Assessing the impact of Covid-19 on Innovate UK award holders

Survey and case study evidence Wave 3 – February 2021

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About the Enterprise Research Centre

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The Innovation Caucus supports sustainable innovation-led growth by promoting engagement between the social sciences and the innovation ecosystem. Our members are leading academics from across the social science community, who are engaged in different aspects of innovation research. We connect the social sciences, Innovate UK and the Economic and Social Research Council (ESRC), by providing research insights to inform policy and practice. Professor Tim Vorley is the Academic Lead. The initiative is funded and co-developed by the ESRC and Innovate UK, part of UK Research and Innovation (UKRI). The support of the funders is acknowledged. The views expressed in this piece are those of the authors and do not necessarily represent those of the funders.

We gratefully acknowledge the support of Cristian Gherhes, Geeta Nathan and Debbie Johnson with this report.

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This is the third in a series of benchmark reports on the impact of Covid-19 crisis on the status of Innovate UK award holders. Analysis is based on an on-line survey of 274 IUK award holders conducted between 1st February and 25th February 2021 and 21 in-depth interviews which were undertaken over the same period. This was during the current lockdown period but before the announcement of the government's road-map for easing lockdown restrictions in England.

The current situation

In February 2021 firms were marginally more optimistic about the outlook than in October 2020. However, the results also indicated that firms were still experiencing significant challenges constraining their abilities to engage in innovation and complete projects on time, potentially with longer term implications for the innovative capacity of the economy. Cash flow is a continuing pressure for many companies with implications for future investment across all business areas.

In the survey IUK award holders were asked how the pandemic had impacted their business. Firms are experiencing continued disruption through the lockdown particularly to cash flow, business development and the ability to network with other companies. 1:5 saw an increase in product or service demand and the availability of loan or equity finance.

Cash flow remains critical for about 1:5 companies. This is a slight worsening of the situation from the previous period when around 1:6 companies reported cash flow being critical. Most firms were aiming to reduce costs in order to cope. 1:4 were extending their borrowing. Around a third of firms have made use of the furlough scheme with smaller firms also active users of the small bounce back loans. (Table 2.4).

R&D investment patterns vary significantly between firms with some firms rebounding, some in a holding pattern with stable levels of investment and some firms continuing to pull back from investing in R&D and innovation. 62.7% still classify their R&D capacity as "disrupted", indicating that despite these upticks many firms are still not back to normal capacity.

While firm outlooks have improved, and many are adapting well during the crisis there is no doubt that important challenges remain. Future cash flow and the future availability of loan or equity finance is a particular concern for many firms. This is partly as a result of uncertainties and contractions in markets – some firms reported having no revenues for months – sources of external investment have also been challenging to access.

Longitudinal perspective (June 2020, October 2020, February 2021)

The survey suggested some positive trends through to February with incremental improvements across a variety of indicators. The subsequent return to lockdown has increased some logistic challenges particularly around collaboration and cash flow and future investment patterns remain a concern. Some new issues around Brexit, workforce, and employee wellbeing are also emerging.

Business finances appear to be stabilizing – In good news, 8.5% of firms reported positive cashflows over the last three months, a very slight decrease over the previous period. About 71% reported normal/stable or under pressure but manageable financial situations.

Cash flow remains critical for about 20% of companies. This is a slight worsening of the situation from the previous period when around 17% of companies reported cash flow being critical.

Looking ahead, a plurality of firms reported expecting no projected change in revenues (around 30%), but around the same proportion anticipated that revenues were likely to decrease. Most firms were aiming to reduce costs in order to cope. A quarter were extending their borrowing. This was a similar profile to previous periods.

Firms have proved adaptable, and some changes might be permanent – Most firms reported that the most recent lockdown had not been more difficult than the previous ones, suggesting that lessons have been internalized and practices are stabilizing. Some reported increased productivity and have eliminated costs and inefficiencies that were not as evident during normal operations.

Around three-quarters of firms said they had changed their business practices over the last three months, a slightly smaller proportion than in earlier periods. In most cases these changes were regarded as temporary rather than permanent. However, some firms interviewed suggested that part-time remote working might become permanent and had taken steps to reconfigure their offices in anticipation.

Areas of current and future concern

Supply chain issues continue to cause delays – Only 9.6% of respondents stated that supply chain issues were improving for them while 36% reported that these issues were worsening. These delays reverberate through the value chain as firms have difficulty delivering on time and subsequently experience pressure on their balance sheets as they have to invoice later than expected.

Cash flow is still critical in some cases - The majority of firms continue to see the situation either remaining the same or deteriorating over the next few months.

Collaboration with R&D intensive institutions and universities remains weak - Collaboration between firms and most types of partners has fallen over the last quarter, reflecting the position from previous periods.

Mental health – Almost all respondents noted that mental health was now a high concern for firm leadership. While in some cases productivity gains had been noted, there were also several cases of burnout and concern for the wellbeing of employees. Many firms had instituted new procedures and programmes to help employees cope with the burden of balancing work from home and caring obligations.

