

The impact of the COVID-19 pandemic on the level and distribution of intangibles investment in the UK

Supplementary Material

Data

The aim of the survey was to obtain information on the impact of the COVID-19 pandemic on businesses in the UK and, in particular, on their investments in intangible assets. The data was collected using an online survey. The target population was active companies in the UK with a minimum of seven employees in the Orbis database (Bureau van Dijk, 2020). Companies for which an email address was available were asked to complete the survey. If they did not complete the survey within 10 days of the initial email, they received a follow up email. The survey became available on 6th October and the data was downloaded on the 24th November. 94.4% of responses were received in October when cases of COVID-19 were increasing – the seven-day average increased from 15,607 on the 6th October to 24,689 on 10th November (UK Government, 2021) – and different areas faced different restrictions ('local lockdowns'). On the 5th November, the UK entered a second national 'lockdown' which led the seven-day average of cases to decline to 14,968 on the 24th November.

The survey consisted of 30 questions but questions were filtered so that respondents did not answer questions that were not relevant to them. Those completing the survey were told that their responses should refer to the UK operations of their organisation only and that, if the organisation contains multiple workplaces, all should be covered by their responses. The initial questions elicited basic information on the industry of the firm, the year in which it commenced operations in the UK, whether it belonged to a multinational company and, if it did, the location of the parent company, employment in March 2020 and 'now', the location of the UK headquarters and whether it was family owned. If a firm stated that it had multiple workplaces in the UK, they were asked to indicate the percentage of the UK workforce located in different regions. Information was also obtained about the destination of sales from UK operations and the source of purchases in 2019.

Later questions invited responses on whether a firm was engaged in the following activities in the year up to March 2020: spending on research and development (R&D); introduction of new products/services; introduction of new production processes; investment in off-the-shelf production processes; investment in information and communication technology (ICT); investment in technologies to reduce waste/recycle/lower carbon footprint; exporting; maintaining subsidiaries/workplaces outside the UK; use of innovative business practices; use of external finance. Nine subsequent questions were asked that required responses on a slider scale from -100 to 100, with step sizes of 10, on how the firm's performance of each of the nine activities outlined above had changed compared to the year up to March 2020. If the firm had not engaged in that activity, they were told to ignore that question.

In total, 4,529 responses were received. However, the number of responses from certain industries was too small to allow useful inferences. Firms from the following sectors were therefore removed: mining and quarrying; electricity, gas, steam and air conditioning supply; water supply, sewerage, waste management and remediation activities; public administration and defence; compulsory social security; activities of households as employers; and undifferentiated goods- and services-producing activities of households for own use. In addition, eight responses from firms operating in the Channel Islands were removed. In total, this process led to a reduction in the sample size to 4,460.

Table S1. Distribution of Firms in Target Population and Sample across Standard Industrial Classification 2007 Sections and Size Bands

