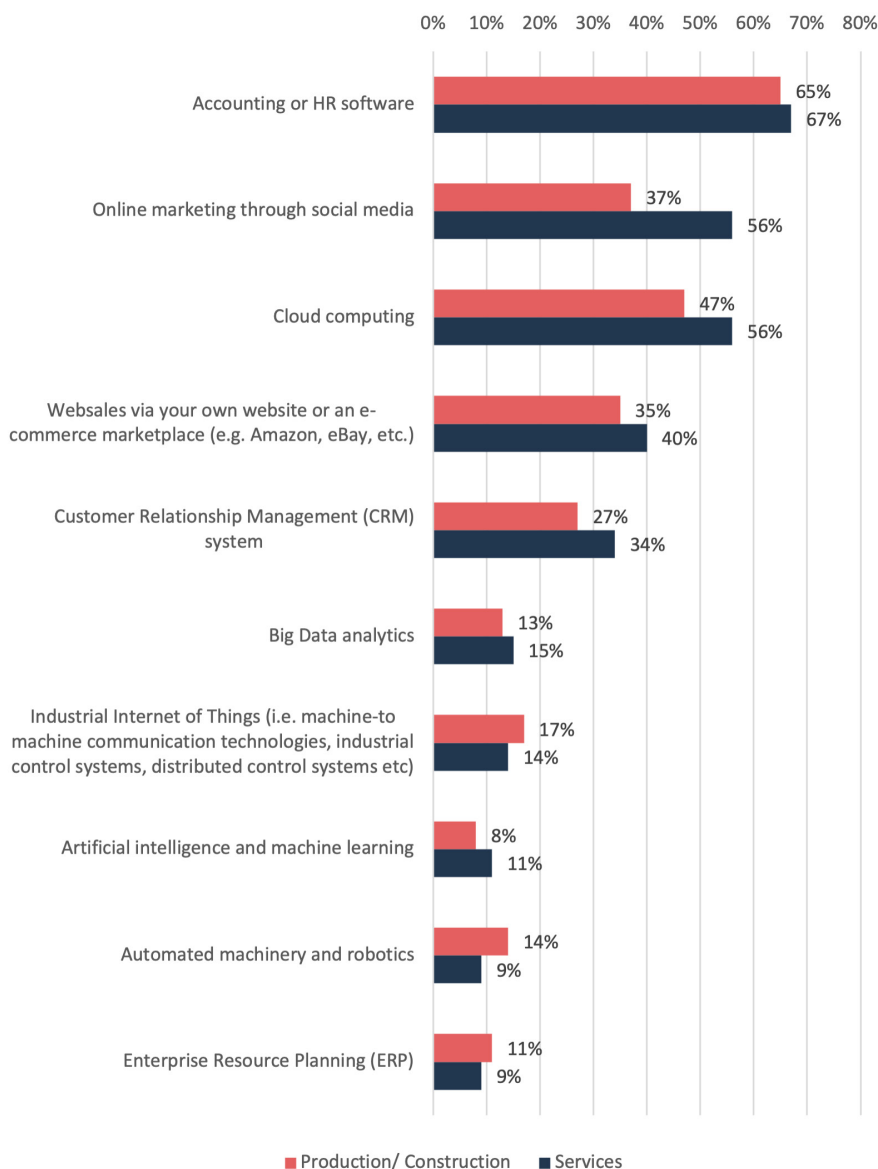
Enablers of digital technology adoption varied among firms. We found that they help to retain digital technologies rather than drive to start using them, though external advice was often instrumental in adopting specific software. Factors driving adoption were instead related to growth, key business or industry requirements, and COVID-19 (with variations depending on digital technology type). Despite high reported usage and intensity, 79 percent of SMEs said they were interested in using new digital technologies. We found this to be related to an interest in AI/ML technologies, and a need to better utilise and integrate current digital technologies.

The patterns in digital technology adoption and use over time enabled us to identify five digital technology use profiles:

- Knowledgeable starters (those implementing certain digital technologies at business launch)
- Gradual adopters (who implement new digital technology as business grows)
- Users (in need of maximising their digital technology benefit)
- Advanced users (requiring digital technology integration and automation rather than new digital technology)
- Super users (digitally high-skilled firms continuously progressing their digital technology use).

These groups have different digital technology needs at different points in their business journeys and, respectively, require different types of business support (if any).

Figure 31. Proportion of firms using digital technologies by sector



Source: ERC Business Futures 2022

Base: all firms (production and construction - 315; services - 688), weighted to be representative of the UK SME population

Ambition and digital innovation in urban and rural micro-businesses

While the geography of innovation literature suggests that some external environments may be more conducive than others for undertaking innovation, the innovation literature asserts that firms' internal capabilities are amongst the most important drivers of innovation adoption. This includes factors such as owners-managers' motivation for becoming a business owner (Galloway and Mochrie, 2006) as well as their ambitions for sustainability and growth (Culkin and Smith, 2000; Morris et al., 2005). In research published this year we explored whether a firms' location is most important in shaping innovation, or whether their internal capabilities and aspirations have more influence.

Our research considered the internal and external factors associated with innovation and digital innovation among rural and urban micro-businesses, with a particular focus on how owner-managers' business and personal ambition drive innovation. Using the ERC's Micro-business Britain Survey (MBBS) data, which provides detailed information for 5,230 micro-businesses with 1-9 employees across England and Wales, we examined the urban-rural profile of innovation and digital innovation along with a wide range of explanatory factors.

We found that rural micro-businesses are 2.3-3.0 percentage points less likely to be innovating than similar firms in urban locations. This contrasts with some earlier UK studies - albeit based on different groups of firms - which have suggested that rural firms may actually be more innovative than urban firms, particularly where those rural firms are located on the fringes of urban areas (Cosh

and Hughes, 1996; North and Smallbone, 2000; Phillipson et al. 2019).

However, we found no difference between levels of digital innovation among rural and urban micro-businesses. This result is consistent both for more established digital technologies and those which are more emergent (cloud-based computing, AI etc.). Here, our findings contrast with earlier suggestions of a digital divide between urban and rural areas in terms of digital adoption (Prieger, 2013; Herdon et al., 2015; Philip et al., 2015; Erdiaw-Kwasie and Alam, 2016; Romo, 2016; Richmond et al., 2017).

We also found strong positive associations between firms' business ambitions and both innovation and digital innovation – the more ambitious the micro-business, the higher the likelihood of innovating. For example, innovation was 5.9-11.9 percentage points more likely among micro-businesses which had the aspiration to create a national or international business. Digital innovation was 6.4-7.0 percentage points more likely among the same group of firms. In each case the size of these ambition effects is significantly larger than the effect of any locational influence. This suggests that it is not so much where firms are located which matters for innovation and digital innovation. The aspirations of owner-managers are more important.

It's not just where you are, it's where you want to go. Ambition, innovation and digital innovation in urban and rural micro-businesses

https://nicre.co.uk/media/0jwe4khm/nicre-research-report-no-2-may-2021-it%C3%A2_s-not-where-you-are-it%C3%A2_s-where-you-want-to-go.pdf

In another study published this year, we explored how policy interventions might help reduce the barriers to digital adoption, through an evaluation of the 'Evolve Digital' programme⁷. Evolve Digital was a business training programme designed to boost digital adoption through providing small, family-owned firms with an online, cohort-based, and facilitated opportunity for learning about digital technologies. To enable a rigorous evaluation of its effectiveness, Evolve Digital was designed as an experiment, implemented through a Randomised Controlled Trial

and forms part of the Government's Business Basics programme, which aims to deliver robust evidence of what works in improving UK productivity⁸.

Evolve Digital targeted small family businesses with relatively low adoption of digital technologies. The programme took place during the pandemic, in the second half of 2021, and was delivered fully online. To conduct the experiment, businesses were randomly allocated to a 'Treatment' or 'Control' group, with each group having around 100

⁷ <https://www.enterpriseresearch.ac.uk/publications/evaluation-of-the-evolve-digital-programme-to-promote-digital-adoption-in-family-firms-a-randomised-control-trial/>

⁸ <https://www.gov.uk/government/collections/business-basics-programme>

businesses. This random allocation ensured that, on average, the two groups were similar prior to the implementation of the programme. Businesses in the Treatment group were then offered 42 hours of facilitated cohort-based learning focused on digital technology adoption. This comprised a series of online sessions supported by access to a library of digital materials, and the use of social media groups to encourage further peer interactions. By contrast, businesses in the Control group received only low intensity electronic learning materials for self-study; they had neither peer interactions nor expert facilitation. Since the two groups were similar before the programme, differences between them after the programme should accurately reflect the influence of the programme.

We surveyed all firms before the implementation of the programme and again six months after the programme. We found that businesses in the Treatment group had greater confidence in their ability to use new digital technologies. This includes confidence in their ability to identify the digital technologies that are relevant to their business, and to create the conditions necessary for using them, for example through convincing or training other members of the business to use technologies. In addition, businesses in the Treatment group had more positive perceptions of the usefulness of technologies, better attitudes towards using technologies, and greater intentions to adopt new technologies within six months. Qualitative feedback indicated that these businesses also valued the reflective and participatory aspects of the programme, underlining the importance of peer interactions and expert facilitation.

There are some implications for policy and practice. The positive impacts of the Evolve Digital programme suggest the potential value of short online training courses to support digital adoption in small firms. The fully online delivery format of the Evolve Digital programme provides a potentially interesting learning point for practitioners involved in delivering business support programmes. The success of the programme lends support to the use of online delivery formats as credible, accessible and cost-effective alternatives to face-to-face delivery, especially where the latter is infeasible or costly.

Digitalisation, sustainability goals and innovation

One strand of our research this year has explored the links between innovation, digitalisation and sustainability in small firms, continuing our interest in the so-called 'triple transition'.

The growing literature on sustainability and innovation at the firm level has mostly focused on the drivers or performance outcomes of eco-innovation or sustainable innovation in large firms. Relatively little attention has been paid to micro-businesses, despite recent research emphasising the importance of sustainable entrepreneurship. In a study (not yet published) this year, we explored the conditions under which established micro-businesses (with fewer than 10 employees) are able to turn their sustainability goals into profitable innovations. Furthermore, we examined the role of digital technologies in enabling this relationship.