Brexit - Around half of firms see Covid-19 as exacerbating the effects of Brexit. This remains very similar to the picture in the previous quarter.

Workforce effects – While the workforce has stabilized somewhat with fewer instances of furloughing and redundancies the labour force is clearly still in the process of adjusting. Around 16% firms have made redundancies during the last three months. This remains similar to the previous period. Around 20% have reduced staff hours in response to the crisis, a slightly lower proportion than in previous periods.

HEADLINE SUMMARY

In February 2021 firms were marginally more optimistic about the outlook than in October 2020. However, firms are still experiencing significant challenges constraining their abilities to engage in innovation and complete projects on time, potentially with longer term implications for the innovative capacity of the economy.

Firms are experiencing continued disruption through the lockdown particularly to cash flow, business development and the ability to network with other companies. Cash flow remains critical for about 1:5 companies. This is a slight worsening of the situation from the previous period when around 1:6 companies reported cash flow being critical. Most firms were aiming to reduce costs in order to cope.

R&D investment patterns vary significantly between firms with some firms rebounding, some in a holding pattern with stable levels of investment and some firms continuing to pull back from investing in R&D and innovation. 62.7% still classify their R&D capacity as "disrupted", indicating that despite these upticks many firms are still not back to normal capacity.

1. INTRODUCTION

This is the third in a series of benchmark reports on the impact of the Covid-19 crisis on the status of Innovate UK award holders. The analysis focuses on the impact of the crisis over the last three months and firms' plans for the next three-months and beyond. Both firm level and project-level effects are considered. Data was derived from extensive survey work with IUK award holders and, where survey respondents agreed, more detailed interview follow-up.

The dynamic nature of the Covid-19 crisis means that it is important to take into account the timing of the survey. Analysis is based on an on-line survey of 274 IUK award holders conducted between 1st February and 25th February 2021 and 21 in-depth interviews which were undertaken over the same period. This was during the current lockdown period but before the announcement of the government's road-map for easing lockdown restrictions in England. The on-line survey was distributed by Innovate UK but individual respondents' information has been treated as confidential to the research team. In-depth interviews were conducted by OMB Research Ltd.

We compare results from the third survey in February 2021 to the second on-line survey undertaken in October 2020.

In the data presented in this report we distinguish between firms in terms of sizeband (micro (1-9 employees), small (20-50 employee), medium (50-249 employees) and large (250+ employees)).

In February 2021 firms were marginally more optimistic about the outlook than in October 2020. However, the results also indicated that firms were still experiencing significant challenges constraining their abilities to engage in innovation and complete projects on time, potentially with longer term implications for the innovative capacity of the economy. Cash flow is a continuing pressure for many companies with implications for future investment across all business areas. We conclude that it is vital to continue monitoring these trends and to use this data to reactively, and proactively, help firms adapt to persistent economic uncertainty.

The remainder of this report is divided into the following sections:

- Section 2 FINANCE AND OPERATIONS
- Section 3 R&D AND INNOVATION ACTIVITY
- Section 3: OUTLOOK & FUTURE CHALLENGES
- Section 5 LONGITUDINAL PERSPECTIVE
- Section 6 NEXT STEPS.

2. FINANCE AND OPERATIONS

Covid-19 has caused disruption to many firms over the last three months both directly and indirectly through the impact on customers and suppliers. In the survey IUK award holders were asked how the pandemic had impacted their business (Table 2.1). Firms are experiencing continued disruption through the lockdown particularly to cash flow, business development and the ability to network with other companies. 1:5 saw an increase in product or service demand and the availability of loan or equity finance.

Table 2.1: Effects of Covid-19 on IUK grant holders, % firms

	Improved	Unaffected	Disrupted	Total
Staffing availability	7.2	35.9	57.0	100.0
Cash flow	5.7	22.1	72.1	100.0
Production capacity	1.3	35.9	62.7	100.0
R&D capacity	6.5	29.0	64.5	100.0
Supply chains	0.9	31.4	67.8	100.0
Availability of loan/equity finance	16.8	29.4	53.8	100.0
Demand for products and/ or services	19.3	20.1	60.6	100.0
Business Development	10.3	17.5	72.2	100.0
Ability to network with other firms	7.4	19.9	72.7	100.0

The extent of disruption meant that 75 per cent of respondents indicated that they had changed the way that their business operated over the last three months. This is a slight fall on the previous quarter. In the February 2021 survey firms were asked whether these changes were likely to be temporary or permanent (Table 2.2). The lockdown has led to a sharp increase in the proportion of firms suggesting that access to premises was restricted and that different laboratories were being used. The proportion of firms using virtual meetings had also increased during this period. Around a quarter of firms see these changes to meetings as permanent.

