

Who is brave enough to start a new business during the Covid-19 pandemic?

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Abstract

Purpose – Since introducing the UK start-up loan (SUL) Scheme in 2012, 82,809 new start-ups have been supported with loans totalling £759m. Even during the Covid-19 crisis, new business start-ups supported by SUL did not abate. The authors ask whether the entrepreneurs starting businesses during the Covid-19 crisis were different from those becoming entrepreneurs before the pandemic. This paper aims to discuss the aforementioned question.

Design/methodology/approach – The authors model the differences between pre-Covid-19 business start-ups and Covid-19 start-ups. The administrative data obtained from the UK Government Department for Business, Energy and Industrial Strategy (BEIS) represent information about individual loan records for 82,798 individuals and total lending of £759m between 2012 and 2021. The probit regression model with dependent variable coded one if the start occurred after February 2020 and zero between 2012 and February 2020, was estimated.

Findings – The study's findings show that both groups of entrepreneurs differ in many facets. The new Covid-19 entrepreneurs are older, more likely to have a graduate-level education and are significantly more likely to make this transition from full-time waged employment or inactivity. Furthermore, they are more likely to set up in manufacturing industries at the business level than their pre-Covid-19 counterparts who favoured service sectors. Finally, their initial lending to support the start-up is much higher.

Originality/value – This study provides value for the policymakers responsible for the administration of the SUL scheme, and it also contributes to the body of knowledge on the effects of the global Covid-19 pandemic.

Keywords Business start-up, Covid-19, Start-up loans, Labour market transitions

Paper type Research paper

1. Introduction

The desire to pursue an entrepreneurial career path is one of the most pervasive phenomena of the last generation. For many individuals, a traditional career in waged employment no longer offers the pecuniary and non-pecuniary quality of life they desire. The literature on entrepreneurial motivation (Shane *et al.*, 2003; Wasowska, 2019; Murnieks *et al.*, 2020; Coffman and Sunny, 2021) describes several reasons why individuals decide to pursue a business activity or become self-employed. For some of those, it offers a route out of the misery of unemployment or how to solve a difficult life situation and earn income for a living when the institutional and economic conditions are unfavourable (Laffineur *et al.*, 2017; Cheratian *et al.*, 2019; Justo *et al.*, 2021; Dvouletý, 2022). However, it is a career choice that is fraught with



danger, as evidenced by the high rates of new business failure, particularly in the formative early years (Watson and Everett, 1993; Kücher *et al.*, 2020; Fuertes-Callén *et al.*, 2020).

In 2020 the world was affected by the coronavirus (so-called Covid-19) pandemic, which has become a negative external shock, reshaping the economies and the ways how the business was made, including shutting down existing companies, exploring new business opportunities and setting up new ventures (Donthu and Gustafsson, 2020; Anker, 2021; Ivanov, 2021; Caiazza *et al.*, 2021; Kuckertz *et al.*, 2020; Brixiová *et al.*, 2020; Dvouletý *et al.*, 2021a; Davidsson *et al.*, 2021; Cepec *et al.*, 2022; Khlystova *et al.*, 2022; Kołodkiewicz *et al.*, 2022; Cowling *et al.*, 2022). Each country has coped with the pandemic crisis uniquely, and this study aims to contribute to this ongoing scholarly discussion by providing insights from the context of the UK. The UK which was still recovering from the consequences of Brexit, affecting the also entrepreneurial activity and the structure of the British economy (Culkin and Simmons, 2019; Jallow *et al.*, 2020; Arshed *et al.*, 2021). Many established and better-resourced firms were struggling to survive in an economic sense as they faced restricted trading conditions, new challenges associated with innovation and patenting activities, reduced income streams and liquidity crises (Cowling *et al.*, 2020; Larson, 2021; Brown and Cowling, 2021). However, the pandemic also affected firms in a non-financial direction, psychologically impacting all employees, business owners and overall well-being (Yue and Cowling, 2021; Stephan *et al.*, 2021, 2022). Despite the that setting up a new business in the midst of a global Covid-19 pandemic does not appear on the face of it to be a great idea, many individuals living in the UK also exploited new business opportunities and established new ventures as a response to the considerable consumer and market shifts (Brown *et al.*, 2020; Jallow *et al.*, 2020; Bentall *et al.*, 2021).