Using novel survey data on 4,649 established micro-businesses in the UK, our analysis suggested two key results. First, our results provide evidence suggesting that established micro-businesses that have sustainability goals are more likely to undertake innovation than similar firms with no sustainability goal. This emphasises that sustainable innovation is not the sole preserve of sustainability-oriented start-ups, but can also occur where established firms have sustainability goals. In this way, having sustainability goals can itself be a source of competitive advantage.

Second, we find that adopting digital technologies has a direct effect on innovation, but also strongly and positively moderates the link between sustainability goals and innovation. Specifically, micro-businesses that have sustainability goals are more likely to introduce a product innovation if they also adopt a Customer Relationship Management (CRM) software, E-commerce or Artificial intelligence. They are also more likely to introduce process innovations if they also adopt a CRM software, Web Based Accounting or Cloud-based computing.

Our results contribute to policy debates around transitioning to a sustainable economy. In particular, it seems important that, in attempting to solve the market failures associated with sustainable investments, governments focus not only sustainability-oriented policies (e.g. environmental policies designed to reduce pollution), but also on policies that induce digital adoption by firms, or even coordinate infrastructure investments by (digital) cities.

2.7 Summary

We know that innovation has long-term performance benefits for SMEs, but that UK firms have historically tended to under invest in it. The impact of the pandemic on investment in innovation is a key policy concern, and ERC research this year has provided some new insights on trends in innovation behaviour in SMEs that have implications for business support. Our earlier research showed that the pandemic had had a significant negative impact on R&D and innovation in the UK, and the evidence points to continued disruption and evidence of more firms reducing their innovation activities in 2022. This

perhaps reflects the cumulative impacts of the pandemic, and certainly the impacts of the financial constraints many firms are facing. In terms of net zero adoption, there remains room for improvement too, with around a third of UK SMEs not engaged in undertaking any active steps to reduce their carbon footprint. Again, finance and costs emerge as a key constraint here, along with uncertainty related to the pandemic. We know there is a more positive story around digital adoption and the pandemic for SMEs, and we have seen the accelerated digitalisation of many small businesses, although financial pressures may present a barrier to a continuation of this trend.



3. People, places and performance

SME performance has been a priority research theme at the ERC since the Centre's inception, a focus developed in response to the fact that previous research had failed to develop a robust and rounded understanding of the different aspects underpinning it. This year we have provided new insights into SME performance with a particular focus on the people and place dimensions.

We have continued our research exploring the linkages between mental health and wellbeing at work and productivity; explored the performance of rural enterprises; and started to examine emerging trends around the social contribution that businesses make, and the links with performance.

3.1 Workplace mental health

Workplace mental health issues are widespread and serious. Sixty-one per cent of employees report that they have experienced mental health issues where work was a contributing factor (BITC, 2018), and 300,000 UK employees are estimated to leave their jobs annually due to mental health issues (Stevenson & Farmer, 2017). An estimate by Hampson and Jacob (2020) put the cost to UK employers of these issues at around £56bn a year.

Workplace mental health and well-being was the focus of much media attention during the pandemic, and in the months that have followed, with increasing levels of mental health issues impacting on employees and businesses throughout. ERC survey data collected from Midlands firms in three consecutive years (2020 pre-pandemic, 2021 and 2022) offers unique insights into employer experiences of these issues during this turbulent period, with a particular focus on the impacts on productivity and performance⁹.

In terms of the performance impacts of mental health sickness absence, regression analysis of the survey data from our first survey in 2020 found that sickness related to mental health across our sample was associated with productivity which was lower by 18.3 per cent. For those firms which reported an impact, it was associated with productivity which was lower by 24.5 per cent. However, the study suggested that these significant associations between mental health

sickness and productivity may not be known by many employers, who tend to focus more on other impacts of mental health sickness absence.

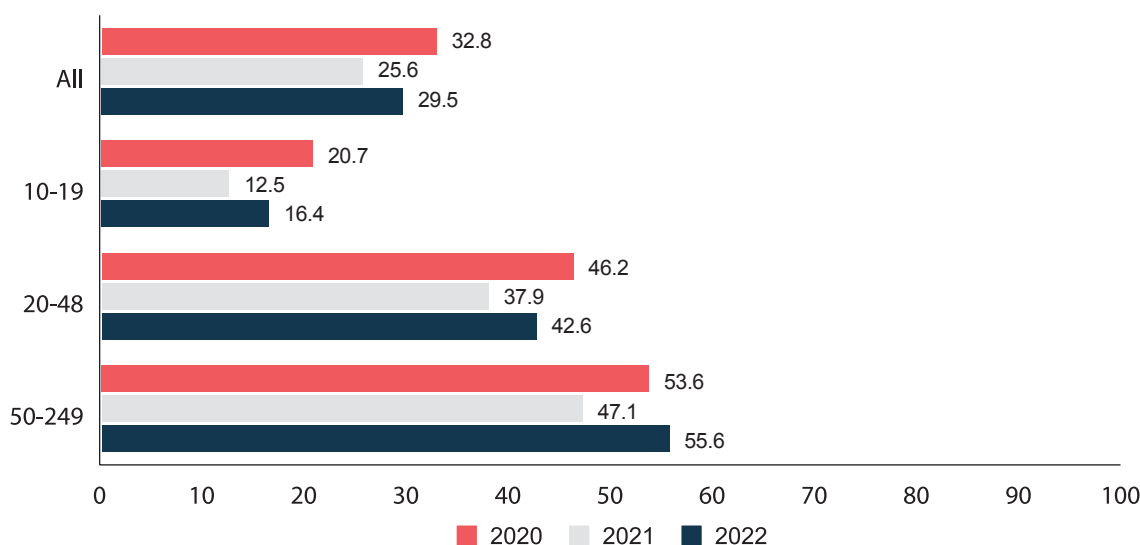
This year we carried out new research drawing on responses from 237 firms that participated in all three years of the survey, and from this we can identify some clear trends.

Firstly, following a decline in 2021, the 2022 data indicates that mental health related sickness absence levels are creeping back up (figure 32). Of those experiencing mental health related sickness absence, the proportion of firms reporting that it impacted on their business followed the same pattern, i.e., the number reporting an impact declined in 2021, but is now increasing. Similarly, having declined in 2021, the proportion of firms reporting 'presenteeism' – employees working while unwell – also increased in 2022, although it has not yet regained pre-pandemic levels.

Secondly, evidence indicates greater uptake of some mental health-related initiatives among employers, including raising awareness for staff of mental health issues, and providing line manager training in mental health issues. This is particularly encouraging in the light of qualitative evidence generated through in-depth interviews with line managers, which indicated that managing employees with mental health issues can provoke significant emotional labour and can lead to stress, burnout and alienation for these individuals. Importantly, more firms are also funding mental health initiatives and activities – 37 per cent of firms now have a mental health budget compared to 31 per cent in 2020. More firms are also evaluating the impact of these activities and reporting a range of firm-level benefits including better mental health and stress management, and better business performance. However, smaller firms are still considerably less likely to offer initiatives than their larger counterparts, probably reflecting resource constraints and lower levels of formal HR functions (figure 33). We also found evidence of sectoral variation, with production and construction firms much less likely to offer initiatives than wholesale, retail and services firms.

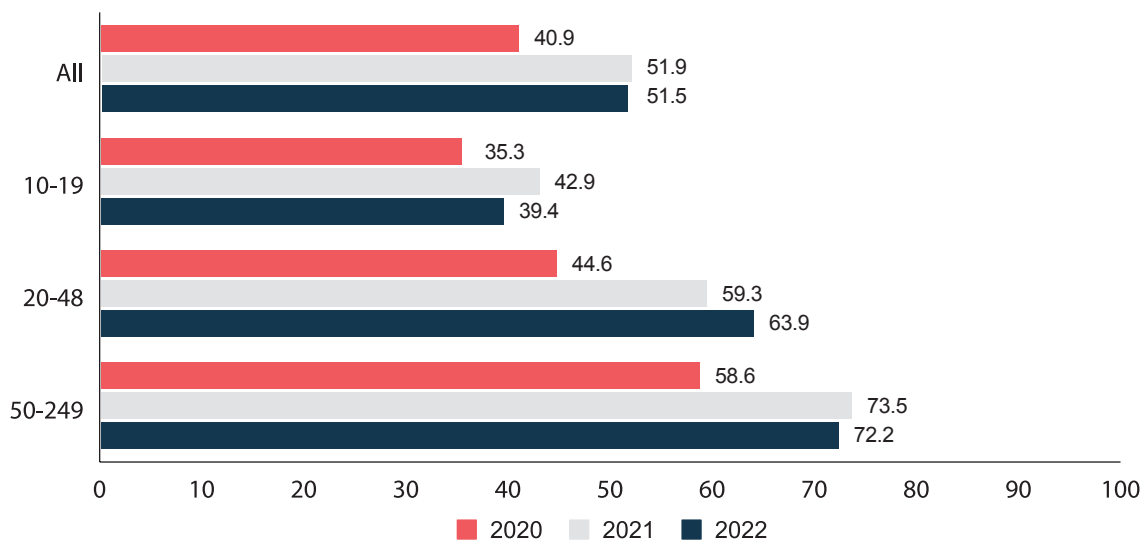
⁹ See <https://www.enterpriseresearch.ac.uk/themes/mental-health/>

Figure 32. Proportion of firms reporting mental health related sickness absence in the last 12 months, by size (no. of employees)



Source: ERC Mental health and productivity in Midlands firms surveys 2020, 2021, 2022
Base: 692 firms. 235 in 2020, 223 in 2021 & 234 in 2022

Figure 33: Firms reporting that they offer activities or initiatives to promote good mental health, by size



Source: ERC Mental health and productivity in Midlands firms surveys 2020, 2021, 2022
Base: 711 firms, 237 in each year

Finally, we observed greater firm-level engagement with mental health specialist organisations: Around 20 per cent of firms said in 2022 they would approach Mind or another mental health organisation for help and advice about mental health, up from 15 per cent in 2020 and only 11 per cent in 2021. While an HR consultancy and the internet remained the top sources of advice, it is encouraging that employers appear to be more willing to approach specialist organisations.