Table 2.2: Changes to business practices over the last three months, % firms

	Temporary	Permanent
Moved on-line for sales to customers	60.8	39.2
Staff now working from home	71.6	28.4
Access to premises restricted to key staff	83.7	16.3
Meetings all or mostly virtual	73.4	26.6
Using different laboratories as universities are inaccessible	82.3	17.7
Changed work practices to protect staff and customers	72.8	27.2

Cash flow remains critical for about 1:5 companies. This is a slight worsening of the situation from the previous period when around 1:6 companies reported cash flow being critical. Most firms were aiming to reduce costs in order to cope. 1:4 were extending their borrowing. This was a similar profile to previous periods (Table 2.3). Around a third of firms have made use of the furlough scheme with smaller firms also active users of the small bounce back loans. (Table 2.4).

Table 2.3: Managing liquidity of the business, % firms

	Micro	Small	Medium	Large	All firms	Manuf etc.	Hospitality	Business	All firms
	N=190	N=70	N=7	N=7	N=274	N=64	N=76	N=107	N=247
Reduced costs	56.8	64.3	42.9	42.9	58.0	59.4	59.2	59.8	59.5
Maximised revenue	17.4	25.7	28.6	14.3	19.7	20.3	22.4	17.8	19.8
Raised investment	14.7	27.1	28.6	28.6	18.6	18.8	22.4	14.0	17.8
Extend borrowing	27.4	28.6	14.3	28.6	27.4	26.6	25.0	26.2	25.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 2.4: Take up Government measures to mitigate the impact of Covid-19 (% firms)

	Micro	Small	Medium	Large	All firms	Manuf etc.	Hospitality	Business	All firms
	N=190	N=70	N=7	N=7	N=274	N=64	N=76	N=107	N=247
Coronavirus Job Retention Scheme (Furloughing employees)	26.3	58.6	57.1	57.1	36.1	48.4	22.4	41.1	37.2
Coronavirus Large Business Interruption Loan Scheme	1.6	5.7	14.3	14.3	3.3	7.8	2.6	1.9	3.6
Coronavirus Future Fund	1.6	10.0	14.3	0.0	4.0	3.1	6.6	3.7	4.5

COVID-19 Corporate Financing Facility	0.0	0.0	0.0	0.0	0.0	6.3	6.6	10.3	8.1
Small Business Grants Fund (SBGF)	6.8	11.4	14.3	0.0	8.0	9.4	25.0	17.8	17.8
Deferral of VAT payments	14.2	27.1	28.6	14.3	17.9	9.4	7.9	9.3	8.9
Business rates relief	7.9	12.9	14.3	0.0	9.1	6.3	11.8	8.4	8.9
Coronavirus Business Interruption Loan	6.3	17.1	14.3	0.0	9.1	32.8	40.8	26.2	32.4
Small Bounce Back Loan	35.3	32.9	0.0	0.0	32.8	48.4	22.4	41.1	37.2

Disruption to cash flow was in most cases due to the impact on revenues. Around a fifth of firms had seen their revenues fall by more than half over the last three months relative to the pre-Covid period. This was a marked improvement on the previous period during which a third of firms had seen a similar decline in revenues (Table 2.5). These impacts appear more significant in micro and small businesses.

Table 2.5: Impact of Covid-19 on turnover over the last three months

	Micro	Small	Medium	Large	All firms	Manuf etc.	Hospitality	Business	All firms
	N=190	N=70	N=7	N=7	N=274	N=64	N=76	N=107	N=247
Revenue reduced to zero	8.7	1.5	0.0	0.0	6.5	3.3	6.7	8.8	6.7
Reduced by more than 50%	16.3	11.9	0.0	0.0	14.5	8.2	17.3	13.7	13.5
Reduced by up to 50%	6.5	10.5	14.3	40.0	8.4	11.5	6.7	8.8	8.8
Reduced by up to 25%	9.8	17.9	0.0	0.0	11.4	11.5	10.7	11.8	11.3
Reduced by up to 10%	3.8	10.5	28.6	20.0	6.5	11.5	6.7	2.0	5.9
No change	22.3	23.9	28.6	40.0	23.2	24.6	22.7	24.5	24.0
Increased by up to 10%	6.0	13.4	28.6	0.0	8.4	6.6	9.3	7.8	8.0
Increased by up to 25%	2.7	1.5	0.0	0.0	2.3	3.3	1.3	1.0	1.7
Increased by up to 50%	0.5	0.0	0.0	0.0	0.4	0.0	0.0	1.0	0.4
Increased by more than 50%	3.3	0.0	0.0	0.0	2.3	3.3	2.7	2.0	2.5
Pre-revenue company	20.1	9.0	0.0	0.0	16.4	16.4	16.0	18.6	17.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

3. R&D AND INNOVATION ACTIVITY

As firms adjusted to the current lockdown there were few new effects on R&D practices to report. Generally, firms reported that this lockdown has not been as impactful as previous experiences and that, although the continued business disruption was far from ideal, measures taken in the spring and summer had prepared them to work through the uncertainty of the current situation.