Our research focusses on those who founded new ventures during the Covid-19 pandemic while experiencing financial constraints and obtained a subsidised loan from the UK government. Using an extensive UK data set of 82,797 new start-ups supported through the start-up loan (SUL) scheme since 2012, of which 12,176 made their entry in the Covid-19 pandemic, we consider whether they are tangibly different from their pre-Covid-19 counterparts in terms of their personal demographics and career pathways, their capital requirements and the industry sectors they set up in. To express our main research question in simple words, we ask whether the entrepreneurs starting businesses before the Covid-19 crisis were different from those becoming entrepreneurs during the pandemic. Our evidence clearly suggests that they are manifestly different in all aspects, including age, education, career pathways, capital requirements and industry sectors.

Our findings offer some new and interesting insights into entrepreneurship and new business start-ups during the global Covid-19 pandemic, which has been of interest to international scholars. From the UK perspective, they deliver information value for the stakeholders and policymakers administering the SUL scheme. The presented evidence will have great importance for the UK economy when it finally emerges from the pandemic, as it will be the entrepreneurial sector of the economy that will shape future growth and job creation. The rest of the paper is organised as follows. In Section 2, we discuss the relevant literature relating to business start-ups with a particular focus on start-ups during periods of crisis. We also draw upon the literature about active labour market policies to support the transition into self-employment and new business start-up and research relating to the capitalisation of new businesses. In Section 3, we discuss the specifics of the SUL scheme. Section 4 discusses the data and presents the descriptive statistics on key variables of interest. In Section 5, we formally model differences between pre-Covid-19 and Covid-19 business start-ups. We conclude in Section 6 and discuss the potential implications for the future post-Covid-19 economy.

2. Literature review

This section reviews the recent literature dealing with entrepreneurial activity and start-ups during periods of crisis, highlighting the fundamental concepts. Then it acknowledges the

variety of public policy responses during the Covid-19 pandemic and underlines the specifics of public entrepreneurship and self-employment interventions, focussing on the unemployed or those at risk of unemployment.

Doern *et al.* (2019) recently reviewed the existing literature on entrepreneurship and crisis, highlighting the specifics and challenges of adverse times for entrepreneurs and self-employed persons. The authors explain that the nexus depends on the nature of the crisis, whether it is caused by human behaviour, natural disasters or economic mechanisms, its size and range, i.e. whether it is regional, national or international, and its duration. At the individual level, the way how the entrepreneurs handle and overcome adverse times is moderated by the stage of business development and enterprise size, owners' skills and experience, available resources and how the resources can be utilised to mitigate the consequences of the crisis (Doern *et al.*, 2019, p. 9). At the macro and meso levels (Dutta *et al.*, 2021), the overall effect of a harmful event might result in higher bankruptcy rates and business closures numbers, which are even higher than the new business registrations, thus resulting in an overall decrease in the levels of entrepreneurial activity. However, even the opposite scenario is possible when the new business opportunities resulting from the challenging times motivate even more individuals to start a business than those quitting, resulting in even higher engagements in entrepreneurship. Furthermore, we also need to consider nascent entrepreneurs and persons who have not registered their activities officially but were testing entrepreneurial waters, in training to become entrepreneurs or thinking about starting a business, and the adverse times discouraged them from proceeding with their business plans (Santos *et al.*, 2017; Liguori and Winkler, 2020; Ratten, 2020; Dvouletý, 2021; Fritsch *et al.*, 2021). Several theoretical approaches explain these shifts, including lenses of entrepreneurial resilience (Purnomo *et al.*, 2021), entrepreneurial bricolage (Tsilika *et al.*, 2020), black swan events (Cowling *et al.*, 2020), push and pull entrepreneurship (Dawson and Henley, 2012), and of course, crisis management theories (Cortez and Johnston, 2020).

The Covid-19 pandemic was specific by the relatively quick response of policymakers and governments, aiming to mitigate the adverse effects of the forthcoming crisis on entrepreneurship. The range of policy actions was quite diverse. In the beginning, the policy response was rather broadly targeted, but after a few months of the pandemic, it became more diversified and sectorally oriented. The financial resources were primarily allocated through soft loans, contributions, direct grants or tax relief schemes (Brown *et al.*, 2020; Portuguese Castro and Gómez Zermelo, 2021; Ratten, 2021; Dvouletý *et al.*, 2021a; Belitski *et al.*, 2022). At the firm level, it focussed on maintaining employment and jobs (Vilaseca *et al.*, 2021) and cash-flow delivery for coverage of operational costs such as rent or energy costs (Kuckertz *et al.*, 2020). Also, it contributed to the purchases of protective equipment and new technologies (Dvouletý, 2021; Zemtsov *et al.*, 2022). Some countries even imposed temporary insolvency moratoriums or suspension claims acts to prevent businesses from official bankruptcy (Fritsch *et al.*, 2021; MacGregor Pelikanova *et al.*, 2021; Lim *et al.*, 2021). However, to assess the overall effects of these public policies properly, we would need to wait for a few years and implement the rigorous evaluation methods as it is now too early to observe their long-term outcomes (Storey and Potter, 2020).