We also undertook some additional analysis, published this year, of mental health and wellbeing practices within the specific context of family firms¹⁰. This analysis offers the first insight into family and non-family firm behaviour towards, and experiences of, managing mental health and wellbeing, and important differences were observed in terms of provision of support for employees. Although as we have noted above, in general the proportion of firms engaging in activities to improve workplace mental health has increased during the pandemic, these

¹⁰ <https://www.enterpriseresearch.ac.uk/publications/an-exploration-of-mental-health-and-well-being-workplace-practices-within-family-firms/>

The role of line managers in managing workplace mental health

One of the key findings from our research on mental health practices in Midlands firms has been that many firms rely on untrained managers to deal with mental health issues amongst their employees. This year we have started to explore this issue further in qualitative research with line managers in UK firms, asking how these individuals experience the day-to-day management of workplace mental health issues. Three themes emerge from this research.

First, managers feel strong expectations about the way in which they should manage mental health issues. They often express the view that they are expected to manage others with mental health issues in a professional yet caring way. However, it is not always easy to find the right balance, and this has become more challenging with the increase in remote working, which has made it more difficult for them to identify when someone is struggling.

Second, managers talk about feeling inadequate and unprepared in the face of mental health issues. They worry that they may not be able to carry out

their role sufficiently well, and about saying or doing the wrong thing. This makes them question their ability to cope in a professional way.

Third, managers express the view that they are unsupported by their organisations when it comes to the management of workplace mental health issues. Some talk of unhappiness, and even of feelings of abandonment, related to the lack of support they feel they receive from their organisations. This can manifest itself as an absence of policies, procedures and guidance, or simply as a feeling that mental health is not an organisational priority.

Our findings suggest that line managers engage in significant emotional labour as they manage others with mental health issues, and that employers should acknowledge the potential emotional impacts, which may include stress and burnout.

Line managers: The emotional labour of managing workplace mental health issues

<https://www.enterpriseresearch.ac.uk/publications/line-managers-the-emotional-labour-of-managing-workplace-mental-health-issues/>

activities were notably less common among family firms. This early analysis indicates that the lower uptake of mental health-related activities in family firms appears to be linked to financial constraints, as family firms are more likely to have adopted activities that do not require a financial investment, suggesting some important directions for future research.

3.2 Entrepreneurship and place

Business resilience: rural/urban differences

This year we have continued to explore differences in urban/rural business performance in our work with the National Innovation Centre for Rural Enterprise (NICRE)¹¹. With the levelling-up agenda in mind, and drawing on a dataset of over 4,000 businesses in three English regions – the North East, West Midlands and the South West - NICRE analysis published this year (NICRE, 2022) provides an assessment of the ways in which rural (non-farm) and urban enterprises experience a range of local infrastructure factors. It also compares their connections to business networks and their community links.

The research finds that some obstacles to business development are felt particularly keenly in rural locations. This applies to broadband quality, provision of public transport, and transport infrastructure.

Broadband quality was judged to be 'poor' or 'very poor' by 34 per cent of rural enterprises, compared to 20 per cent of urban enterprises. This matters, because statistical analysis indicates that higher quality local broadband is associated with a 5.3 to 6.3 per cent increase in the likelihood of being a resilient rural firm. In addition, rural businesses in the sample were almost twice as likely as urban businesses (36% vs 19%) to rate their transport infrastructure as 'poor' or 'very poor', and public transport was rated 'poor' or 'very poor' by 57 per cent of rural firms, compared to only 21 per cent of urban firms. It is striking that these effects were amplified in more remote rural areas, with decreasing quality of these infrastructure factors reported in rural villages, hamlets and isolated areas compared to town and fringe locations.

Nearly half of rural firms judged the availability of affordable housing in their local area to be 'poor' or 'very poor', compared to 30 per cent of urban firms. And a similar proportion of rural firms gave their local basic services (e.g., banks and post offices) the lowest ratings, with 50 per cent judging them 'poor' or 'very poor' compared to 30 per cent of urban firms. These factors may impact on the ability of businesses to attract and retain employees.

¹¹ <https://nicre.co.uk/>

The data also shows different patterns of business connections among rural and urban enterprises, with rural firms in villages and hamlets and isolated dwellings less likely to report that they know, interact with and feel supported by, other businesses. Variations in community links, and on the reported benefits of such links depending on the location of the firm, are also evident, with rural firms in villages and rural town and fringe locations more likely to have supported community social and environmental activities than those in more isolated areas.

Overall, the research highlights significant variation in experiences of infrastructure, business and community connections among rural compared to urban enterprises, with variation amplified in certain rural locations. The findings highlight the need for a flexible and nuanced approach to policies and interventions aimed at addressing enterprise and economic development.

Rural/urban differences in entrepreneurial attitudes

In another project focusing on rural/urban differences, this year we have progressed research (not yet published) on the differences between entrepreneurial attitudes in rural and urban areas using Global Entrepreneurship Monitor (GEM) data.¹² Entrepreneurial activity is often viewed as an important source of innovation, productivity growth and employment. The proliferation and intensity of entrepreneurial activities is generally considered as one of the most important indicators of economic development. Previous studies have suggested that 'entrepreneurship in rural areas can hardly be competitive due to limited agglomeration effects, missing elements of entrepreneurial eco-systems and organisational thinness' (Habersetzer et al. 2021, p. 936). However, in rural areas where alternative employment opportunities may be less accessible, local entrepreneurship may be particularly important for innovation, competitiveness and growth.

The entrepreneurial process is complex, and there are many reasons why some individuals are more entrepreneurial than the others, with personality, background, connections and education all having an influence (Malecki, 2009; Roberts, 1991). Peris-Ortiz et al. (2014: p. 2) have pointed out that the main "individual characteristics that place entrepreneurial behaviour within the entrepreneurship function are related to the entrepreneur's natural tendency to be open to the environment and external challenges, willingness to take risks, cognitive abilities, and

creativity." The significance of these traits and abilities have come to the fore during the COVID-19 pandemic. However, little is known about the differences that exist in entrepreneurial attitudes and attributes between rural and urban areas and how this played out during the COVID crisis.

We have examined levels of entrepreneurship activity in urban and rural areas of the UK and have investigated to what extent the observed spatial differences in entrepreneurial activities are caused by differences in individual's personal attributes and attitudes. Our empirical analysis is based on information from the 2019, 2020 and 2021 Global Entrepreneurship Monitor (GEM) dataset, which provides measures of the extent and nature of entrepreneurial activity among the UK adult population aged 18 to 64.

Overall, the GEM data provides two key indicators of entrepreneurial activity: TEA, relating to total early-stage entrepreneurship; and EBO, relating to established business ownership. Each behaved slightly differently during the pandemic, with the rural-urban differential also varying. In 2019, immediately prior to the pandemic, the total TEA in rural areas was significantly higher than that in urban areas, both declined somewhat in 2020, and increased sharply in 2021. TEA rates in rural areas remained above those in urban areas throughout the period, although the differential fell, particularly in 2021. By contrast, while EBO rates in rural areas started markedly higher than EBO in urban areas, a position retained through 2020, by 2021 rural EBO rates had fallen sharply to almost match those in urban areas.

The results emerging from our empirical estimation models support our expectation that the individual factors are more important in shaping levels of entrepreneurial activity than location, and show that fear of failure, possession of start-up skills, knowing an entrepreneur, and perception of good opportunities are the most significant entrepreneurial attitudes and perceptions affecting the likelihood of engaging in TEA.

In 2019, rural respondents were more positive about their ability to start a business, and had a lower fear of failure than urban respondents. These differences had largely disappeared by 2021. Our econometric analysis suggests that attitudinal differences between rural and urban respondents explained almost all of the difference in TEA rates in 2019, around a third of the difference in TEA rates in 2020, and that by 2021 TEA rates across the urban and rural areas

¹² Earlier research on this theme can be found here: <https://nicre.co.uk/media/cwomboim/nicre-research-report-no-6-april-2022-understanding-levels-of-rural-entrepreneurial-activity-in-the-uk-a-pre-covid-assessment-using-global-entrepreneurship-monitor-gem-data.pdf>

were broadly similar. Attitudinal differences also explain around a third of the rural-urban differential in EBO rates in 2019 and 2020, but again by 2021 any differential in EBO rates between urban and rural areas had disappeared.

It is not immediately clear why the COVID-19 pandemic should have had a disproportionately negative effect on entrepreneurial attitudes and perceptions in rural areas. One possibility is that the industrial composition of rural business, with a focus on food, hospitality, and a preponderance of smaller companies, may have made rural areas more vulnerable to the potential impacts of COVID-19. As Browning (2021) also makes clear, however, some government support measures introduced during the COVID-19 pandemic were also limited in their applicability to primary, food and hospitality businesses and this may have limited their ability to sustain entrepreneurial activity in more rural areas. For both urban and rural areas, the 2021 data also points to some signs of potential recovery, with the proportion of respondents suggesting that there are good opportunities for starting a business rising sharply relative to 2020 and 2019.

Local social capital and necessity entrepreneurship

In new research this year we have begun to look at the impact of 'social capital' on necessity entrepreneurs and related forms of marginal entrepreneurship. This research concentrates on the importance of local social capital by focusing on small geographical areas and assessing the significance of social linkages on businesses and entrepreneurs.

To analyse this, two datasets are used to provide granular and rich data: the Community Wellbeing Index (CWI) and the UK Global Entrepreneurship Monitor (GEM) data. The former provides an excellent source of measurement for social capital, while the latter tracks yearly entrepreneurial activity from a representative sample of the UK working age population. As noted earlier in this report, GEM data also provides rich information on attitudes towards entrepreneurship, as well as growth aspirations of entrepreneurs.