	1-7	8-10	11-14	15-25	26-99	100+	Total
<u>Population</u>							
Agriculture, forestry and fishing	0.1	0.2	0.1	0.2	0.2	0.1	0.8
Manufacturing	0.8	2.1	1.8	3.0	4.4	1.9	14.0
Construction	0.7	1.8	1.3	2.0	2.0	0.5	8.3
Wholesale and retail trade	1.6	3.6	2.3	3.5	3.6	1.3	15.9
Transportation and storage	0.2	0.5	0.4	0.8	1.0	0.4	3.3
Accommodation and food service activities	0.3	1.3	0.7	2.2	1.7	0.5	6.7
Information and communication	0.4	1.0	0.8	1.3	1.6	0.6	5.6
Financial and insurance activities	0.2	0.5	0.4	0.5	0.7	0.4	2.7
Real estate activities	0.3	0.6	0.3	0.4	0.3	0.2	2.0
Professional, scientific and technical activities	0.7	1.8	1.3	2.0	1.9	0.9	8.6
Administrative and support service activities	0.6	1.6	1.2	1.9	2.4	1.2	8.8
Education	0.2	0.7	0.6	2.4	4.6	1.0	9.5
Human health and social work activities	0.3	0.9	0.6	2.2	2.6	0.8	7.4
Arts, entertainment and recreation	0.2	0.5	0.3	0.8	0.8	0.3	2.8
Other service activities	0.4	0.9	0.6	1.0	0.7	0.2	3.7
Total	6.8	17.7	12.5	24.2	28.5	10.4	100.0
<u>Sample</u>							
Agriculture, Forestry and fishing	0.1	0.4	0.2	0.3	0.2	0.1	1.2
Manufacturing	1.2	3.1	2.8	3.6	3.3	0.6	14.7
Construction	0.8	1.7	1.3	2.0	1.4	0.1	7.3
Wholesale and retail trade	2.0	3.6	2.5	2.8	1.6	0.3	12.7
Transportation and storage	0.2	0.5	0.5	0.7	0.9	0.2	3.0
Accommodation and food service activities	0.6	2.2	1.1	3.3	1.8	0.3	9.4
Information and communication	0.8	1.8	1.1	1.9	2.1	0.3	7.9
Financial and insurance activities	0.3	0.5	0.5	0.4	0.4	0.1	2.1
Real estate activities	0.2	0.4	0.3	0.3	0.1	0.0	1.1
Professional, scientific and technical activities	1.4	3.1	1.8	2.3	2.1	0.3	11.1
Administrative and support service activities	1.2	2.3	1.6	2.6	2.3	0.7	10.6
Education	0.4	0.6	0.5	1.8	0.9	0.3	4.4
Human health and social work activities	0.5	1.0	0.8	1.5	1.9	0.3	6.0
Arts, entertainment and recreation	0.4	0.9	0.6	1.3	0.8	0.1	4.0
Other service activities	0.7	1.1	0.7	1.3	0.7	0.1	4.6
Total	10.8	23.1	16.1	25.9	20.3	3.7	100

Table S1 compares the distribution of firms in the target population with that of respondents by standard industrial classification 2007 section and size band. For consistency, values for both variables are taken from Orbis. Responses were received from all industry-size band cells. However, smaller firms are over-represented among the respondents to the survey. The distribution of respondents across sectors broadly reflects that of the target population with some exceptions. In particular, wholesale and retail trade and education are under-represented while accommodation and food service activities, information and communication and professional, scientific and technical activities are over-represented. Weights were constructed on the basis of the data in Table S1 and are applied to obtain the figures in the tables below.

Table S2. Weighted Means of Variables used in Equation (1)

	(1) All	(2) $R\&D_{t-1} > 0$	(3) $ICT_{t-1} > 0$
emp	65.258	93.187	101.281
age	30.341	29.060	32.530
family	0.623	0.625	0.644
multiplant	0.274	0.291	0.328
multinational	0.084	0.114	0.100
<u>Industry</u>			
Agriculture, Forestry and Fishing	0.009	0.008	0.009
Manufacturing	0.142	0.249	0.155
Construction	0.088	0.078	0.067
Wholesale and retail trade	0.144	0.107	0.124
Transportation and storage	0.036	0.027	0.038
Accommodation and food service activities	0.072	0.043	0.040
Information and communication	0.071	0.131	0.099
Financial and insurance activities	0.019	0.016	0.026
Real estate activities	0.010	0.011	0.016
Professional, scientific and technical activities	0.088	0.111	0.115
Administrative and support service activities	0.120	0.115	0.156
Education	0.056	0.030	0.032
Human health and social work activities	0.081	0.031	0.068
Arts, entertainment and recreation	0.030	0.022	0.024
Other service activities	0.034	0.020	0.031
<u>Region</u>			
North East	0.044	0.059	0.046
North West	0.104	0.083	0.114
Yorkshire/Humberside	0.078	0.079	0.070
East Midlands	0.076	0.087	0.084
West Midlands	0.085	0.097	0.084
East	0.097	0.072	0.078
London	0.133	0.153	0.136
South East	0.172	0.179	0.185
South West	0.104	0.094	0.100
Wales	0.033	0.036	0.042
Scotland	0.060	0.042	0.049
Northern Ireland	0.014	0.019	0.013
<u>Main input source</u>			
Local	0.703	0.552	0.582
Rest of UK	0.198	0.295	0.279
EU	0.054	0.089	0.076
Rest of World	0.045	0.064	0.064
<u>Main market</u>			
Local	0.744	0.561	0.64
Rest of UK	0.190	0.317	0.280
EU	0.029	0.052	0.035
Rest of World	0.037	0.069	0.045
Observations	4,431	1,037	1,019