At the individual level, employment agencies and ministries of labour and social affairs enhanced the allocation of financial resources to the existing programmes to prevent a significant rise in unemployment (Bell and Blanchflower, 2020; Mayhew and Anand, 2020). Entrepreneurship scholars have proved that with the increasing unemployment, some individuals, primarily because of losing their jobs or experiencing a decrease in salaries, seek and exploit new business opportunities to earn income through independent business activity. These persons are called necessity entrepreneurs (Laffineur *et al.*, 2017; Cheratian *et al.*, 2019; Justo *et al.*, 2021; Dvouletý, 2022), and they represent motivation for policymakers to support new business formation, particularly from unemployment, through active labour market policies (ALMP). The reasoning for this policy is straightforward. Simply, it is economically more efficient to support own-account workers, securing their income and

maintaining working habits than paying them unemployment benefits and keeping them inactive. Therefore, self-employment out of unemployment programmes, are an essential part of the regional entrepreneurship ecosystems in many countries, including the UK (Meager *et al.*, 2003; Dvouletý and Lukeš, 2016; Zoellner *et al.*, 2018; Danson *et al.*, 2021; Tabas *et al.*, 2022), which has experienced a phenomenal rise in self-employment since the late 1970s (Evans and Leighton, 1990; Rees and Shah, 1986; Cowling and Mitchell, 1997; Millán *et al.*, 2019; Giupponi and Xu, 2020). These policy actions and supportive schemes, no matter if allocating direct capital payments or aid through financial instruments, help individuals experiencing adverse life situations to overcome their fear, guide them through the process of official business registration and equip them with the necessary financial resources to overcome the liquidity constraints and get the essential equipment for running the business. The current international literature agrees on the positive effects of these programmes on the programme participants' employment status, business survival and earnings. Still, those business activities are relatively modest in the economic sense. Thus, they cannot be compared with the fast-growing start-ups and companies, as their original purpose is different (Dvouletý and Lukeš, 2016; Zoellner *et al.*, 2018; Martínez *et al.*, 2018).

Inspired by the literature on entrepreneurship during times of crises, necessity entrepreneurship and self-employment out of unemployment policies, we assume that those individuals starting a business during the Covid-19 pandemic differ from those becoming entrepreneurs in the pre-pandemic period. Given the combination of several challenging events, including Brexit, the Covid-19 pandemic and individual's personal and financial constraints, we find it interesting to explore the business behaviour of those supported by the UK financial assistance providing subsidised loans to start a business. Besides the contributions to the knowledge on entrepreneurship during the Covid-19 pandemic, this research enriches the ongoing discussion on monitoring the effects of public entrepreneurship and SMEs promoting policies in the UK and worldwide.

3. The start-up loan (SUL) scheme

The UK has a long history of start-up loan support schemes dating back to the 1980s, including the Enterprise Allowance Scheme (EAS), the New Enterprise Allowance Scheme (for details, see Cameron, 2015) and the Prince's Trust Business Scheme for young people (for more information, see Meager *et al.*, 2003). The SUL started in September 2012, and its aim was to support start-up activities amongst individuals who were interested in becoming entrepreneurs but were constrained by the lack of access to financial capital. Currently, the SUL scheme is considered an essential UK government policy that promotes entrepreneurship and small business. The British Business Bank (2020), a wholly-owned subsidiary of the Department for Business, Energy and Industrial Strategy (BEIS), formally administers the SUL. The applicants can obtain loans up to a ceiling of £25,000 at a fixed interest rate of 6%. The maturity is set up to be between one and five years. No fees are charged for loan arrangements or early repayments (British Business Bank, 2020). This is important particularly because the arrangement fees of the UK Enterprise Finance Guarantee (EFG) scheme were a significant component of the overall cost of capital, as noted by Cowling and Dvouletý (2022).

Besides the SUL funding, clients are offered a mentor with a business background to help them during the first 12 months. This additional aid is provided through an assigned delivery partner, typically a local responsible finance provider (not-for-profit agency) or a regional business development agency. Start-ups up to the age of 24 months are eligible for the support. Furthermore, the SUL formally requires that the applicant has exhausted all potential market borrowing options, reaching a situation of absolute credit rationing. However, this condition is not extensively checked, and the applicant's self-declaration statement fulfils it. Upon the loan processing, the delivery partner, on behalf of the SUL

company and British Business Bank, receives a fee for the assessment of the loan proposal. A credit check and incidences of financial delinquency, such as prior non-repayment of loans, are subject to evaluation and the fixed monthly outgoings against income because it is a personal loan. The aim is to ensure that individuals have enough free cash available to service the loan on top of their current commitments. The assessment of the application further considers the general business plan, including cash-flow projections and market analysis (British Business Bank, 2020).