Initial findings from this work show that robust local social capital, through fostering exchanges between people, mutual support and collaboration, is essential for those who are pushed into entrepreneurial activity due to the lack of alternative viable employment

options. In addition, by enhancing necessity entrepreneurship, local social capital may also indirectly create positive economic benefits for the local community.

3.3 Female entrepreneurship

There have been longstanding concerns about the relatively low levels of female entrepreneurship in the UK, (although, as indicated earlier in this report, the male-female difference in levels of entrepreneurial activity fell sharply in 2021). Previous ERC research has drawn attention to the sizeable gap in rates of self-employment and business ownership between women and men in the UK and has highlighted the need for an enhanced and deeper focus on this problem from policymakers. It also identified a need to focus on the *quality* of women's self-employment, as well as to reshape enterprise ecosystems so that they better support women to develop successful and sustainable businesses¹³.

This year we have added to our insights on female entrepreneurship. In a paper jointly published with The Women's Organisation, Tom Cannon reviewed thirty years of research and policy on women's entrepreneurship, concluding that female entrepreneurs form distinct and diverse communities within the wider entrepreneurial population, and that policy should better recognise this diversity¹⁴. Although there is now a body of clear, good quality evidence on the issues and barriers they face, female entrepreneurs continue to report actual or perceived difficulties with financial and wider business support.

High quality gender specific business data is of course essential to inform better policy development, and this year we have worked with The Gender Index¹⁵ to make better data publicly available. This year the Gender Index website was launched which provides information on the gender of ownership of all UK firms, as well as information on their growth and financing. This addresses a gap in the data available on UK firms, and for the first time allows us to measure progress in supporting and developing women-owned businesses.

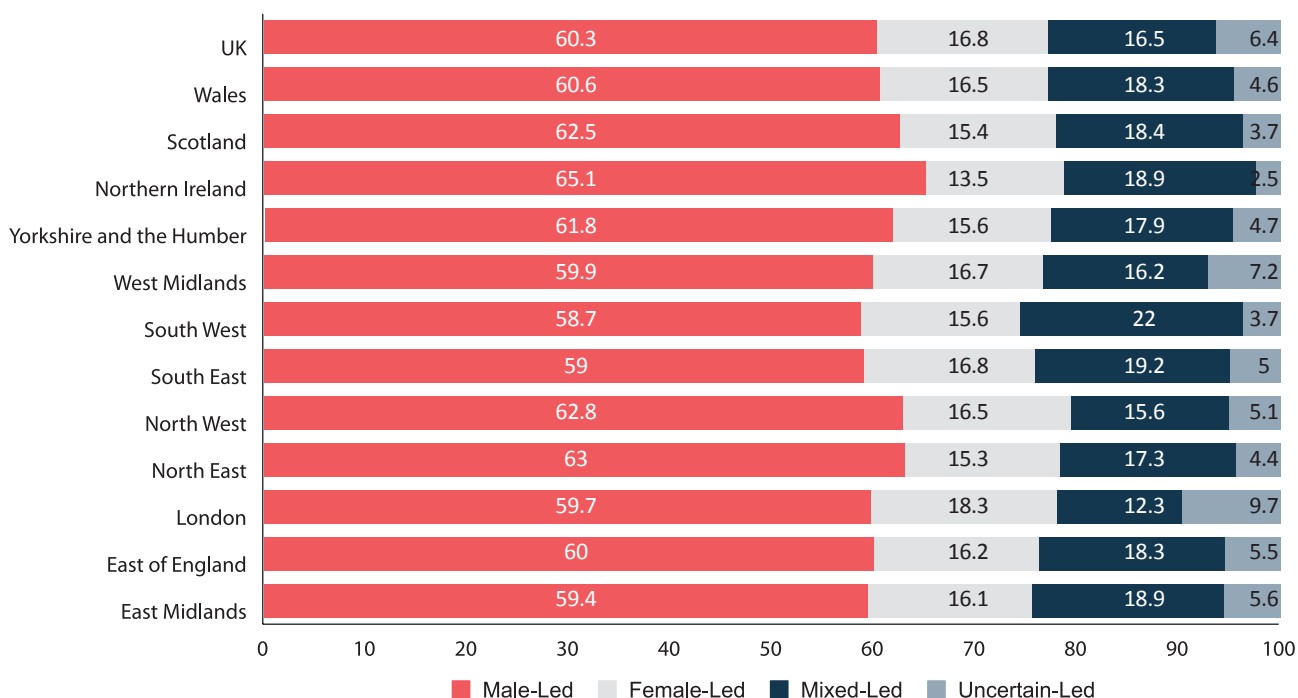
Data for 2021 suggests that at the UK level 16.8 per cent of businesses were female owned compared to 60.3 per cent of businesses which were male owned (figure 34). Figures varied marginally across regions, with the highest levels of female ownership in London and the South East, and the lowest in Northern Ireland.

13 See <https://www.enterpriseresearch.ac.uk/publications/a-review-of-assumptions-underlying-womens-enterprise-policy-initiatives-sota-review-no-38/>

14 <https://www.enterpriseresearch.ac.uk/publications/women-as-entrepreneurs-lessons-unlearned/>

15 <https://www.thegenderindex.co.uk/>

Figure 34: Proportion of female owned businesses in the UK, 2021



Source: The Gender Index

We know there are a number of barriers facing female entrepreneurs. In a State of the Art (SOTA) Review published this year, Carol Ekinsmyth explored the evidence on an area that has been neglected in research – the impact of family policy on women’s entrepreneurship activity¹⁶. The headline conclusions of this review are that in spite of somewhat contradictory evidence, more supportive family policy regimes do not necessarily lead to an increase in female entrepreneurship. However, more supportive family policy regimes are likely to lead to a greater proportion of female-led enterprises being profitable and sustainable, because these businesses are more likely to have been started through choice rather than necessity. This has implications for both research and policy.

One key point is that business conception and start-up requires considerable time investment – something that has been often neglected in support aimed to enhance female business start-up. The age group that people are most likely to start businesses coincides with the age when people are most likely to be having families and/or caring young children, leaving women in particular (who tend to take on most childcare responsibility) without the time they need to plan. In this way, lack of appropriate childcare provision emerges as a significant factor underpinning gender performance gaps and women’s wellbeing in entrepreneurship. However, the review warns against the danger of assuming that women’s share of business ownership alone is a proxy for gender

equality. Instead, ‘family policy should be geared towards gender equality rather than the absolute number of women’s businesses. It should be aimed to increase the number of ‘choices’, rather than ‘necessity’ businesses amongst women’.

3.4 SMEs and social responsibility

The COVID-19 pandemic brought many challenges for SMEs, many of whom had to pivot their activities and business models. During this period, there was also some discussion in the media about the growing trend for businesses to re-think their relationships with their stakeholders, including employees, customers, communities, and society in general in response to the pressures of the pandemic through introducing more CSR-type initiatives.

In the Business Futures 2022 survey we wanted to explore this trend further, and to look at the relationship with business performance. This promoted us to introduce some new questions to try to improve understanding of the extent to which businesses think about how their decisions might affect society. Firms were asked how likely they were to consider the social implications of the business decisions they make. Figure 35 shows that four in five UK SMEs say that they ‘always’ or ‘sometimes’ take into account social factors when making business decisions, with one in four answering ‘always’. This varies slightly by firm size with medium-sized businesses being more

16 See <https://www.enterpriseresearch.ac.uk/publications/family-policy-and-womens-entrepreneurship-no-56/>

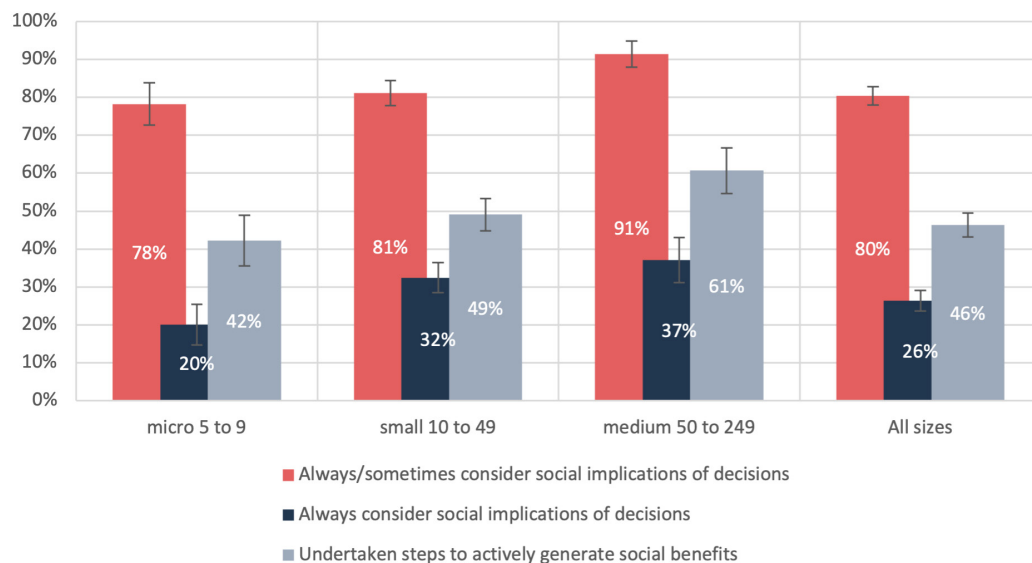
likely consider social implications (91%) than small (81%) and micro (78%) firms.

At the same time, not all the firms who consider social implications of decision-making are also actively engaged in socially responsible practices. Thus, 46 per cent of UK SMEs said that they 'undertook steps to actively generate social benefits for people and communities' over the last year. Again, medium-sized

firms were more likely to undertake these 'pro-social' actions (61%) compared to small (49%) and micro (42%), with this difference being statistically significant with 95 per cent confidence.