Descriptive statistics on the variables used in the analysis are provided in Table S2. The number of observations falls slightly to 4,431 because of the omission of firms that did not provide figures for their employment or stated that they had no employees in March 2020. Figures are provided for the full sample (column 1), firms that invested in R&D in the year up to March 2020 (column 2) and firms that invested in ICT in the year up to March 2020 (column 3). These show that, on average, firms in the full sample had 63 employees in the UK and were more than 30 years old. Most firms were family-owned, belonged to firms with a single

workplace in the UK and did not belong to a multinational. Over 70% of firms sourced their inputs and sold their output locally.

Table S3. Percentage change in investment in R&D and ICT by industry and region

Percentage change in investment in	(1) R&D	(2) ICT
<u>Industry</u>		
Agriculture, forestry and fishing	-29.372**	16.472
Manufacturing	-15.092***	-15.365***
Construction	-22.275***	-0.747
Wholesale and retail trade	-34.844***	-2.819
Transportation and storage	-56.655***	-18.489**
Accommodation and food service activities	-55.449***	-29.624***
Information and communication	-1.595	4.605
Financial and insurance activities	-31.502***	11.208
Real estate activities	-58.795***	9.822
Professional, scientific and technical activities	-9.693***	9.609
Administrative and support service activities	-30.096***	-1.861
Education	-29.877***	7.060
Human health and social work activities	-17.600*	18.287
Arts, entertainment and recreation	-50.673***	-19.778**
Other service activities	-35.238***	-13.631*
<u>Region</u>		
North East	-21.264***	-7.611
North West	-24.901***	5.955
Yorkshire/Humberside	-16.276***	7.189
East Midlands	-15.223***	-3.275
West Midlands	-19.813***	-5.411
East	-15.835***	3.030
London	-28.548***	-7.645*
South East	-28.228***	-4.880
South West	-27.108***	-4.053
Wales	-9.527	-3.907
Scotland	-26.842***	-5.274
Northern Ireland	-8.626	16.849
All	-22.597***	-2.223*

*/**/** denotes rejection of the null hypothesis that the mean is greater than or equal to zero

When the sample is limited to firms that invested in R&D (column 2) and ICT (column 3) in the year up to March 2020 (as is done in most of the empirical analysis), the average number of employees increases to 95 and 101 respectively and the proportion of firms that have multiple workplaces in the UK and/or belong to multinational firms also rises. The industrial composition of the sample also changes, particularly when the sample is restricted to firms that invested in R&D in March 2020. In the restricted sample, the proportion of manufacturing firms in the sample increases to almost a quarter (compared to 0.142 in the full sample). There is also a substantial rise in the proportion of firms in information and communication (from 0.071 to 0.131). Restricting the sample to firms that invested in ICT has less obvious effects on industrial composition: the share of firms from each industry changes by less than 5%. The effect on the proportion of firms from each region also tends to be small. However, the share of firms sourcing inputs and selling locally declines by 15% and 18% respectively with the corresponding increase mostly seen in the proportion of firms selling to the rest of the UK.

Tables S3 provides the mean percentage change in investment in R&D and ICT compared to the year to March 2020 for each industry and region. The overall mean change in investment in R&D is -23% and is negative across all industries and regions. The null hypothesis that it is greater than or equal to zero is rejected using a t-test at the 5% level for all but two sectors (information and communication and human health and social work activities) and two regions (Wales and Northern Ireland). There is substantial variation across industries with transportation and storage, accommodation and food service activities, real estate activities and art, entertainment and recreation all reporting larger than 50% reductions in investment in R&D while information and communication and professional scientific and technical activities experienced average falls of less than 10%. There is less regional heterogeneity with firms in London reporting the largest decline in R&D investment (-29%) while firms in Northern Ireland experienced a the smallest fall (-9%).