In terms of the detail of the process, the typical individual would approach a local small business support provider for general start-up support. This local provider would register the individual on their portal, and this is then transferred to the SUL company, where they are credit scored. The local support provider then helps the individual prepare a business plan which is subsequently uploaded on the portal, where it is then subject to a full loan assessment by an approved intermediary. Once approved, the SUL company finance team then sets up a loan schedule, and the loan is issued to the individual.

The only research paper explicitly on the SUL was a recent paper by Cowling and Dvoulitý (2022), which considered unemployment pathways into business start-ups via the SUL scheme. However, the scholarly community has not yet provided more complex insights into the SUL, which justifies the novelty of the present study.

4. Data and descriptive statistics

In this section, we present the SUL scheme data and the statistics disaggregated by an individual's starting point, which is defined by a Covid-19 dummy variable coded 1 if the start occurred during or after March 2020 and 0 if previous to this time at the point of scheme entry which is from 2012. The data represent information about individual loan records for 82,798 individuals and total lending of £759m between 2012 and 2021. The data come from the UK government management information system of the scheme, i.e. from BEIS, and it represents the entire SUL population and all the variables that were recorded. The data contain 12,176 new start-ups during the Covid-19 crisis who borrowed a total of £145.8m and 70,622 pre-Covid-19 business start-ups who borrowed a total of £613m. The lending figures have been adjusted for price inflation by the UK Government's (2020) GDP deflator so that all values are in 2020 equivalent prices [1].

Table 1 represents univariate statistics and the basic distributions of key variables that we use in the subsequent multivariate modelling. In each case, we separate out the univariate statistics for those individuals who started their businesses before Covid-19 and those who started their businesses during the Covid-19 pandemic and compare them using chi-square association tests, where we report the chi-squared significance. For example, in row 3 of Table 1, we see that 15.2% of pre-Covid-19 start-ups were between the ages of 18 and 24. This compares to only 12.2% of individuals who started their businesses during the Covid-19 pandemic. Over the two individual age distributions, we find that they are significantly different from each other, as indicated by the *** in column 4, which shows that the differences are significant at the 1% level or below. The specific variables we consider are the age of the individual, prior labour market status, education level and industry sector. In all cases, we find that the pre-Covid-19 and (in) Covid-19 distributions are statistically significant at the 1% level.

Thus, overall we observe some considerable differences between start-ups in the pre-Covid-19 period and those set up during the Covid-19 crisis. Firstly, they have a different age profiles, and Covid-19 start-ups are significantly more likely to be 31 years or older, suggesting that older and probably more experienced individuals choose to start a business in a crisis. They are significantly more likely to hold an undergraduate degree qualification and less likely to have advanced school-level education or a postgraduate degree. It would appear that the Covid-19 crisis inspired graduates to reconsider their career pathways.

	Pre-Covid-19	During Covid-19	Chi-squared test of significance results
<i>Age (%)</i>			
18–24	15.23	12.21	
25–30	27.11	22.81	
21–49	45.37	52.03	
50+	12.30	12.95	****
<i>Education (%)</i>			
Basic school	20.84	21.26	
Vocational	33.64	32.05	
Advanced School	15.74	12.32	
Undergraduate Degree	25.36	33.60	
Postgraduate Degree, incl. Ph.D	4.42	0.76	****
<i>Prior Labour Market Status (%)</i>			
Full-Time Employment	25.08	38.56	
Part-Time Employment	8.47	8.57	
Inactivity including Student	4.02	6.99	
Early Stage (<2 years) Self-Employment	28.21	34.03	
Unemployment	34.23	11.85	****
<i>Standard Industrial Classification (%)</i>			
Agriculture, forestry and fishing	3.01	0.00	
Mining and utilities	7.29	8.88	
Manufacturing	32.49	41.05	
Construction	11.34	10.63	
Retail, hotels and catering	4.65	4.98	
Transport and communications	6.28	5.25	
Business services	8.66	7.54	
Other services	26.28	21.67	****
Observations	70,622	12,176	

Note(s): **** represents statistical significance at 0.001 level

Source(s): Own calculations based on data obtained from the UK government management information system of the SUL scheme

Table 1.
Personal
demographics and
industry sector by
prior employment
status

In terms of where individuals transitioned into start-up from are also very different in the Covid-19 period. There were exceptionally high transition rates from full-time waged employment, inactivity and through upgrading a current early-stage self-employment spell. In contrast, transitions from unemployment were reduced by a factor of three. In this sense, we have a clear separation between those who were in waged employment and those in unemployment. The Covid-19 crisis seems to have inspired waged employees to transition into a new business start-up. This may relate to the time spent on furlough at 80% of their full wage paid by the UK government when they could explore business opportunities more fully. For the unemployed, the opposite was true, and the economic landscape made any hope of transition much more difficult. In this sense, the ones starting point in the labour market mattered and fundamentally shaped their willingness to start a new business.