Interestingly, compared to other businesses, ethnic minority-led enterprises were more likely to take proactive measures to create social benefits for individuals and communities (59%) and to consider

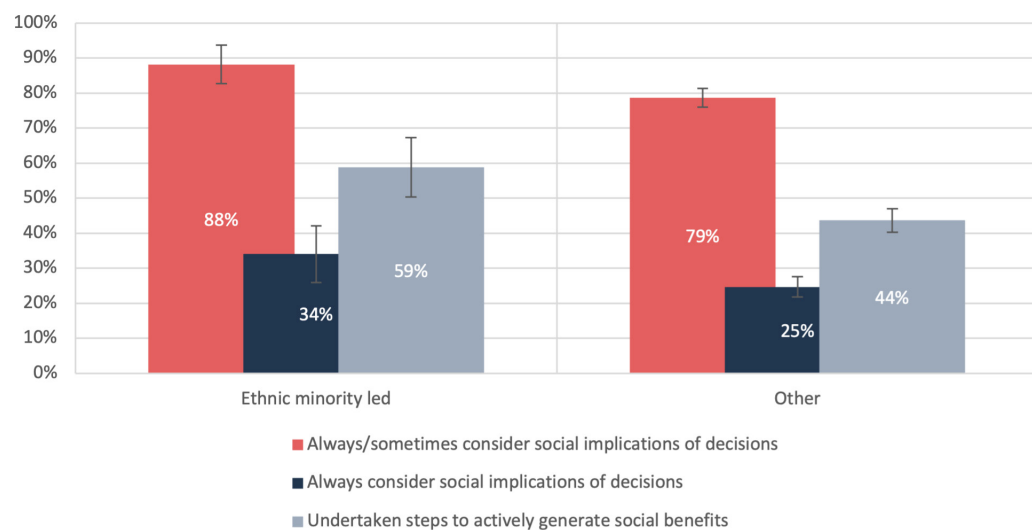
Figure 35. Considering social implications of business decisions and active steps to generate social benefits, by firm size



Source: ERC Business Futures 2022

Base: all firms (1,003), 213 micro (5 to 9 employees), 537 small (10 to 49 employees), 253 medium (50 to 249 employees); black bars indicate 95% confidence intervals.

Figure 36. Considering social implications of business decisions and active steps to generate social benefits, ethnic minority led firms vs other



Source: ERC Business Futures 2022

Base: All firms (1,003); ethnic minority-led (131), other (872); black bars indicate 95% confidence intervals; ethnic minority-led firm is defined as a firm with 50% or more of people managing the business on a day-to-day basis being from ethnic minority groups.

social concerns when making business choices (88%) (figure 36). A bigger community engagement in the decision-making processes within ethnic minority-led firms is associated with a greater concern for the social ramifications of business.

The survey also asked questions on seven different practices to help better understand how UK SMEs are adopting pro-social behaviours. Table 2 provides information on the average number of practices implemented concurrently as well as a summary of the adoption rates of each of the seven practices by business size. Overall, behaviours that may potentially increase labour productivity are most frequently embraced when it comes to employee wellbeing, workplace diversity, and payment of fair salaries. Thus, about one in four businesses reported paying their workers the Real Living Wage, implementing programmes to promote mental health and wellness, and promoting gender and ethnic equality in the workplace.

One-in-four businesses reported supporting community organisations and participating in a variety of volunteer activities. Medium-sized businesses reported this

support more frequently (35%) than microbusinesses (23%) or small businesses (27%) did. It is not unexpected that medium-sized businesses were 30 per cent more likely than micro or small businesses to provide disadvantaged individuals with employment or training possibilities. Just under one in five businesses claimed to have given priority to suppliers who prioritise social responsibility and ethical employment practices, while 15 per cent of businesses claimed to have kept track of how their goods and services affected community well-being over the previous 12 months.

Overall, firms generate social benefits by adopting a portfolio of socially responsible practices, including on average more than three different activities.

The results of UK SMEs' pro-social efforts were generally positive. As a result, approximately three out of four businesses that took action to assist the community and society claimed that doing so not only enhanced their own identity and reputation but also had a good effect on the community (figure 37).

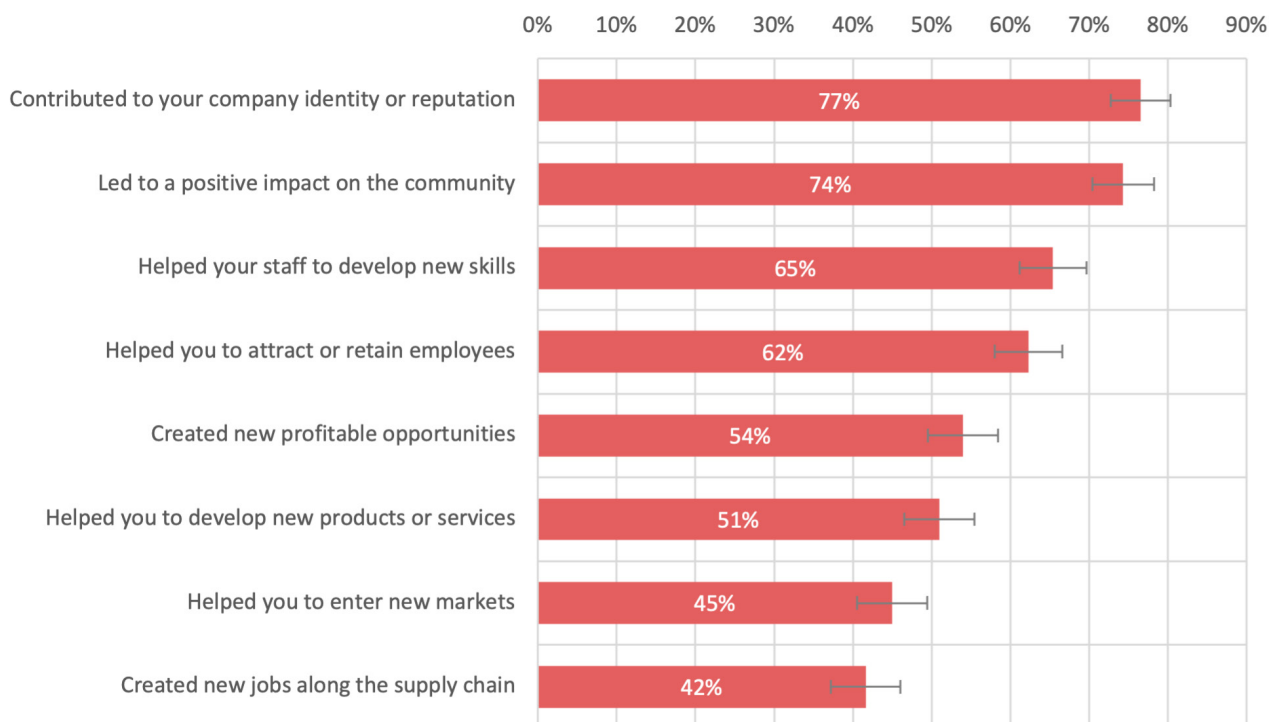
Table 2. Adoption rates of pro-social practices by firm size

	micro 5 to 9	small 10 to 49	medium 50 to 249	All sizes
Offered employment or training opportunities to disadvantaged people (e.g., long-term unemployed)	14%	20%	30%	17%
Paid the Real Living Wage to your employees	28%	27%	25%	27%
Introduced initiatives to promote good mental health and wellbeing at work	24%	29%	26%	26%
Made steps to support gender and ethnic equality in the workplace	22%	23%	31%	23%
Supported community organisations (e.g. volunteering/ engagement with local schools)	23%	27%	35%	25%
Monitored the impact of your products or services on community wellbeing	14%	15%	22%	15%
Prioritised suppliers that value social responsibility and ethical employment practices (e.g. respect human rights)	16%	22%	24%	19%
Other	2%	1%	0%	2%
Did not undertake any steps to generate social benefits for people and communities	58%	51%	39%	54%
Number of practices (Base: all firms)	1.41	1.63	1.93	1.54
Number of practices (Base: those who undertook active steps)	3.34	3.31	3.18	3.32

Source: ERC Business Futures 2022

Base: All firms (1,003), 213 micro (5 to 9 employees), 537 small (10 to 49 employees), 253 medium (50 to 249).

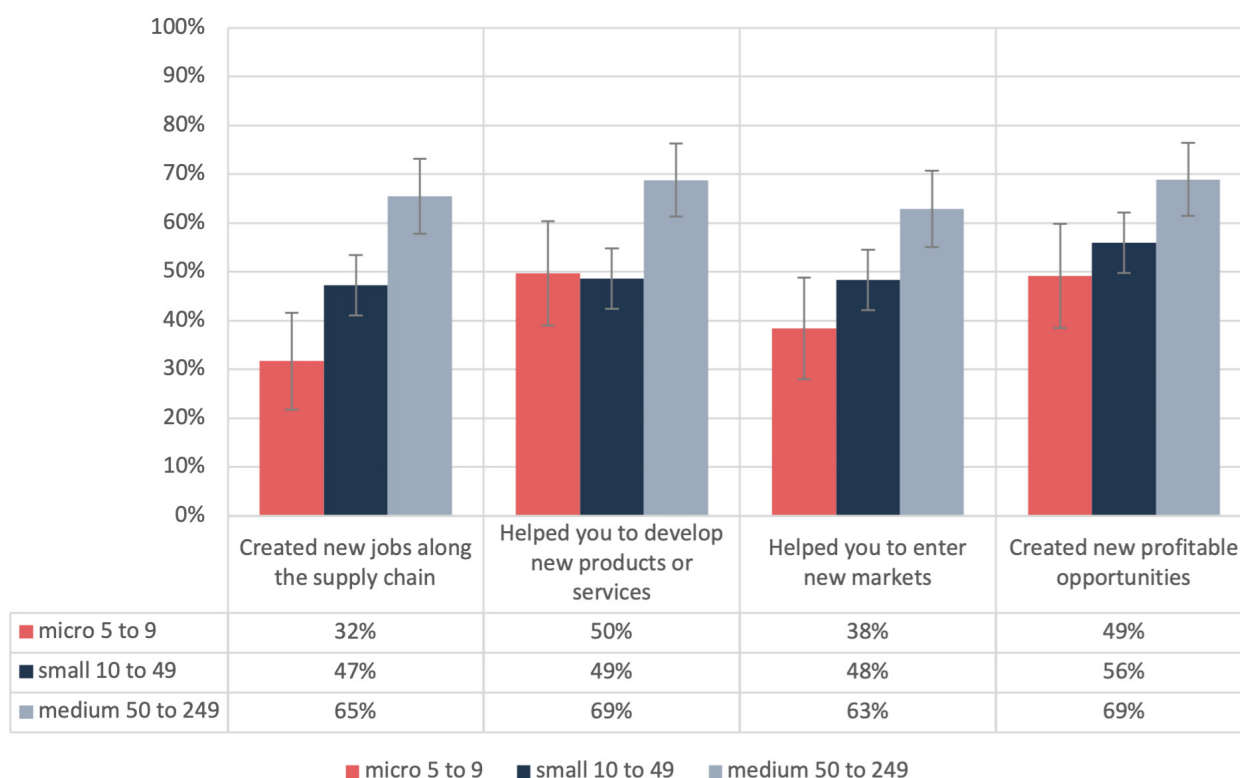
Figure 37. Outcomes of business activities to generate social and community benefits



Source: ERC Business Futures 2022

Base: firms undertaking steps to generate social and community benefits (485); black bars indicate 95% confidence intervals.