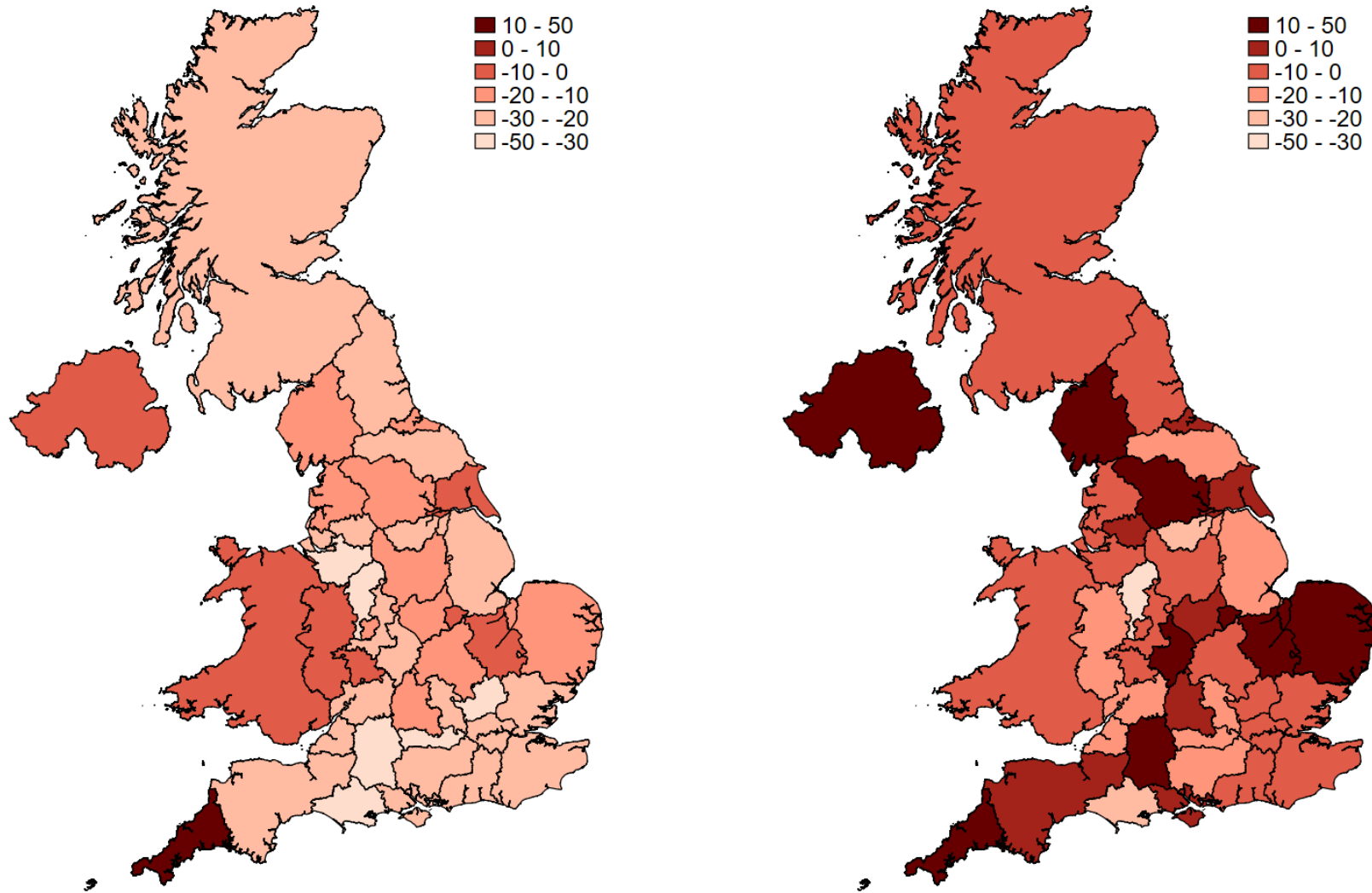
For the change in ICT investment, the mean change is -2% and the null hypothesis that it is greater than or equal to zero is not rejected at the 5% level. The null is rejected for five of 15 industries: manufacturing; transportation and storage; accommodation and food service activities; arts, entertainment and recreation; and other service industries. The regional disaggregation shows that the null hypothesis is only rejected for London where the reported reduction in mean ICT investment is -8%. As for R&D, there is greater variation across industry than across region: the mean change in ICT investment varied from a fall of 30% in accommodation and food service activities to an increase of 18% for human health and social work activities. With the exception of firms in Northern Ireland, for which the mean change in ICT investment was 17%, there was relatively little variation across regions.