The types of industry sector (based on 1-digit [Standard Industry Classifications – SIC, 2020](#)) that people started their new business in was also different during Covid-19. Broadly, there was a very substantial increase in entry rates into manufacturing sectors and a significant reduction in entry to most service sectors of the economy. The latter would appear

a rational choice as the public-facing service sectors of the economy were most likely to have faced lockdown or very restricted trading conditions and have recently been awarded another round of the UK government Covid-19 financial support, which reflects their parlous and fragile state after nearly two years of the pandemic.

Table 2 reports on key SUL loan funding statistics, including the inflation-adjusted loan amount and the term maturity of lending. As previously, we report separately the statistics for pre-Covid-19 start-ups and (in) Covid-19 start-ups. As both variables in this table are expressed in the continuous form (i.e. as £ sterling and years), we use a simple t-test and report the significance from a paired t-test. Again, we observe that pre-Covid-19 and (in) Covid-19 start-ups were significantly different on both loan amounts and loan maturity years.

During Covid-19, new start-ups borrowed more than £3,257 more on average than those in the pre-Covid period. This is a 37.4% increase in average SUL size, which substantially uplifts capital and borrowing. However, it was also the case that start-ups borrowed over a longer time frame during the Covid-19 crisis. This means that they were spreading the capital and interest payments over a longer period, thus reducing the per-period payments. This is likely to have been a good choice, given the high level of uncertainty about the future economic outlook. We cannot ignore the fact that the actual per-period cash repayments would be significantly higher given the higher average loans advanced during the Covid-19 period to start-ups.

5. Covid-19 start-up modelling

This section formally models the differences between pre-Covid-19 business start-ups and during Covid-19 start-ups. The dependent variable is binary and coded 1 if the start occurred after February 2020 and 0 if it was between 2012 and February 2020. Thus, given the dichotomous character of the dependent variable, we estimate a multivariate probit regression model. This is a standard empirical approach used to determine the impact of turbulent and crises periods, including the pandemic, for example, recently in studies by Wellalage *et al.* (2022) or Otrachshenko *et al.* (2022). We use a probit model where the inverse standard normal distribution of the probability is modelled as a linear combination of the predictors, which include personal characteristics (age and education), labour market history, loan characteristics and geography. Geography is a region identifier variable, of which there are 13 dummy variables, including the devolved nations of Scotland, Wales and Northern Ireland. For ease of interpretation of the results, we report the marginal effects (Kibria and Saleh, 2012).

This model can be expressed thus:

$$\begin{aligned} \text{Pr}(\text{Covid-19 period start-up} = 1) = & \Phi(\beta_0 + \beta_1 * \text{Personal Demographics} \\ & + \beta_2 * \text{Labour Market History} \\ & + \beta_3 * \text{Loan Characteristics} + \beta_4 * \text{Geography}), \end{aligned}$$

where Φ is the cumulative normal distribution.

	Pre-Covid-19	During Covid-19	Paired t-test of significance results
Real Loan Amount £s	8,719.06	11,976.51	****
Std Dev	6,877.26	7,348.44	
Loan Maturity Years	4.206	4.630	****
Std Dev	1.063	0.914	

Note(s): **** represents statistical significance at 0.001 level
Source(s): Own calculations based on data obtained from the UK government management information system of the SUL scheme

Table 2.
Lending statistics

The full estimates are presented in Table 3. From Table 3, Model 1, we observe that Covid-19 start-ups borrow more to finance their start-ups than those starting up in a pre-pandemic period. This may relate to the increasing prominence of liquidity problems from established businesses during the crisis and the perception of new start-up entrepreneurs that they need as much spare capital as they can assemble to give them a financial buffer during the crisis. However, the fact that we also identified a decline in the term structure of loans favouring shorter-term lending acts as a countervailing influence as larger loans repaid over shorter time frames add to the repayment pressure on borrowers. There were also some apparent geographic differences between the pre-and-during the Covid-19 periods. Here we find that Covid-19 start-ups were more prevalent in the East of England, Scotland and the South East of England and much less prevalent in London. The increased probability of +5.7% for Scotland suggests that it is the Covid-19 start-up hotbed in the UK.