Experiences related by firms interviewed in this wave could generally be divided into one of three categories:

1) Rebounding: Some firms are beginning to ramp up R&D activities either after reducing emphasis on that part of the business or having experienced no significant impacts on R&D in the previous waves. Some of these were conducting R&D to exploit new opportunities that came about as a result of Covid-19 directly or that were now more attractive as a result of barriers to normal revenue streams. Others in this group were (sometimes tentatively) returning to existing projects as resources and staff have become available and as the business stabilized and adjusted. Some firms were expanding R&D because their sectors had proved resilient to the shock of Covid-19. Around a third of firms surveyed had increased their R&D activity (see Table 3.1) and 6.5% reported that their R&D capacity had improved over the October to February period. However, it is important to note that 62.7% still classify their R&D capacity as "disrupted", indicating that despite these upticks many firms are still not back to normal capacity.

2) Holding pattern: Some firms reported that they had curtailed R&D activities during the crisis and that they were not currently in a position to resume these projects. In many cases, these decisions had been taken in previous periods and so reported no change from the previous wave of surveys. However, these firms have still stopped all non-core activities and most R&D since the beginning of the pandemic and have not (yet) developed plans to continue. Only 8% of firms surveyed in this period had stopped R&D activities (all or all non-core), which suggests that most firms that were going to shut down R&D completely already had by the time that this lockdown came into effect.

3) Pulling back: The remaining firms were adjusting their mix of R&D and reducing resources to those parts of the business. Again, many of these decisions were made in an effort to redirect resources to core aspects of the business but some of these resulted from existing projects coming to natural stopping points, having proceeded as far as they could in the current climate, or running out of funding. About a third of firms surveyed had ceased or reduced their R&D activities during this period. However, where reductions were reported there were wide variations in the degrees and expected durations of these interruptions. The proportion of firms that fit into this category has been relatively stable across waves, which suggests that incremental adjustments to the ongoing crisis continues.

Table 3.1: Impacts of Covid-19 on R&D and innovation over last three months

	Micro	Small	Medium	Large	All firms	Manuf etc.	Hospitality	Business	All firms
	N=190	N=70	N=7	N=7	N=274	N=64	N=76	N=107	N=247
Stopped all R&D activities	2.1	2.9	0.0	0.0	2.2	3.1	0.0	1.9	1.6
Stopped all non-critical/core R&D activities	5.3	8.6	0.0	0.0	5.8	4.7	2.6	9.3	6.1
Reduced & re-prioritised some R&D activities	33.7	35.7	57.1	28.6	34.7	35.9	27.6	37.4	34.0

No change	21.6	20.0	42.9	42.9	22.3	31.3	21.1	21.5	23.9
Increased R&D activities	34.7	32.9	0.0	14.3	32.8	23.4	46.1	28.0	32.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

As part of the survey in October 2020 firms were also asked about their plans for investing in R&D and innovation over the next three months (Table 3.2). 1:6 firms plan a reduction in R&D spend by more than 50 per cent over the next three months. These effects are most significant in smaller and micro firms. Around 4:10 firms see R&D investment remaining stable. These proportions remain very similar to those in October 2020.

Funding for R&D remains an issue. While many firms mentioned that they had sought additional support in the form of loans or grants, these were often most useful to deliver on existing projects rather than to support new activities. Again, the exceptions were for the Covid-19-resilient businesses, which often qualified for responsive funding that other firms were not eligible for to support research directly relevant to response and recovery. For other firms, constrained cash flows have made funding innovation more difficult, and investment has been hard to come by.

Table 3.2: Plans for R&D and innovation investment in the next three months

	Micro	Small	Medium	Large	All firms	Manuf etc.	Hospitality	Business	All firms
	N=190	N=70	N=7	N=7	N=274	N=64	N=76	N=107	N=247
Revenue reduced to zero	5.1	4.5	0.0	0.0	4.7	4.8	4.3	5.0	4.7
Reduced by more than 50%	16.5	9.0	0.0	0.0	13.7	8.1	15.7	16.0	13.8
Reduced by up to 50%	3.4	7.5	14.3	0.0	4.7	4.8	5.7	4.0	4.7
Reduced by up to 25%	9.7	7.5	0.0	16.7	9.0	9.7	11.4	9.0	9.9
Reduced by up to 10%	2.3	7.5	14.3	0.0	3.9	6.5	0.0	6.0	4.3
No change	44.9	44.8	71.4	66.7	46.1	53.2	38.6	42.0	44.0
Increased by up to 10%	5.7	10.5	0.0	16.7	7.0	4.8	8.6	7.0	6.9
Increased by up to 25%	5.1	7.5	0.0	0.0	5.5	3.2	7.1	6.0	5.6
Increased by up to 50%	4.0	1.5	0.0	0.0	3.1	3.2	4.3	3.0	3.5
Increased by more than 50%	3.4	0.0	0.0	0.0	2.3	1.6	4.3	2.0	2.6
Total	100	100	100	100	100	100	100	100	100.0

Collaboration is often a key element of an R&D and innovation project. As part of the survey firms were asked in October 2020 whether as a result of the Covid-19 crisis they had collaborated more or less with a range of different partners (Table 3.3). Collaboration between firms and most types of partners has fallen over the last quarter, reflecting the position from previous periods. Interviews with firms support this interpretation. Those firms for whom partnerships are core to their business cited partners as sources of bottlenecks and particularly noted that international relationships had become more difficult. A small number of firms praised their partners for their flexibility and/or ability to keep pace during challenging times. However, most respondents had little to say about existing partners or the potential to engage new ones. Re-building pre-pandemic levels of co-operation represents a potentially important policy challenge.