Figure 38. Outcomes of business activities to generate social and community benefits by firm size



Source: ERC Business Futures 2022

Base: firms undertaking steps to generate social and community benefits (485), 85 micro (5 to 9 employees), 252 small (10 to 49 employees), 148 medium (50 to 249) black bars indicate 95% confidence intervals.

Other internal performance benefits for the company were also significant, with 62 per cent of businesses indicating that it assisted with employee recruitment and retention and 65 per cent citing employee skill development. Additionally, more than half of enterprises that actively participated in prosocial activities said that doing so led to new product or service innovation (51%) and the creation of 54% new business possibilities.

There were clear disparities though in the benefits of innovation by firm size. The development of new goods or services, the creation of new jobs along the supply chain, and the emergence of new, lucrative business prospects were all more likely to be reported by medium-sized businesses (figure 38).

3.5 Summary

The ERC's previous research has shown that the drivers of SME performance are complex, including entrepreneurial attitudes and orientation, management practices, leadership skills innovation, and technology adoption. Our research over the years has also demonstrated how SME performance and growth varies between different places and social groups, using a range of different metrics.

The importance of good mental health to business performance is increasingly being recognised, particularly in light of the impact of the COVID-19 pandemic, and this has been a particular focus of

attention in our research this year. This work has highlighted the recent increase in awareness of mental wellbeing issues and a growing uptake of some mental health-related initiatives among employers, with positive impacts on business performance. However, it is also the case that these patterns are not evenly spread amongst firms, with smaller firms still considerably less likely to offer support than larger businesses. Our research has also highlighted the pressures faced by many line managers too in dealing with the mental health of employees, and the need for better training and support for this group.

Our work this year has also progressed understanding of the differences that exist in SME performance between rural and urban areas, indicating that the COVID-19 pandemic has had disproportionately negative effect on entrepreneurial attitudes and perceptions in rural areas. Work with the Gender Index is also helping to provide more much-needed robust data on the long-term disparity in the gender of ownership and growth of UK firms.

Early research on the growth in pro-social behaviour amongst UK businesses provides a potentially more positive picture looking forward. Firms participating in pro-social activities cited benefits for business reputation and the community, as well as new possibilities for business and innovation, indicating this could be a fruitful area for future policy development.

4. From Crisis to Sustainable Growth

In this review we have covered the wide and diverse range of research and analysis on SMEs conducted and/or published by the ERC in 2022.

The numerous challenging events of the last year have clearly had a huge effect on individuals, families, communities and businesses across the UK. As we look ahead, the turbulent times look set to continue, with UK growth forecast to be the slowest in the OECD for the next two years, and the cost of living rises continuing to bite.

4.1 Policy insights

Many SMEs have been placed under financial strain in 2022, with the costs of doing business rising markedly in a climate of considerable future uncertainty. To encourage future investment, it will be important to create a climate and business environment within which business leaders feel confident about the potential prospects of their new business ventures. Our research this year points to some useful evidence-based insights for those that will be working to support SMEs:

Supporting innovation

Innovation will be critical to business survival and growth through 2023 and beyond. Recent ERC research emphasises the critical links between innovation, exporting and productivity¹⁷, as well as the geographical disparities in the extent of innovation activity across the UK¹⁸.

Policy supports for innovation are well developed in the UK, with both national and regional support measures having significant benefits for business growth over the medium term¹⁹. Business engagement with other innovation support organisations such as the Catapults Network²⁰ also has demonstrably positive growth benefits (ERC 2022, forthcoming).

Grants, loans and measures such as R&D tax credits can all help to de-risk innovation decisions, a potentially important factor in the face of current economic uncertainties²¹. Key decisions, remain however, about the extent to which the UK support regime should be

reactive – supporting innovation projects when and where they arise – or more strategic and focussed on specific missions and localities. Both approaches involved potential trade-offs: a more strategic approach may mean that some high impact projects are not supported while a more reactive approach potentially perpetuates existing spatial disparities. Recent UKRI and Innovate UK policy statements suggest a more strategic emphasis aimed to address grand challenges and spatial disparities. Consistency in this approach will be critical, however, if impacts are going to be sustained and significant.

Supporting net zero adoption

The British Business Bank (2021) estimates small and medium-sized companies currently account for around half of all UK business emissions. Understanding what motivates SME managers to act on climate change is critical to any government intention to move towards net zero. What have we learned from our research about the experience of firms in their net zero journey that might inform policymakers going forward?

The ERC Business Futures Survey highlights the role of information as a crucial enabler of the move towards net zero. It is encouraging that most firms take the environment into account in their decision-making, but there is a need to translate this into action. There is a clear link between firms taking action and access to reliable information. Reliable information is often from government sources and professional and industry associations: those who can be relied on to provide impartial information. Going forward policy makers may find it useful to consider their information strategies on net zero. Professional and industry associations will be important intermediaries augmenting support for government schemes.

Supporting digital adoption

Interest in SME digital technology adoption has continued to be of interest to policymakers, particularly against the backdrop of UK's continuing lag in productivity. There are some implications for policy and practice from our research this year. The positive

17 <https://www.enterpriseresearch.ac.uk/publications/of-chickens-and-eggs-exporting-innovation-novelty-and-productivity/>

18 <https://www.enterpriseresearch.ac.uk/publications/benchmarking-local-innovation-the-innovation-geography-of-england-2016-18/>

19 <https://www.enterpriseresearch.ac.uk/publications/assessing-the-business-growth-and-productivity-effects-of-invest-ni-and-ukri-grant-support-for-rd-and-innovation/>

20 <https://catapult.org.uk/>

21 <https://www.enterpriseresearch.ac.uk/publications/policy-instruments-and-private-rd-investment/>

impacts of the Evolve Digital programme suggest the potential value of short, targeted online training courses to support digital adoption in small firms. The programme offered an effective route to digital transformation that isn't currently covered by larger programmes, particularly for micro-businesses.

The fully online delivery format of the Evolve Digital programme provides a potentially interesting learning point for practitioners involved in delivering business support programmes. The success of the programme lends support to the use of online delivery formats as credible, accessible and cost-effective alternatives to face-to-face delivery, especially where the latter is infeasible or costly.

The decision to close the Help to Grow: Digital scheme on 15th December was taken after a lower than expected uptake and the need to focus on other support mechanisms for small businesses. Our view is that this programme needed to have been more closely aligned to the sister Help to Grow: Management programme which included a module on digitalisation and would have allowed small business to engage in this agenda as part of a wider review of their strategy and the detail in their Growth Action Plan.

Supporting management and leadership

The last three years has demonstrated more than ever the need to ensure that small business leaders are equipped with the management and leadership skills and support to steer their businesses through long periods of turbulence in their chosen markets. An ERC SOTA review published this year by Andrew Henley²² has highlighted that over the last two decades in the UK there have been several intensive leadership and management programmes designed for small business owner-managers led primarily by business schools. Robust evaluation evidence on the effectiveness of many of these programmes is scarce, especially with respect to productivity, although there are exceptions such as the Goldman Sachs 10,000 Small Businesses Programme.

The launch of the Help to Grow: Management Course by BEIS in the summer of 2021 has provided a high-quality practical programme with which to engage a diverse range of SME leaders. This intensive course, delivered by around 50 business schools and heavily subsidised by government across the UK, is designed to provide training to help SME business leaders to increase productivity, seize investment opportunities

and grow their business. The aim is to provide support to around 30,000 small business leaders by the end of 2024. This national programme provides an opportunity to undertake a robust evaluation to understand in detail not just the average aggregate effects of the programme, but to understand what aspects are having the greatest impact and what types of small firms benefit most.

The national evaluation of the programme is now well underway and emerging results will be published in due course. However, anecdotal evidence from the eight Aston Centre for Growth Cohorts delivered to date point to some immediate effects not only in the adoption of new management practices within the business but also in the confidence and ambition of the business leaders. This mindset is developed in part through the increased business knowledge and skills of the participant, but also importantly through learning from their peers in a supportive environment. It is the variety of businesses in the room and the willingness of participants to share their experiences that makes this programme so stimulating for speakers and participants alike, and there are important lessons to be learned here.

ERC research undertaken this year, drawing on evidence from an earlier study on business resilience²³ looks at the relationship between firms experiencing crisis and seeking external business advice, and this also has potential implications for policy and practice. We find that businesses are most likely to seek external advice when they face an external crisis, and that crisis-related advice is significantly associated with ongoing advice seeking. This suggests that crisis-induced advice seeking gives rise to organisational learning through which advice seeking becomes an embedded practice within the business. This seems important given the current economic climate, as businesses face adverse conditions and the risk of recession. Encouraging firms to seek external advice during this period may help them become consistent advice seekers in the future.

There continues to be a case too for tailored business advice particularly for female entrepreneurs, as the challenges they experience persist, and also for businesses based in rural locations.