Figure S1 provides the equivalent figures at a more disaggregated geographic (local enterprise partnership) level. With respect to the change in R&D, there is some limited evidence that more peripheral regions experienced a smaller reduction in R&D expenditure since March 2020. Similarly, for ICT investment, peripheral regions appear to have experienced larger increases (or smaller declines). However, there is no obvious spatial pattern.

Figure S1: Percentage change in investment since March 2020 by local enterprise partnerships

(a) R&D

(b) ICT



Sensitivity Analysis

The following three tables present results from the use of different models. Because the dependent variable is top-coded at 100, results from a Tobit model are presented in Table S4. Table S5 provides the results from a Heckman model used to address any selection bias arising from the non-random selection of firms into R&D. Table S6 gives the results from estimation of probit and logit models using binary dependent variables indicating whether the change in R&D and ICT investment was greater than or equal to zero as the dependent variable. The use of these alternative specifications did not change the main conclusions from the analysis. Table S7 provides complete results from the base specification provided in the main text.

Table S4. Results from Maximum Likelihood Estimation of Tobit Model

Dependent Variable	(1) $\Delta R\&D$	(2) ΔICT
In emp	-1.69	-0.63
In age	-10.40***	2.40
family	-2.69	-7.01
multiplant	4.87	12.68***
multinational	-1.38	-9.25
<u>Industry</u>		
Agriculture, Forestry and Fishing	-10.58	33.32*
Construction	-3.50	11.22
Wholesale and retail trade	-20.16***	12.97
Transportation and storage	-38.48***	-4.21
Accommodation and food service activities	-38.62***	-10.19
Information and communication	9.02*	21.65***
Financial and insurance activities	-21.76*	26.01***
Real estate activities	-47.00**	20.95
Professional, scientific and technical activities	5.51	25.65***
Administrative and support service activities	-14.88**	13.70*
Education	-11.40	20.50**
Human health and social work activities	-4.94	34.64***
Arts, entertainment and recreation	-38.39***	-6.00
Other service activities	-18.59	3.84
<u>Region</u>		
North East	11.38	0.65
North West	5.57	15.31*
Yorkshire/Humberside	17.39**	11.85
East Midlands	13.55*	4.40
West Midlands	11.04*	0.55
East	10.94	9.87
London	0.73	-6.63
South West	1.84	4.74
Wales	21.28***	3.48
Scotland	6.58	3.84
Northern Ireland	20.41	26.50
<u>Main input source</u>		
Rest of UK	3.25	2.19
EU	1.67	-2.42
Rest of World	4.34	4.10
<u>Main market</u>		
Rest of UK	10.57**	-1.31
EU	-6.52	-0.78
Rest of World	18.38***	16.72*
Intercept	10.88	-23.45*
<u>F-statistic</u>		
Industry dummies	5.98***	2.71***
Region dummies	1.48	1.12
Main input source dummies	0.27	0.19
Main market dummies	5.67***	1.25
Observations	1,037	1,019

*/**/** denotes statistical significance at the 10%/5%/1% levels.