Table 3.3: Collaboration with universities and other partners over the last three months, % firms

	More	Less	Same	Total
Other businesses within your enterprise group	20.4	28.1	51.5	100.0
Suppliers of equipment, materials, services	20.4	31.0	48.6	100.0
Suppliers of software	23.0	17.5	59.5	100.0
Clients or customers from the private sector	25.1	35.4	39.5	100.0
Clients or customers from the public sector (e.g. local authorities, schools, hospitals)	20.9	36.1	42.9	100.0
Competitors or other businesses in your industry	15.4	32.1	52.6	100.0
Consultants, commercial labs or private R&D institutes	24.4	32.1	43.5	100.0
Universities or other higher education institutions	22.9	37.4	40.0	100.0
Government or public research institutes	22.3	33.7	44.0	100.0

Firms were also asked as part of the survey whether they were collaborating with any universities prior to the Covid-19 pandemic? Overall, around 56.9 per cent of firms were collaborating with universities (Table 3.4). 1:5 of these firms had reduced planned spend on collaboration by more than 25 per cent. This remains a similar proportion to previous periods. R&D partnerships with universities were described by one respondent as a "work in progress" – some have gone well and can be done remotely even if that's not ideal. However, for many firms the universities were key choke points in their workflow and have caused significant delays. This is because often the university partners were key providers of data, samples, and analysis which, due to closures and restrictions on operations they have been unable to deliver to schedule. Declining future spending on universities is likely reflective of cash flows and changing business outlooks but may also be linked to the reliability of these partnerships.

Table 3.4: Changes in planned spend with universities over the last three months, % firms

	Micro	Small	Medium	Large	All firms	Manuf etc.	Hospitality	Business	All firms
	N=190	N=70	N=7	N=7	N=274	N=64	N=76	N=107	N=247
Yes	55.7	59.4	71.4	50.0	56.9	55.6	41.3	65.4	55.4
No	44.3	40.6	28.6	50.0	43.1	44.4	58.7	34.6	44.6

	Micro	Small	Medium	Large	All firms	Manuf etc.	Hospitality	Business	All firms
Yes – uncertain amount	20.8	12.8	20.0	0.0	18.2	6.3	20.7	18.8	16.0
Reduced by more than 50%	17.7	23.1	0.0	33.3	18.9	31.3	20.7	15.6	20.8
Reduced by up to 50%	5.2	0.0	0.0	33.3	4.2	9.4	3.5	3.1	4.8
Reduced by up to 25%	2.1	15.4	20.0	0.0	6.3	9.4	0.0	4.7	4.8
Reduced by up to 10%	2.1	7.7	0.0	0.0	3.5	6.3	0.0	4.7	4.0
No change	41.7	38.5	60.0	33.3	41.3	34.4	44.8	43.8	41.6
Increased by up to 10%	3.1	2.6	0.0	0.0	2.8	3.1	0.0	3.1	2.4
Increased by up to 25%	3.1	0.0	0.0	0.0	2.1	0.0	3.5	3.1	2.4
Increased by more than 50%	1.0	0.0	0.0	0.0	0.7	0.0	3.5	0.0	0.8
Total	100	100	100	100	100	100	100	100	100

Firms were also asked as part of the survey about their longer-term investment plans for R&D etc. over the next year (Table 3.5). Thinking about this longer period over the next year – 45.9 per cent of firms anticipate an increase in R&D spend relative to pre-Covid levels. This is a marginal increase on the previous period. It is particularly interesting to juxtapose these patterns for planned R&D spending increases over the next year with changes in planned R&D spending with universities, which is declining. Other areas where spending relative to pre-Covid levels appears to be being cut the most include investment in machinery or equipment and spending on innovation with partners. In these two areas, the percentage of firms reporting that they plan to increase spending over the next 12 months (sometimes more than) counterbalances those planning decreases this is notably not the case for spending on innovation with universities. This trend represents a potential red flag for the higher education sector and also might indicate an overall decline in exploratory and experimental research.