Personal demographics were also an important area of distinction, with a much higher probability of a Covid-19 period start-up from people over the age of 30 and particularly over the age of 50. The latter effect is interesting in that it may suggest that the intensity of the Covid-19 crisis was the catalyst for many older people to pursue an entrepreneurial career path beyond the peak age that is normally associated with new business start-up entrepreneurs. In contrast, it would appear that young people were dissuaded from starting a new business during Covid-19. This is probably a rational decision as without the experiential human capital and networks built up over many years starting a new business in a crisis would be more difficult than in a period of relative economic buoyancy.

There were also significant differences in terms of what an individuals' labour market status was prior to entry into a new business start-up in crisis and non-crisis periods. In the Covid-19 crisis, new business start-ups from full-time employment and inactivity were increased, whilst the probability of entry from unemployment was 8.0% lower than in the pre-crisis period. The transition from full-time employment may reflect the fact that millions of UK workers in restricted trading industry sectors were placed on furloughs at 80% of their wage (Witteveen, 2020). This period of subsidised inactivity may have given them the time to assess new potential opportunities, as well as provide a psychological catalyst to change their career pathway without suffering too hard an income hit. Also, for the unemployed, the risk of transitioning into a new business start-up appears a step too far during such a severe crisis with an uncertain end.

Education, our measure of formal human capital, was also found to be an essential area of distinction. Here we find that the Covid-19 crisis increased the probability of business start-up for graduates by 1.6% but reduced it for post-graduates by 8.2%. Individuals with advanced school qualifications reduced their start-up probability by 21%. In this respect, the education effect is much more nuanced and does not increase or decrease consistently or linearly as we move higher up the educational spectrum. We can say that the higher graduate-entry rate in the Covid-19 crisis may help the entrepreneurial sector grow faster when the economy finally returns to a more normal business environment.

Finally, there was a noticeable increase in the probability of new crisis start-ups being in the economy's manufacturing and other services sectors. The former effect is both important and relevant. Firstly, manufacturing has been relatively immune to the crisis in many respects. Specific sectors, such as the production of health-related products such as personal protective equipment, testing equipment or Covid-19 vaccines, etc. experienced a boom (Baillieu, 2021). As already noted before, the crisis was also overlaid by the UK's exit from the European Single Market, and notable gaps in manufactured goods formerly provided by foreign producers started to appear (Culkin and Simmons, 2019).

Having established that new business start-ups born in the Covid-19 crisis on average borrowed more than their pre-crisis counterparts, we now consider what is driving this

Table 3.
Modelling Covid-19
start-up differences
and real loan amounts

Real Loan Amount £	Model 1: Full sample		Model 2: Pre-Covid-19 loan amount		Model 3: During Covid-19 loan amount	
	Coefficient	Z-stat	Pr > z	Coefficient	Z-stat	Pr > z
<i>Year of Loan</i>						
2012	0.030***	21.27	0.000			
2013				0.290***	6.09	0.000
2014				0.117***	0.014	
2015				0.232***	4.85	0.000
2016				0.472***	9.83	0.000
2017				0.626***	13.03	0.000
2018				0.568***	11.80	0.000
2019				0.548***	11.38	0.000
2020				0.568***	11.14	0.000
2021						
<i>Region</i>						
East Midlands	0.027***	4.77	0.000	0.024	1.57	0.116
East of England	0.451	1.34	0.181	-0.804	-1.13	0.257
Isle of Man	-0.020***	-4.71	0.000	0.069***	5.45	0.000
London	-0.002	-0.34	0.732	-0.090***	-5.64	0.000
North East	-0.005	-1.01	0.312	0.016	1.20	0.229
North West	-0.005	-0.57	0.569	-0.001	-0.05	0.959
Northern Ireland	0.057***	8.95	0.000	0.016	1.01	0.311
Scotland	0.019***	3.59	0.000	0.084***	5.87	0.000
South East	0.008	1.54	0.124	0.047***	3.24	0.001
South West	0.007	1.15	0.249	0.085***	5.06	0.000
Wales	0.001	0.29	0.775	0.049***	3.34	0.001
West Midlands	-0.009	-1.75	0.079	0.024	1.61	0.107
Yorkshire and Humber						
<i>Age Class Entrepreneur</i>						
18-24	-0.002	-0.80	0.424	0.080***	9.30	0.000
25-30	0.028***	9.44	0.000	0.153***	18.09	0.000
31-49	0.029***	7.20	0.000	0.147***	13.66	0.000
50+						

(continued)

Table 3.