Supporting workplace mental health and wellbeing

There is growing recognition that good workplace mental health and wellbeing are vital for productivity.

22 <https://www.enterpriseresearch.ac.uk/publications/is-there-a-link-between-small-business-leadership-and-productivity/>

23 <https://www.enterpriseresearch.ac.uk/publications/building-resilience-in-under-represented-entrepreneurs-a-european-comparative-study-summary-report/>

ERC research comparing the situation pre, mid and post pandemic has shown that mental health related sickness absence levels and presenteeism are creeping back up in firms of all sizes, although the picture is more mixed by sector. Workplaces have undergone major changes in recent years, with increased levels of home-working and hybrid working for many, the effects of which cannot yet be properly understood. For some this may bring improvements in mental health and wellbeing, but it is also the case that with more dispersed teams, mental health issues could go unnoticed.

There is evidence of greater uptake of some mental health-related initiatives by employers in 2022, but smaller firms are still considerably less likely to offer initiatives to their staff than their larger counterparts, probably reflecting resource constraints, and there are clear differences between sectors too. Looking ahead, employers will need to be more open to, and engaged with, the range of initiatives available to them, particularly as other pressures associated with the rises in the cost of living are likely to impact negatively on staff mental health and wellbeing. More attention needs to be paid too to the role of line managers and the emotional pressures they face in managing employee mental health issues. Policy initiatives should focus on signposting employers towards expert organisations and providing tailored programmes for line managers.

Of course, we should also not forget that many SME leaders themselves too also will need support as the wider context of the cost-of-living crisis and the highly uncertain economic outlook create pressure on those with the responsibility for running businesses and employing others.

Integrated data and evaluation

In their review this year for the ERC of the work conducted by the Bolton Committee of Inquiry on Small Firms (1969-71), Robert Wapshott and Oliver Mallett²⁴ raise an important point about data on SMEs and how it is used to inform policy. Although the availability of data on SMEs has improved, they note that ‘Nonetheless, concerns continue to be raised about the degree to which this evidence base is effectively used to inform policy and the extent to which consistently rigorous evaluations have been conducted’ (2022, p. 17).

The need for robust evaluation of SME programmes is now more important than ever, and there are opportunities for better integration of the data

available, including administrative data to track the impact of interventions. Other countries – particularly Canada – have pioneered secure but integrated data environments linking administrative datasets which can support more robust evaluation of individual interventions and the relationship between interventions. Learning from this type of example may help to improve future evaluation in the UK.

4.2 Looking ahead

Over the last decade ERC’s research focus has changed as policy priorities have shifted from growth in the aftermath of the financial crisis towards the triple transition involving digital, net zero and productivity upgrading. The COVID-19 pandemic and more recent global uncertainty have concentrated our research focus on supporting business growth and resilience, policy stability and peoples’ experience of work. Other central themes of past ERC research have been entrepreneurship, management and leadership, finance, diversity, and spatial disparities alongside the continuing need to robustly evaluate aspects of business and entrepreneurship policy.

Many of these themes will continue into the planned research programme for 2023 with a focus on research and impact partnerships which can support sustainable and equitable business growth.

The net zero and digital transitions will continue to be a major focus of ERC research through 2023. Working with the Federation of Small Businesses we aim to map business support for the net zero transition, while other projects will focus on better understanding small firms’ net zero journey. International comparisons conducted with the Productivity Institute will help to identify policy supports which can enable effective transition.

Internationalisation will continue to be a key research theme through 2023 reflecting the impacts of the current global crisis and Brexit on export sales and broader UK competitiveness. Research designed to support innovation policy development and implementation will also remain central to ERC activity during 2023. New survey-based benchmarks will be published alongside other research on equity finance, sectoral absorptive capacity, mission-based innovation systems and the longer-term impacts of research grants. This will be complemented by other research on the spatial distribution of innovation and intellectual property.

Working with partners in NICRE we aim to support the development of the one in four UK businesses

²⁴ <https://www.enterpriseresearch.ac.uk/wp-content/uploads/2022/02/ERC-Insight-Bolton-50-Years-On-What-We-Can-Learn-from-a-Land-mark-Study-of-Small-Businesses-1.pdf>

located in rural areas. How can we best support these firms to maximise their growth and productivity potential? Projects on rural growth opportunities and job dynamism in rural areas are planned for 2023.

With significant support from the Economic and Social Research Council (ESRC), and in partnership with colleagues from the University of Nottingham and University College Cork, we will continue our work on workplace mental health and well-being and its productivity implications. This project aims to identify actionable lessons for policy and practice which can improve well-being and have positive productivity outcomes. International benchmark comparisons are planned for 2023 alongside a range of in-depth qualitative and econometric investigations of UK firms.

Alongside these more established themes we plan to explore three additional themes during 2023. First, given evidence of greater sectoral disparities in performance in the UK compared to our international competitors, we see increasing value in adopting a sectoral lens in understanding business innovation, growth and productivity. Second, the extent of spatial disparities is focusing attention on the role of local business eco-systems, growth dynamics, spillovers and local collaboration in driving growth. Finally, and more specifically, we plan a renewed focus on the challenges faced by the UK's mid-sized companies which play a critical role in many local economies.

As always, we would be happy to discuss any of these up-coming projects and research themes or provide more information on our research and engagement plans. Please either contact Vicki Belt (Vicki.Belt@wbs.ac.uk) or any of the ERC contacts listed at the start of this report.



Annexes

Annex 1: References

- Arrow, K. (1962) Economic welfare and the allocation of resources for invention, in *The Rate and Direction of Inventive Activity*, R. Nelson (ed.), Princeton University Press, Princeton, US, 1962.
- Browning, S. (2021) Coronavirus: Business loans schemes. Commons Library Research Briefing, July, 23.
- Copus, A., Skuras, D., and Tseganidi, K. (2008) "Innovation and peripherality: An empirical comparative study of SMEs in six European Union member countries." *Economic Geography*, 84(1), 51-82.
- Cosh, A. and Hughes, A., (1996) *The Changing State of British Enterprise*. ESRC Centre for Business Research, Cambridge.
- Culkin, N. and Smith, D., (2000). *An emotional business: a guide to understanding the motivations of small business decision takers*. Qualitative Market Research: An International Journal.
- Du, J. and Shepotylo, A. (2022) TCA, Non-tariff Measures and UK Trade, ERC Research Paper <https://www.enterpriseresearch.ac.uk/publications/tca-non-tariff-measures-and-uk-trade/>
- Du, J. et al (2022) (ERC Insight Paper, Forthcoming).
- Edler, J. and M. Trippel (2019) "Innovation in the periphery: Compensation and exploitation strategies", *Growth and Change* 50(4): 1511-1531.
- EPO/EUIPO (2021) Intellectual property rights and firm performance in the European Union. [https://documents.epo.org/projects/babylon/eponet.nsf/0/7120D0280636B3E6C1258673004A8698/\\$File/ipr_performance_study_en.pdf](https://documents.epo.org/projects/babylon/eponet.nsf/0/7120D0280636B3E6C1258673004A8698/$File/ipr_performance_study_en.pdf)
- Erdiaw-Kwasie, M.O. and Alam, K., (2016) Towards understanding digital divide in rural partnerships and development: A framework and evidence from rural Australia. *Journal of Rural Studies*, 43, pp.214-224.
- Galloway, L., Mochrie, R. and Deakins, D., (2004) ICT-enabled collectivity as a positive rural business strategy. *International Journal of Entrepreneurial Behaviour & Research*.
- Glückler, J. (2014) "How controversial innovation succeeds in the periphery? A network perspective of BASF Argentina", *Journal of Economic Geography*, 14(5), 903-927.
- Grabher, G. (2018) "Marginality as strategy: Leveraging peripherality for creativity." *Environment and Planning A: Economy and Space*, 50(8), 1785-1794.
- Greenhalgh, C. and Rogers, M. (2007) The value of intellectual property rights to firms and society, *Oxford Review of Economic Policy*, 23, 4, 541-567.
- Grillitsch, M. and M. Nilsson. (2015) "Innovation in peripheral regions: Do collaborations compensate for a lack of local knowledge spillovers?" *Annals of Regional Science* 54:299-321.
- Isaksen, A., and Karlsen, J. (2016) "Innovation in peripheral regions." In *Handbook on the Geographies of Innovation*. Edward Elgar Publishing.
- Habersetzer, A., et al. (2021) "Entrepreneurship in rural regions: the role of industry experience and home advantage for newly founded firms." *Regional Studies* 55(5): 936- 950.
- Herdon, M., Botos, S. and Várallyai, L., (2015) Decreasing the Digital Divide by Increasing E-Innovation and E-Readiness Abilities in Agriculture and Rural Areas. *International Journal of Agricultural and Environmental Information Systems (IJAELS)*, 6(1), pp.1-18.
- Hurmelinna-Laukkanen, P. (2009) The availability, strength and efficiency of appropriability mechanisms in knowledge creation, *International Journal of Technology Management*, 45, 3/4, 282-290.
- Levin, R. C., Klevorick, A. K., Nelson, R. R. and Winter, S. G. (1987) Appropriating the returns from industrial research and development, *Brookings Papers on Economic Activity*, 3, 783-820.
- Malecki, E. J. (2009) Geographical environments for entrepreneurship. *International Journal of Entrepreneurship and Small Business*, 7(2), 175-190.
- Mayer, H., and Baumgartner, D. (2014) "The role of entrepreneurship and innovation in peripheral regions." *DisP-The Planning Review*, 50(1), 16-23.
- McAdam, R., McConvery, T., & Armstrong, G. (2004) Barriers to innovation within small firms in a peripheral location. *International Journal of Entrepreneurial Behaviour & Research*.
- NICRE, (2022) State of Rural Enterprise Report <https://nicre.co.uk/media/cg1f3mxa/nicre-state-of-rural-enterprise-report-no-2-may-2022-infrastructure-and-networks-rural-enterprises-and-the-levelling-up-agenda.pdf>
- North, D. and Smallbone, D., (1996) Small business development in remote rural areas: the example of mature manufacturing firms in Northern England. *Journal of Rural Studies*, 12(2), pp.151-167.

