International Review of Entrepreneurship, Article #1622, 18(1): pp. 133-152.

Can Local Finance Add Value to Local Small Business? Evidence from a UK Local Loan and Grant Fund

Marc Cowling[1]
College of Business, Law and Social Sciences, University of Derby

Simon Peter Nadeem, Carley Foster, and Polina Baranova
Derby Business School, University of Derby

Abstract. Access to finance is a key constraint on the creation, survival, and growth of SMEs, and this issue has prompted governments to directly intervene in financial markets, but has also led to the development of new forms of financial intermediation and new players in the market encouraged by a desire to increase competition in the market. Today these new forms of financing and new players in the market are in part complementary to more established sources, but also potential substitutes particularly for those businesses that are most constrained. In this paper we use new data from a survey of local small businesses to assess whether access to a local loan and grant fund has added value to supported businesses. Our findings suggest that there are tangible benefits associated with local finance provision that are likely to generate a positive local economic multiplier that extends beyond the funding period.

Keywords: loans; grants; small business; localised finance initiatives

1. Introduction

Access to finance is a key constraint on the creation, survival, and growth of SMEs (Cressy and Bonnet, 2018; Kersten, Harms, Liket, and Maas, 2017; Carbo-Valverde, Rodriguez-Fernandez, and Udell, 2016). This issue has prompted governments to directly intervene in financial markets, and has also led to the development of new forms of financial intermediation and new players in the market (Casey and O'Toole, 2014; Moritz, Block, and Heinz, 2016). Today these new forms of financing and new players in the market are in part complementary to more established sources, but also potential substitutes particularly for those businesses that are most constrained (Block, Colombo, Cumming, and Vismara, 2018). This reflects a wider and long-held concern in the UK, and Europe, that policy-intervention is justified where there is evidence that the financing needs of good entrepreneurs with strong funding proposals are not being met by traditional

1. Corresponding author: College of Business, Law and Social Sciences, University of Derby, E-mail: m.cowling@derby.ac.uk

providers (Cowling, 2010; Camino and Cardone, 1999). The favoured model for capital market policy interventions had been to engage with traditional providers of finance (Dvoulety, Cadil, and Mirosnik, 2019) but also to promote the development of alternative provision (Roman and Rusu, 2015). The *Let's Do Business* (LDB) financial support offer reflects aspects of both of these policies through their engagement with the *Start-Up Loans Scheme* (SUL), a UK scheme that supports loans to start-ups with a maximum size of £25,000 at a fixed interest rate of 6% and a term of 1-5 years, and the *Enterprise Finance Guarantee* (EFG), the UK government guaranteed lending scheme, as a direct provider of funds.

In this paper, we use new survey data from recipients of the local loan and grant funds offered by Let's Do Business to assess whether removing funding constraints has generated tangible benefits over and above those which would have occurred in the absence of the loan and grant funding. Further, we are able to assess the degree to which offering an alternative to traditional bank funding is attractive to local small businesses. We also identify more precisely the nature of small businesses who are most likely to face funding constraints in a small local economy in the South East of England, and the types of investments that they were able to make with their funding.

The rest of the paper is organised as follows. In Section 2 we discuss the literature relating to small business capital constraints with a particular emphasis on the role that 'place' has in shaping and influencing access to capital. In Section 3 we discuss the empirical survey data and present the sample demographics. In Section 4 we present the core findings from our multivariate analysis across several dimensions of growth. We conclude in Section 5.

2. Literature Review

There is an important local dimension to the Let's Do Business finance offer that addresses a body of evidence suggesting that access to finance may be conditional on local economic conditions (Hasan, Jackowicz, Kowaleski, and Kozlowski, 2017), although their lending is not exclusive to the locality of East Sussex in the UK where they reside. In particular, the absence of a well-developed financial ecosystem combined with fragmented banking provision implies that access to finance barriers may have a place specific aspect that is magnified in localities that face relative economic deprivation (La Rocca, La Rocca, and Cariola, 2010). The importance of 'place' has gained more traction over the last decade since the Global Financial Crisis and prompted the development of alternative configurations of localised financial provision that better reflect the specific needs of local business. This reflects the findings of a large-scale post-GFC UK study (Cowling, Lee, and Ughetto, 2019: page 1) that concluded that, "regional differences directly and indirectly affect the way banks allocate and price short-term credit. There is evidence of a peripheral region price penalty". It follows that

restricting lending to viable smaller businesses is increasing their probability of failure and decreasing their potential to invest in future growth (Cowling, Liu, Minniti, and Zhang, 2016).

The issue of how small businesses in peripheral localities, particularly those areas suffering from relative or absolute deprivation, access capital to support their activities has re-emerged as an important research and policy question since the turn of the century (Lee and Luca, 2019; Lee and Brown, 2017; Zhao and Jones-Evans, 2017). In an important contextual paper that preceded this new body of empirical work, Klagge and Martin (2005) considered this issue in the context of long-run economic and technological changes, specifically globalization, technological innovation and intensifying international competition, and identified a pattern of increasing institutional and spatial concentration of capital markets. In their comparison of the UK and German financial systems they concluded that, "capital markets do not function in a space-neutral way, and that a highly centralized system like that in the UK may well introduce spatial bias in the flows of capital to SMEs" but also cautioned that, "regional/local capital markets also face a number of major challenges and problems" (page 387).