Table S5. Results from Maximum Likelihood Estimation of Heckman Model

Dependent Variable	(1) $\Delta R\&D$	(2) $R\&D_{t-1} > 0$	(3) ΔICT	(4) $ICT_{t-1} > 0$
In emp	-1.13	0.10***	-0.45	0.10***
In age	-10.43***	-0.08**	2.35	0.08**
family	-2.18	0.10*	-5.98	0.15***
multiplant	4.60	0.05	11.53***	0.10*
multinational	-1.52	-0.19*	-8.49	-0.11
<u>Industry</u>				
Agriculture, Forestry and Fishing	-11.67	-0.48**	31.17*	-0.01
Construction	-4.98	-0.41***	10.88	-0.10
Wholesale and retail trade	-22.11***	-0.65***	12.66*	-0.14
Transportation and storage	-39.69***	-0.53***	-3.38	0.13
Accommodation and food service activities	-40.55***	-0.64***	-10.06	-0.21*
Information and communication	9.06*	0.09	22.28***	0.39***
Financial and insurance activities	-22.79*	-0.56***	27.20***	0.40**
Real estate activities	-47.30**	-0.16	22.38	0.69***
Professional, scientific and technical activities	5.03	-0.22**	25.21***	0.38***
Administrative and support service activities	-15.99***	-0.46***	14.14**	0.28***
Education	-13.38	-0.77***	21.64**	-0.22
Human health and social work activities	-7.71	-0.94***	33.01***	0.02
Arts, entertainment and recreation	-39.28***	-0.50***	-6.01	0.04
Other service activities	-21.19	-0.73***	4.30	0.04
<u>Region</u>				
North East	11.53*	0.14	0.24	-0.07
North West	4.48	-0.20**	13.81*	0.02
Yorkshire/Humberside	16.14**	-0.06	11.90	-0.17
East Midlands	13.05*	-0.00	4.41	0.01
West Midlands	10.48	0.07	0.67	-0.05
East	9.45	-0.28***	9.44	-0.23**
London	0.72	0.11	-6.57	-0.07
South West	1.66	-0.11	4.59	-0.04
Wales	21.65***	0.07	3.49	0.16
Scotland	5.69	-0.25**	3.42	-0.16
Northern Ireland	19.43	0.29	24.45	-0.08
<u>Main input source</u>				
Rest of UK	4.02	0.29***	2.41	0.31***
EU	3.14	0.44***	-2.60	0.40***
Rest of World	4.83	0.19	3.05	0.39***
<u>Main market</u>				
Rest of UK	11.34***	0.36***	-0.78	0.23***
EU	-4.58	0.53***	0.87	0.17
Rest of World	19.40***	0.47***	17.98*	0.09
Intercept	3.79	-0.64***	-27.64**	-1.57***
ρ	0.09**		0.03	
<u>F-statistic</u>				
Industry dummies	6.32***	9.87***	2.91***	5.88***
Region dummies	1.46	2.94***	1.19	1.22
Main input source dummies	0.41	9.86***	0.22	11.05***
Main market dummies	6.15***	13.28***	1.41	3.81**
Observations	4,431	4,431	4,431	4,431

*/**/** denotes statistical significance at the 10%/5%/1% levels.

Table S6. Marginal Effects from Maximum Likelihood Estimation of Probit and Logit Models

Dependent Variable	Probit		Logit	
	$\Delta R\&D \geq 0$	$\Delta ICT \geq 0$	$\Delta R\&D \geq 0$	$\Delta ICT \geq 0$
In emp	-0.01	0.01	-0.01	0.01
In age	-0.10***	0.01	-0.11***	0.00
family	-0.02	-0.01	-0.02	-0.01
multiplant	0.03	0.10***	0.03	0.10***
multinational	-0.06	-0.08	-0.06	-0.07
<u>Industry</u>				
Agriculture, Forestry and Fishing	-0.11	0.21*	-0.11	0.22*
Construction	-0.06	0.10	-0.06	0.09
Wholesale and retail trade	-0.19***	0.09	-0.19***	0.09
Transportation and storage	-0.31***	0.06	-0.31***	0.05
Accommodation and food service activities	-0.36***	-0.03	-0.36***	-0.04
Information and communication	0.10*	0.26***	0.10*	0.26***
Financial and insurance activities	-0.05	0.28***	-0.05	0.28***
Real estate activities	-0.42***	0.16	-0.43***	0.16
Professional, scientific and technical activities	0.04	0.19***	0.04	0.19***
Administrative and support service activities	-0.14**	0.12*	-0.14**	0.12*
Education	-0.09	0.27***	-0.09	0.27***
Human health and social work activities	-0.05	0.25***	-0.06	0.25***
Arts, entertainment and recreation	-0.29***	0.01	-0.29***	0.01
Other service activities	-0.23**	0.04	-0.23**	0.04
<u>Region</u>				
North East	0.04	-0.01	0.04	-0.01
North West	0.03	0.08	0.03	0.08
Yorkshire/Humberside	0.15**	0.12*	0.15**	0.11*
East Midlands	0.15**	0.05	0.15**	0.05
West Midlands	0.14**	0.05	0.14**	0.04
East	0.09	0.08	0.09	0.08
London	0.01	-0.05	0.01	-0.06
South West	0.00	0.02	-0.00	0.02
Wales	0.19**	-0.02	0.19**	-0.03
Scotland	0.08	-0.01	0.08	-0.01
Northern Ireland	0.11	0.09	0.11	0.10
<u>Main input source</u>				
Rest of UK	0.07*	0.06	0.07*	0.06
EU	0.03	-0.07	0.03	-0.07
Rest of World	0.08	0.05	0.08	0.05
<u>Main market</u>				
Rest of UK	0.08*	-0.02	0.08*	-0.03
EU	-0.04	0.00	-0.04	0.00
Rest of World	0.17***	0.09	0.17***	0.09
<u>F-statistic</u>				
Industry dummies	5.950***	3.120***	5.970***	3.050***
Region dummies	1.390	0.960	1.410	0.930
Main input source dummies	1.190	1.770	1.160	1.700
Main market dummies	3.500**	0.760	3.440**	0.750
Observations	1,037	1,019	1,037	1,019