Table 3.5: Investment plans for the next 12 months relative to pre-Covid levels? (% firms)

	Increase	Same	Reduce	Total
Investment on R&D and innovation (1)	45.9	36.9	17.3	100.0
Spending on innovation with universities (2)	26.5	43.8	29.7	100.0
Investment in marketing and advertising (3)	32.9	42.9	24.2	100.0
Spending on innovation with other partners (4)	44.3	28.7	27.0	100.0
Spending on staff or management training (5)	32.8	41.3	25.9	100.0
Investment in machinery or equipment (6)	30.8	38.0	31.3	100.0

Asked more specifically about their Innovate UK supported projects, in February 2021 most IUK projects were either progressing but delayed or progressing on time (Table 3.6). More projects were now on-time (50.4% up from 45% in October 2020). The proportion of paused projects and projects stopped permanently has declined presenting an improving picture. These figures were likely improved by the fact that many firms have applied for and been granted extensions on their existing projects and so timelines are now slightly more generous.

Table 3.6: Project status in the light of Covid-19

	Micro	Small	Medium	Large	All firms	Manuf etc.	Hospitality	Business	All firms
	N=190	N=70	N=7	N=7	N=274	N=64	N=76	N=107	N=247
Stopped permanently	1.7	1.6	0.0	0.0	1.6	1.8	0.0	1.0	0.9
Paused due to the lock-down	1.2	0.0	0.0	0.0	0.8	0.0	0.0	2.1	0.9
Progressing but behind	42.2	41.0	57.1	60.0	42.7	57.9	31.9	40.6	42.3
On-time	50.3	52.5	42.9	40.0	50.4	36.8	63.8	50.0	50.9
Ahead of the planned schedule	4.6	4.9	0.0	0.0	4.5	3.5	4.4	6.3	5.0
Total	100	100	100	100	100	100	100	100	100

Firms were also asked as part of the survey whether their future plans for their R&D and innovation projects had been impacted by Covid-19. Around three quarters of firms said plans remained unchanged. This is broadly similar to the position in the previous period. Only a small proportion of firms (2 per cent) saw their project either stopping or being cancelled (Table 3.7). While these figures do give some reason for optimism interviews with firms did raise some warning signs. Innovation is seen by many firms as crucial to their survival and so remains a high, if not the highest, priority. However, in order to sustain planned investments and timetables some have been forced to adopt riskier behaviours – operating at a loss or taking on work that they normally wouldn't have in order to maintain cash flow. As one firm reported: *In terms of actually widening our innovation beyond what we're doing, but that's meant we've been operating at a loss in order to facilitate growth. Now, that's no* *longer viable. And we're restructuring the company and cutting all activities, wherever that is the case. And that unfortunately means innovation gets harmed* (117).

In an effort to cut costs earlier on in the pandemic one firm furloughed and let go many core R&D personnel and was now facing capacity challenges as the firm is now less able to innovate to leverage new opportunities. Several respondents questioned the sustainability of some of these arrangements, noting that while they were optimistic about the future further protracted lockdowns would almost certainly alter their plans.

Table 3.7: Project development over the next three months: % firms

	Micro	Small	Medium	Large	All firms	Manuf etc.	Hospitality	Business	All firms
	N=190	N=70	N=7	N=7	N=274	N=64	N=76	N=107	N=247
Stopping	2.4	3.5	0.0	20.0	3.0	1.8	1.4	3.4	2.3
Slowing down or cutting back	15.0	19.0	14.3	0.0	15.6	17.9	14.3	17.1	16.4
Progressing as per the plan	77.8	72.4	85.7	80.0	76.8	76.8	80.0	72.7	76.2
Progressing ahead of schedule	4.8	5.2	0.0	0.0	4.6	3.6	4.3	6.8	5.1
Total	100	100	100	100	100	100	100	100	100

4. OUTLOOK & FUTURE CHALLENGES

While firm outlooks have improved, and many are adapting well during the crisis there is no doubt that important challenges remain.

Cash flow and the availability of loan or equity finance is a particular concern for many firms (Table 4.1). This is partly as a result of uncertainties and contractions in markets – some firms reported having no revenues for months – sources of external investment have also been challenging to access.

Table 4.1: How will Covid-19 influence your firm over the next three months, % firms

	Improving	Same	Worse	Total
Staff availability	11.8	64.9	23.3	100.0
Cash flow	11.2	37.9	51.0	100.0
Production capacity	13.6	57.0	29.4	100.0
R&D capacity	12.6	57.5	29.9	100.0
Supply chains	9.6	54.3	36.1	100.0
Availability of loan/equity finance	6.8	37.5	55.7	100.0
Demand for products and/ or services	24.7	38.1	37.2	100.0

Business development	18.6	42.9	38.5	100.0
Ability to network with other firms	14.7	44.9	40.4	100.0

Even so, 73 per cent of respondents had sought additional financial support from IUK, a slight fall from last period (Table 4.2). Costed project extensions and other financial support was viewed most positively. Only 1: 4 firms had sought additional soft support from Innovate UK, a slight increase on the previous period. Support with finding customers and markets was seen as having the most significant benefits (Table 4.3). Accessing funding or support to move beyond the proof to the product commercialisation phase remained an important request. Firms viewed this support as fundamental to bridging the gap between the R&D process and extracting value from their work that was not always easy to access in the market. While this observation was also true prior to Covid-19, due to additional constraints in investment markets this gap is perhaps even more acute now.