	Model 1: Full sample		Model 2: Pre-Covid-19 loan amount		Model 3: During Covid-19 loan amount	
	Coefficient	Z-stat	Pr > z	Coefficient	Z-stat	Pr > z
<i>Prior Status</i>						
Full-time employment	-0.024***	-7.68	0.000	-0.219***	-20.51	0.000
Part-time employment	0.016***	3.56	0.000	-0.230***	-15.81	0.000
Inactive	-0.010***	-4.60	0.000	-0.146***	-19.64	0.000
Self-employed (<2 years)	-0.080***	-31.90	0.000	-0.815***	-109.39	0.000
Unemployed						
<i>Education</i>						
Basic school	0.009***	3.58	0.000	-0.070***	-9.16	0.000
Vocational	-0.021***	-6.98	0.000	0.051***	5.63	0.000
Advanced school	0.016***	6.00	0.000	0.093***	11.47	0.000
Undergraduate Degree	-0.082***	-20.43	0.000	0.206***	14.37	0.000
Postgraduate Degree						
<i>Industry Sector</i>						
Agriculture, forestry, fishing	0.928***	33.19	0.000	-0.125***	-4.02	0.000
Mining and utilities	0.962***	36.82	0.000	-0.268***	-9.75	0.000
Manufacturing	0.932***	32.97	0.000	-0.089***	-3.00	0.003
Construction	0.923***	30.75	0.000	-0.170***	-5.06	0.000
Wholesale, retail	0.924***	30.30	0.000	-0.080***	-2.52	0.012
Transport, communications	0.929***	32.19	0.000	-0.360***	-11.83	0.000
Business services	0.953***	35.04	0.000	-0.362***	-13.03	0.000
Other services	0.634***	47.81	0.000	-0.275***	-10.40	0.000
Not known						
<i>Loan Maturity Years</i>						
≤1						
1-2	-0.062***	-6.74	0.000			
2-3	-0.101***	-14.77	0.000			
3-4	-0.126***	-16.18	0.000			
4-5	-0.079***	-8.45	0.000			
Other	-0.123***	-9.57	0.000			
Constant				8819***	159.31	0.000
Number of observations	82,666			70,577		
Pr > χ^2	0.00001			0.00001		
Pseudo R2	0.187			0.311		
Note(s): *** represents statistical significance at 0.01 level						
Source(s): Own calculations based on data obtained from the UK government management information system of the SUL scheme						

behaviour. We do this by modelling logarithm of the real loan amounts separately for each period using the same set of personal and firm demographic variables. The general model here is estimated by ordinary least squares (OLS) technique and can be expressed in the form,

$$\ln(\text{Real Loan Amount } \pounds) = \beta_0 + \beta_1 * \text{Personal Demographics} \\ + \beta_2 * \text{Labour Market History} + \beta_3 * \text{Geography} + u_i,$$

where u_i is the random error.

For pre-crisis borrowers (Model 2, Table 3), we find that there was a more general increase in the size of loans over the decade, so in this sense, we would have forecast that this trend would have continued in the absence of the Covid-19 crisis, which it did. Regional differences were evident in pre-and-during Covid-19. Notably, business start-ups in Wales and the South West of England were big borrowers in the pre-Covid-19 period and small borrowers in the Covid-19 period.

The scale of lending was generally increasing in an individual's age in the pre-Covid-19 period, and this pattern was also apparent during Covid-19 (Model 3, Table 2). Still, the scale of the difference between young and old entrepreneurs in terms of the loans they secured was magnified. In terms of how different transitions into new business start-ups impacted borrowing, it was always the case that entrants drawn from the ranks of the full-time waged employed raised larger loans. The Covid-19 crisis expanded the loan size gap for start-ups from full-time waged employment. It generally follows that better-capitalised start-ups have the financial resources to sustain their businesses through the tough initial trading years. Thus, better-financed new start-ups drawn from full-time waged employment may be much economically stronger to manage general start-up risks and the additional risks associated with a Covid-19 trading environment (Dvouletý and Lukeš, 2016; Villaseca *et al.*, 2021; Salamzadeh and Dana, 2021).

Finally, we also note that some characteristics that influenced the size of start-up loans drawn down in the pre-crisis period, such as the education and industry sector, did not maintain their influence during the Covid-19 crisis. In the pre-Covid sample, education was positively associated with loan size. It was also the case that many service industry sectors had smaller loan requirements. These educational and industry-driven loan size variations dissipated during the Covid-19 pandemic for start-ups. Further, our core variables were able to explain much more of the variation in loan size in the pre-Covid-19 period, which may suggest that the turbulence during the pandemic meant that a range of other factors were influencing the size of loans start-ups required.