*/**/** denotes statistical significance at the 10%/5%/1% levels.

Table S7. Complete Results from OLS Estimation of Equation (1)

Dependent Variable	(1) $\Delta R\&D$	(2) ΔICT
ln emp	-1.44 (1.80)	-0.57 (1.78)
ln age	-10.17*** (2.69)	2.26 (2.69)
family	-2.51 (3.45)	-6.16 (3.98)
multiplant	4.42 (3.82)	11.41*** (4.26)
multinational	-0.90 (4.99)	-8.35 (6.87)
<u>Industry</u>		
Agriculture, Forestry and Fishing	-10.16 (13.90)	31.19* (18.35)
Construction	-3.71 (7.11)	11.01 (9.68)
Wholesale and retail trade	-20.07*** (6.78)	12.83* (7.64)
Transportation and storage	-37.96*** (10.12)	-3.53 (11.48)
Accommodation and food service activities	-38.47*** (7.74)	-9.79 (11.05)
Information and communication	8.80* (4.93)	21.82*** (6.46)
Financial and insurance activities	-21.00* (12.34)	26.73*** (8.83)
Real estate activities	-46.86** (20.25)	21.56 (14.50)
Professional, scientific and technical activities	5.67 (5.26)	24.76*** (7.72)
Administrative and support service activities	-14.55** (6.22)	13.80** (6.97)
Education	-10.89 (12.58)	21.92** (10.34)
Human health and social work activities	-4.58 (11.50)	32.99*** (8.55)
Arts, entertainment and recreation	-37.70*** (9.76)	-6.05 (12.71)
Other service activities	-18.87 (13.18)	4.25 (10.82)

Dependent Variable	(1) $\Delta R\&D$	(2) ΔICT
<u>Region</u>		
North East	11.15 (7.18)	0.33 (7.66)
North West	5.11 (6.89)	13.79* (7.19)
Yorkshire/Humberside	16.34** (7.30)	12.11 (7.55)
East Midlands	13.07* (7.21)	4.41 (7.80)
West Midlands	10.26 (6.56)	0.73 (7.08)
East	10.35 (6.99)	9.72 (7.23)
London	0.37 (5.52)	-6.48 (6.94)
South West	2.00 (6.35)	4.64 (7.12)
Wales	21.45*** (7.98)	3.30 (10.23)
Scotland	6.51 (8.26)	3.63 (9.74)
Northern Ireland	18.53 (12.54)	24.55 (16.42)
<u>Main input source</u>		
Rest of UK	3.09 (4.03)	2.04 (4.49)
EU	1.78 (6.13)	-3.08 (8.43)
Rest of World	4.25 (7.11)	2.57 (8.14)
<u>Main market</u>		
Rest of UK	10.21** (4.16)	-1.05 (4.70)
EU	-6.23 (6.90)	0.67 (8.93)
Rest of World	17.93*** (5.71)	17.86* (9.64)
Intercept	9.28 (10.35)	-24.48* (12.71)
<u>F-statistic</u>		
Industry dummies	5.98***	2.71***
Region dummies	1.48	1.12
Main input source dummies	0.27	0.19
Main market dummies	5.67***	1.25
Observations	1,037	1,019

Heteroskedasticity-robust standard errors in parentheses. ***/**/* denotes statistical significance at the 10%/5%/1% levels.

References

Bureau van Dijk. 2020. Orbis. Available at: <https://orbis.bvdinfo.com/>.

UK Government. "Coronavirus (Covid-19) in the UK." <https://coronavirus.data.gov.uk/>.