Table 4.2: What type of additional financial support from Innovate UK would be most beneficial? % firms

	Not required	Little benefit	Some benefit	Significant benefit	Not Interested	Total
Costed project grant extension	11.1	2.4	13.5	69.8	3.2	100.0
Continuity loan	6.3	8.6	18.8	46.9	19.5	100.0
Other government financial support	2.6	3.4	20.5	71.8	1.7	100.0

In this wave, firms reported that they were significantly interested in all of the proposed instruments, with only a small minority noting that they were not interested or not required. The most popular of these was "other government financial support". This category covers a wide variety of instruments but its popularity may represent a slight push back against the time and reporting requirements associated with many Innovate UK offerings. Some firms reported that they would potentially not be interested in further opportunities due to regulatory requirements, the lead time required, and the perception of levels of competition they would face to access funding. Other sources of finance were regarded as less onerous and potentially more appropriate to their business. Grant extensions were also frequently mentioned. Several firms were incredibly grateful for the opportunity to extend their projects and while many found the short extensions sufficient some hoped that further extensions might be possible.

Table 4.3: Of firms seeing soft support from Innovate UK how would different forms of additional soft support from Innovate UK help with the project?

	Not required	Little benefit	Some benefit	Significant benefit	Total
Support with finding new customers and markets	15.8	12.3	21.1	50.9	100.0
Help planning the firm's recovery and investment	17.9	19.0	25.9	20.6	100.0
Help identifying new or alternative project partners	34.5	18.9	25.9	20.7	100.0
Business planning and development advice	16.7	6.7	43.3	33.3	100.0
Scenario planning for the future	19.3	12.3	45.6	22.8	100.0

5. LONGITUDINAL PERSPECTIVE (JUNE 2020, OCTOBER 2020, FEBRUARY 2021)

This section reflects on how the outlook for firms has changed since the last surveys in June and October 2020 and some emerging themes that could shape strategic thinking about how to best support recovery across firms and a resumption of R&D and innovation activities. This survey suggested some positive trends through to February with incremental improvements across a variety of indicators. The subsequent return to lockdown has increased some logistic challenges particularly around collaboration and cash flow and future investment patterns remain a concern. Some new issues around Brexit, workforce, and employee wellbeing are also emerging.

Positive trends continue

Business finances appear to be stabilizing – In good news, 8.5% of firms reported positive cashflows over the last three months, a very slight decrease over the previous period. About 71% reported normal/stable or under pressure but manageable financial situations. Cash flow remains critical for about 20% of companies. This is a slight worsening of the situation from the previous period when around 17% of companies reported cash flow being critical. Looking ahead, a plurality of firms reported expecting no projected change in revenues (around 30%), but around the same proportion anticipated that revenues were likely to decrease. Most firms were aiming to reduce costs in order to cope. A quarter were extending their borrowing. This was a similar profile to previous periods.

Government measures remain important - Around a third of firms have made use of the furlough scheme with smaller firms also active users of the small bounce back loans. Continuity grants have been widely used. Four times as many firms applied for Continuity Grants than Continuity loans which were used only by small and micro firms. Responses to loan schemes in particular have been positive. As one firm reported: *So we're getting very, very close to the end of our runway in terms of cash in the bank […] the COVID loan, actually did exactly what it was intended to do. It bridges that gap and kept the company afloat (004).*

R&D remains important to recovery – Despite protracted business disruptions, many firms continue to treat R&D as important. Even in this period, some firms were increasing R&D activities, although this was totally counterbalanced by firms stopping or curtailing R&D. As noted above, these figures need to be interpreted with caution as they reflect changes over the past three months and not since the beginning of the pandemic. More firms anticipated no change to R&D investment or increases than reported that they expected to decrease these outlays over the next three months. Thinking about the longer period over the next year – 45.9 per cent of firms anticipate an increase in R&D spend relative to pre-Covid levels. This is a marginal increase on the previous period.

Firms have proved adaptable, and some changes might be permanent – Most firms reported that the most recent lockdown had not been more difficult than the previous ones, suggesting that lessons have been internalized and practices are stabilizing. Some reported increased productivity and have eliminated costs and inefficiencies that were not as evident during normal operations. Around three-quarters of firms said they had changed their business practices over the last three months, a slightly smaller proportion than in earlier periods. In most cases these changes were regarded as temporary rather than permanent. However, some firms interviewed suggested that part-time remote working might become permanent and had taken steps to reconfigure their offices in anticipation.