6. Discussion, implications and concluding remarks

This research work contributed to the current body of knowledge on entrepreneurship during times of crisis, particularly during the Covid-19 global pandemic, which has been addressed by several authors providing evidence from different countries and continents (Fritsch *et al.*, 2021; Dvouletý, 2021; Zemtsov *et al.*, 2022; Belitski *et al.*, 2022). Every crisis represents a challenge for individuals considering entrepreneurship as a career choice and those who already run a business activity. The presented contribution reflects the context of the UK, a country recently exposed to several challenging events. The UK government, through its SUL scheme, has consistently supported people to start their own businesses since 2012. It continued this support even during the Covid-19 pandemic when it supported an additional 12,093 people with start-up loans and the offer of business advice. In this paper, we asked whether the entrepreneurs starting businesses during the Covid-19 crisis were different from those becoming entrepreneurs before the pandemic. Our results very clearly say that the

Covid-19 start-up entrepreneur is a very different person in all aspects from their pre-Covid-19 counterpart. Further we found that the level of borrowing to finance their new start-up has increased and is shaped by different factors.

So how are the UK Covid-19 start-up entrepreneurs different, and what might these differences mean for their future survival and growth? According to the conducted analyses, they are better capitalised for a start which gives them a degree of robustness in terms of having superior financial reserves. They are older and more likely to have an undergraduate degree. Again, both of these factors are typically associated with new business longevity. They are disproportionately drawn from amongst the ranks of the full-time waged employed, suggesting that a new business start-up may have been a positive career choice and that the Covid-19 crisis acted as a catalyst for them to realise an underlying ambition to run their own business. These are both characteristics generally associated with survival and growth. It was also the case that the young and the unemployed were deterred from starting a new business during the Covid-19 crisis. This is probably a wise and rational choice, particularly given they are also associated with low levels of start-up capital too.

6.1 Implications for policymakers

Overall, we are drawn to conclude that the Covid-19 start-up entrepreneur is a different type of entrepreneur from their pre-Covid-19 cousin when adapting the lenses of the SUL scheme. Importantly, they have a greater abundance of characteristics that we associate with survival and growth, although simply surviving the Covid-19 crisis is of greater import to the UK economy at this point in time. In the presence of a very supportive and unchanging start-up support scheme, it is evident that the entrepreneurs who access the scheme change over time and that these changes are theatrical during a severe crisis and structural changes of the UK economy (Culkin and Simmons, 2019; Jallow *et al.*, 2020; Arshed *et al.*, 2021). The newly established UK entrepreneurs filled in the market gaps (Culkin and Simmons, 2019; Baillieu, 2021) and proved that they could stay on alert even during adverse times. Once they see a good business opportunity, they exploit it (Doern *et al.*, 2019). These findings have value for the administration and representatives of the SUL scheme because they show how the supported entrepreneurs integrate into the existing markets and in which sectors they concentrate their endeavours.

The ongoing follow-up of the cohorts of supported entrepreneurs could help policymakers decide whether to provide additional counselling (especially in business growth development or crisis management topics) to enhance their ongoing business activities further. Combining appropriate financial and non-financial aid is considered as a good practice amongst public policymakers promoting entrepreneurial activity (Dvouletý *et al.*, 2021b; OECD, 2023).

6.2 Implications for future research

As we cannot predict the future development of the newly established businesses, and thus, we recommend future researchers proceed with monitoring their activity further, providing insights into their survival, performance and income with the usage of advanced evaluation research methods (Dvouletý and Lukeš, 2016; Storey and Potter, 2020; OECD, 2023; Doering and Wry, 2022). Furthermore, our study does not reflect the whole UK entrepreneurial activity, which is a limitation we acknowledge. Therefore, we recommend observing the activity also in the following years to investigate how the Covid-19 pandemic reshaped its structure and whether the newly established businesses outnumbered those individuals who had to close their businesses or were forced to go bankrupt (Santos *et al.*, 2017; Fritsch *et al.*, 2021).

6.3 Implications for theory

Besides, our study has demonstrated the possible usage of existing theoretical approaches mapping entrepreneurship and crisis nexus, such as entrepreneurial bricolage (Tsilika *et al.*, 2020; Alva *et al.*, 2021), black swan events (Cowling *et al.*, 2020; Mironko, 2021), push and pull entrepreneurship (Dawson and Henley, 2012; Dayour and Adam, 2022) or crisis management theories (Cortez and Johnston, 2020; Zhang *et al.*, 2023), to understand the role of Covid-19 pandemic as a disruptive event. Our main takeaway was that the existing theories and concepts are well applicable to the Covid-19 pandemic, and help us to form expectations about entrepreneurial behaviour and its subsequent development in the post-pandemic years.

Note

1. <https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/ihys/>

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