- North, D. and Smallbone, D. (2000) "The innovativeness and growth of rural SMEs during the 1990s." *Regional studies*, 34(2), 145-157.
- Peris-Ortiz, M., Fuster-Estruch, V., & Devece-Carañana, C. (2014) Entrepreneurship and innovation in a context of crisis. In *Entrepreneurship, innovation and economic crisis* (pp. 1-10). Springer, Cham.
- Phillipson, J., Gorton, M., Turner, R., Shucksmith, M., Aitken-McDermott, K., Areal, F., ... & Shortall, S. (2020) The COVID-19 pandemic and its implications for rural economies. *Sustainability*, 12(10), 3973.
- Philip, L.J., Cottrill, C. and Farrington, J., (2015) 'Two-speed' Scotland: Patterns and implications of the digital divide in contemporary Scotland. *Scottish Geographical Journal*, 131(3-4), pp.148-170.
- Phillipson, J., Tiwasing, P., Gorton, M., Maioli, S., Newbery, R. and Turner, R., (2019) Shining a spotlight on small rural businesses: How does their performance compare with urban?, *Journal of Rural Studies*, 68, pp.230-239.
- Prieger, J.E., (2013) The broadband digital divide and the economic benefits of mobile broadband for rural areas. *Telecommunications Policy*, 37(6-7), pp.483-502.
- Rammer, C., Kinne, J., and Blind, K. (2020) "Knowledge proximity and firm innovation: A microgeographic analysis for Berlin." *Urban Studies*, 57(5), 996-1014.
- Richmond, W., Rader, S. and Lanier, C., (2017) The "digital divide" for rural small businesses. *Journal of Research in Marketing and Entrepreneurship*.
- Roberts, E. B. (1991) *Entrepreneurs in high technology: Lessons from MIT and beyond*. Oxford University Press.
- Romo, N.M., (2016) The Challenge of the Digital Divide and Elderly in Spanish Rural Areas. The Case of Castile and León. *Fonseca, Journal of Communication*, (13), pp.165-185.
- Scott, A. J., & Storper, M. (2015) The nature of cities: The scope and limits of urban theory. *International journal of urban and regional research*, 39(1), 1-15.
- Shearmur, R. (2017) "Urban bias in innovation studies." In *The Elgar companion to innovation and knowledge creation*. Edward Elgar Publishing
- Teece, D. J. (1986) Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy, *Research Policy*, 15, 285-305.
- Vaessen, P. and D. Keeble. (1995) "Growth-oriented SMEs in unfavourable regional environments." *Regional Studies* 29:489-505.
- Wishart, M. (2022a) Workplace mental health and well-being during COVID-19: Evidence from three waves of employer surveys, ERC Insight Paper <https://www.enterpriseresearch.ac.uk/wp-content/uploads/2022/09/ERC-Insight-Workplace-mental-health-and-well-being-during-COVID-19-Final.pdf>
- Wishart, M. (2022b) Line managers: The emotional labour of managing workplace mental health issues, ERC Insight Paper, <https://www.enterpriseresearch.ac.uk/wp-content/uploads/2022/10/ERC-Insight-Line-managers-The-emotional-labour-of-managing-workplace-mental-health-issues-Wishart-1.pdf>

Annex 2: List of ERC research papers and policy papers 2022

All publications are available at:

<https://www.enterpriseresearch.ac.uk/our-work/publications/>

Research papers and policy briefings

102	Gender, Ethnicity, and Access to Finance: Evidence for UK Social Enterprises Jose Liñares-Zegarra, and John Wilson, October 2022
101	Of chickens and eggs: Exporting, innovation novelty and productivity Halima Jibril and Stephen Roper, September 2022
100	The Uneven Spatial Nature of Access to External Finance in UK SMEs: Determinants, Impacts and the “Levelling Up” Agenda Ross Brown and Marc Cowling, June 2022
99	Exploring External Finance links to Build Back Better a Green UK SME Economy Robin Owen, Suman Lodh, Osman Anwar and Sergei Plekhanov, June 2022
98	TCA, Non-tariff Measures and UK Trade Jun Du and Oleksandr Shepotylo, June 2022
97	SMEs as Social Enterprises: Regional Disparities, Access to Finance, Strategic Intentions, and the COVID-19 Pandemic Jose Liñares-Zegarra and John Wilson, May 2022

State of the Art (SOTA) Reviews

56	Family policy and women’s entrepreneurship Carol Ekinsmyth, November 2022
55	Is there a Link between Small Business Leadership and Productivity? Andrew Henley, September 2022
54	Policy instruments and private R&D investment Helena Lenihan and Kevin Mulligan, September 2022

ERC Reports

Assessing the business growth and productivity effects of Invest NI and UKRI grant support for R&D and innovation
ERC and QUB, September 2022

Assessing the impact of Covid-19 on Innovate UK award holders. Wave 5- August 2022
ERC and Innovation Caucus, August 2022

Taking Small Steps: Business Priorities, Environmental and Social Responsibility in UK SMEs
ERC, July 2022

Evaluation of the Evolve Digital programme to promote digital adoption in family firms: A Randomised Control Trial
ERC, June 2022

What works for innovation: supporting R&D and innovation in deep tech chemistry SMEs
ERC, March 2022

The State of Small Business Britain 2021
ERC, January 2022

Insight Papers

43	An exploration of mental health and well-being workplace practices within family firms Niamh Lenihan and Jane Bourke, November 2022
42	The cost of doing business 2022q3 Data from the Small Business Price Index Stephen Roper, November 2022
41	R&D intensity at industry level: how does UK compare with top performing OECD countries? Adão Carvalho, November 2022
40	Line managers: The emotional labour of managing workplace mental health issues Maria Wishart, October 2022
39	Women as Entrepreneurs: Lessons Unlearned? Tom Cannon, October 2022
38	Workplace mental health and well-being during COVID-19: Evidence from three waves of employer surveys Maria Wishart, September 2022
37	Bolton 50 Years On: What We Can Learn from a Landmark Study of Small Businesses Robert Wapshott and Oliver Mallett, February 2022

ERC Podcasts

Episode 14: SMEs, the Autumn Statement and looking ahead to 2023

December 15, 2022

Mark Hart is joined by Fiona Graham, Director of External Affairs and Policy at the Institute for Family Business, Craig Beaumont, Chief of External Affairs at the Federation of Small Businesses, and Alex Veitch Director of Policy and Public Affairs at the British Chambers of Commerce to reflect on the implications of last months' Autumn Statement for SMEs and looking ahead to what lies ahead in 2023.

Episode 13: The mental health and wellbeing of entrepreneurs

November 17, 2022

Stephen Roper is joined by Professor Ute Stephan, Professor of Entrepreneurship at King's College London, Arosha Brouwer Co-Founder and CEO at Quan, a digital well-being and team performance platform, and Jason Jaspal, Assistant Director of Business Development at the UK mental health charity Samaritans, for a discussion on the mental wellbeing of entrepreneurs and SME leaders.

Episode 12: Small businesses in financial crisis

October 4, 2022

Professor Mark Hart is joined by Liz Barclay, the UK's Small Business Commissioner, James Blackman, Managing Partner at Cocoonfxmedia, and Nicholas Hardman Team Manager at Business Debtline, to reflect on the financial challenges facing small businesses.

Episode 11: Women and enterprise

May 30, 2022

Stephen Roper is joined by Jill Pay, Chair of The Gender Index; Yvonne Greeves, Director of Women in Business at the NatWest Group; and Julie Kapsalis, Chair of Coast to Capital LEP, reflecting on the important theme of 'women and enterprise'.

Episode 10: Changing the late payment culture

May 5, 2022

Mark Hart is joined by Philip King, previously the Small Business Commissioner and responsible for advising small businesses on their trading relationships and Ant Persse, Chief Executive of Optimum Finance, a specialist invoice finance company and newly established Saltare Technologies Limited, a Fintech that aims to support businesses with their payment challenges. In this episode the discussion reflects on the theme of 'changing the late payment culture for SMEs'.

Episode 9: SMEs and the 'Triple Transition'

April 5, 2022

Professor Stephen Roper is joined by Dr Anastasia Ri, Research Fellow at the ERC; Mark Swift, Head of the SME Group at the Warwick Manufacturing Group, based at Warwick University; and Darren Joint, Managing Director of Viking Signs Ltd, a digital on-demand sign manufacturing company. The theme for this podcast is SMEs and the triple transition.

Episode 8: Reflecting on UK enterprise policy – past and future

March 1, 2022

Mark Hart is joined by Lucy Armstrong, CEO of The Alchemists – an organisation which works with high growth businesses to accelerate their development; Robert Wapshott, Associate Professor in Entrepreneurship & Innovation at Nottingham University Business School and Oliver Mallett, Professor of Entrepreneurship at Stirling University, reflecting on some of the key challenges for UK enterprise policy, in the past and in the future.



Episode 7: SMEs and the changing food economy

January 10, 2022

Stephen Roper is joined by Dr Barbara Tocco, Centre Manager and Senior Research Associate based at Newcastle University, and Professor Tom MacMillan Deputy Director at NICRE based at the Royal Agricultural University in Gloucestershire and Chris Jewitt, Founder and CEO of community interest company Food and Drink North East discussing the UK's changing food economy and some of the implications and future opportunities for SMEs.



ERC Blogs

Science + Social Science + Investment = Levelling up

Stephen Roper, November 2023

Supporting line managers during challenging times

Maria Wishart, October 2022



Understanding Stress and Wellbeing at Work: A Leadership Journey

Juliet Hassard, October 2022

The cost of doing business 2022q2 Data from the Small Business Price Index

Stephen Roper, September 2022

What works for supporting firms to go digital?

Stephen Roper, June 2022



Do resilient entrepreneurs lead more resilient businesses?

Maria Wishart and Halima Jibril, March 2022

Enabling the Triple Transition in UK SMEs

Stephen Roper, January 2022



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