Areas of current and future concern

Supply chain issues continue to cause delays – Only 9.6% of respondents stated that supply chain issues were improving for them while 36% reported that these issues were worsening. These delays reverberate through the value chain as firms have difficulty delivering on time and subsequently experience pressure on their balance sheets as they have to invoice later than expected. Relatedly, firms noted that they are sometimes not being paid on time either. So while demand is improving in some markets (37% reported an increase since December) supply chain and cash flow issues continue to function as brakes on recovery.

Cash flow is still critical in some cases - The majority of firms continue to see the situation either remaining the same or deteriorating over the next few months. Cash flow and the availability of loan or equity finance is a particular concern for many firms. Many firms were in the middle of a funding round and were relatively certain that they would be alright if those loans come through. Several mentioned that they would muddle through: *So assuming that we get this next loan will be in great shape. And if we don't, well, we'll figure it out* (015).

Collaboration with R&D intensive institutions and universities remains weak - Collaboration between firms and most types of partners has fallen over the last quarter, reflecting the position from previous periods. Around 60 per cent of respondents were collaborating with universities prior to the pandemic but about

20% of these firms had reduced spend on collaboration by more than 25%. This remains a similar proportion to previous periods.

Mental health – Almost all respondents noted that mental health was now a high concern for firm leadership. While in some cases productivity gains had been noted, there were also several cases of burnout and concern for the wellbeing of employees. One respondent commented: *this [lockdown] doesn't seem to be as bad in terms of kind of impact on the actual businesses, but I think it's, it's impacted people more […] it's just that constant struggle of juggling everything whilst trying to keep them all turning (180).*
Many firms had instituted new procedures and programmes to help employees cope from having silly meetings to hiring children's entertainers to help with the burden of balancing work from home and caring obligations.

Unsustainability of travel restrictions – While much business can be conducted online temporarily several businesses with international production facilities and/or clients noted that would not be feasible over the long term. Products and machinery that requires inspection and calibration, for instance, needs to be done by skilled individuals that are not always locally available. Until normal business travel is permitted, sustaining the business will require either further (costly and time consuming) training, reconsidering international business arrangements, or risking quality issues or non-compliance to regulations or industry standards.

Brexit - Around half of firms see Covid-19 as exacerbating the effects of Brexit. This remains very similar to the picture in the previous quarter. Interviews with firms echoed these findings. Some firms appear to be totally unaffected while others are now struggling more than ever, particularly due to issues importing and materials stuck at shipping depots due to incorrect paperwork.

Workforce effects – While the workforce has stabilized somewhat with fewer instances of furloughing and redundancies the labour force is clearly still in the process of adjusting. Around 16% firms have made redundancies during the last three months. This remains similar to the previous period. Around 20% have reduced staff hours in response to the crisis, a slightly lower proportion than in previous periods. Hiring and onboarding employees has been harder. Some firms reported that key individuals had left for more stable opportunities affecting not only day to day operations but attractiveness to investors when departures were among senior personnel. Some senior personnel also noted that they were taking this shock as a moment to change their plans – accelerating retirement and reassessing their entrepreneurial stance. Finally, uncertainty in general is definitely impacting the labour market. Firms that want to, and might be able to expand now are putting off the decision due to concerns that rapid changes in the future might leave them with excess staff: *I mean, I'm not uncertain about the fact that will we still be profitable, or does the future look bright? I'm not uncertain about that. I'm simply uncertain about how much to take people on on the basis that there's a possibility we might not need them in six months (016).*

Update on IUK projects

- **Projects are getting back on track**: The proportion of projects 'on-time' has increased since last period with fewer paused projects and projects stopped permanently. An improving picture. Most firms see project plans remaining the same and anticipate progressing with the plan over the next three months. This is broadly similar to the position in the previous period. Where partners are involved in the project the majority of firms reported that it was progress as usual. This was a slightly improved picture compared to the previous period.
- **However some scopes are being adjusted**: While some news is positive several firms were looking to reduce the scope of the promised work in order to survive: *We'd have to cut scope, basically, because we're just out of time. Now you couldn't. On our project plan, you couldn't deliver the original scope (144).* In some cases, this is not due to internal capacity but to problems with project partners: *[Most recently lockdown has] slowed up our research, the innovative projects been extended by three months, because some of our colleagues in the projects haven't been able to meet that deadline (169).* Regulators have also been slower to approve various stages of projects, which have also added to timelines.
- **Support is still required**: Around a quarter of firms see the value in additional soft support from IUK, a slight increase on the last period. Support with finding customers and markets was seen as having the most significant benefits. Around 73 per cent of firms see the value in additional IUK financial support, a slight fall from last period. Costed project extensions and other financial support were seen as having the most significant benefits.

6. NEXT STEPS

The survey and follow up interviews will be repeated for a fourth time in spring 2021, to understand how firms continue to react and respond to the Covid-19 crisis. In the fourth wave of the study the same firms will again be surveyed and invited to interview, where possible. The intention is again to stratify the sample of interviewees where this is possible to ensure a spread of firm sizes and sectors. The aim will be to provide further reflection on what has happened over the previous 3 month period and to understand planning over the next 3 month period.

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