This issue was addressed in a broader policy related context by Nassr and Wehinger (2014). They argued that, mitigating against the prolonged and scarring effect of the Global Financial Crisis required a broadening of the range of non-bank debt financing options to improve the flow of funds available for smaller businesses, with an additional benefit of widening participation (greater access to funds) and diversity (greater choice) in the financial system. Developing this spatial theme in the context of smaller firms' access to capital, Ughetto, Cowling and Lee (2019: page 617) argued that, "regional financial policies should be designed by adopting a more systemic and hands-on policy approach in order to target better those regions characterised by a weak financial ecosystem. Moreover, policy-makers should better focus on local effects when taking decisions that influence the structure and health of the financial ecosystem".

So why might there be a spatial dimension to what is a well-established empirical observation that smaller and younger businesses, those which are the most informationally opaque, are the most likely to face constraints when approaching traditional (largely debt) financiers for funding? Klagge and Martin (2005), when considering the problem of asymmetric information in a spatial context, argued that the processes by which banks collect data and monitor businesses means that these systems are most efficient when they are operating in close proximity to their borrowers. Further, they argue that this is even more critical when dealing with the most informationally opaque businesses, the youngest and the very smallest.

It follows that information-based problems, overlaid with an uncertain economic environment, as is the case in the UK currently (due to Brexit and now Covid-19), are causally related to the physical distance between businesses seeking finance and the finance institutions themselves (Porteous, 1995; 1999).

In this respect, the degree to which a financial system is centralised or decentralised has clear consequences for the availability of finance for smaller businesses operating in local or regional economies (McPherson and Waller, 2000). The potential consequences for local and regional economic development, and stability, in the UK are particularly interesting given the 4-firm banking oligopoly that has been in evidence since the 1970s. In the UK, the big 4 banks have an 80% share of business accounts and lending (Department for Business Innovation and Skills - DBIS, 2015).

The evidence relating to the beneficial effects on local economic development supported by local financial development is well documented (Deloof and La Rocca, 2015; Guiso, Sapienza, and Zingales, 2004; Craig, Jackson, and Thomson, 2007; Gagliardi, 2009). It has been associated with increased new business start-up rates (Box, Gratzer, and Lin, 2017), higher credit availability to smaller businesses, a reduction in financial constraints and a broader reduction in Type 1 and Type 2 credit rationing (Alessandrini, Presbitero, and Zazzaro, 2009). Italian evidence relating to a newly formed 'ethical' bank also showed a reduction in the use of collateral on lending which is often identified as both a justification and rationale for loan guarantee schemes (Becchetti, Garcia, and Trovato, 2011).

Based on our review of the literature around 'place', and its relationship to the information based problems that are most acute and prevalent amongst smaller and younger businesses, we can hypothesise that there is a three-step chain of events that should occur if the presence of a local alternative finance provider adds value over and above that of traditional banks in the UK.

Step 1: The capital funding provided by LDB is associated with additional economic activity at the firm level measured by growth in employment and sales.
Step 2: The aggregate effect of any additional economic activity at the firm level generates a non-trivial local economic multiplier.
Step 3: Accessing funding re-orientates businesses towards future growth and increases the potential for sustainable and persistent local economic growth.

These causal steps represent our working hypotheses based on the literature review, and are tested against the data from a sample of businesses that accessed funding from LDB.

3. Data and Sample Statistics

The data we use for our analysis is drawn from a recipient survey of businesses that received loan or grant funding from LDB during 2018. The survey was conducted in the last quarter of 2019. In this sense, we are examining a 12-15 months window after receiving financial support. Specifically, this paper will

present evidence from the initial 52 responding businesses on the following: Key business demographics; Business funding and investment; Investment modes; and various dimensions of impact of LDB funding including job and sales growth, market expansion, and future growth ambitions. The data used equates to approximately 18% of total funding recipients who numbered 288 businesses in the time period examined and is reflective of the known full population of funding recipients in terms of funding scale and age, size, and sector distributions.

Table 1: Business demographics

	% of businesses	**Mean**	**S.D**
Sector			
Non-services	35.30		
KIS	17.60		
Services	47.00		
Life-stage			
Early stage (0-4 years)	58.80		
Established (5-7 years)	19.60		
Well-established (>7 years)	21.60		
Age		5.10	2.82
Legal Form			
Sole trader	21.60		
Partnership	5.90		
Private ltd	62.80		
LLP	7.80		
Social Ent	2.00		
Size class			
Micro	82.40		
Small	13.70		
Medium	3.90		
Employees		6.98	13.25
Partners			
Owner	17.70		
Owner +1	29.40		
Owner +2	43.10		
Owner +3 or more	9.90		
Partners		2.55	2.12

3.1. Business Demographics

From Table 1 we observe that there is a relatively high share of supported businesses in non-service sectors of the business population. These sectors are often termed ‘tradeable’ sectors and they are most commonly associated with doing business beyond their immediate localities rather than simply serving the

local population (Lee, 2019). This creates the potential at least to create a positive local economic multiplier as income derived from outside the locality flows back to the business. Similar arguments can also be advanced for knowledge intensive services (KIS), although there can also be positive local economic multipliers associated with creating a demand for knowledge workers (Cowling and Lee, 2017). In total 52.9% of supported businesses fall in tradeable or KIS industry sectors. A particular issue facing KIS businesses is that knowledge is their core asset whilst external financiers have a clear preference for tangible assets when lending on a secured basis.

The data also shows very clearly that LDB financial support programmes are disproportionately targeted at early stage businesses with 58.8% of funding packages supporting businesses from start-up to four years into their lives. Around 1 in 5 funding packages support businesses in their stabilisation and growth phase (5-7 years from start-up) and a similar share to well-established businesses. This distribution of funding support is consistent with the broader evidence relating to age and difficulty in accessing external funding which is characterised by an inverse relationship (i.e. the older a business is, the easier it becomes to access external finance) as track record is a key consideration when assessing a funding application (Cowling, Liu, and Zhang, 2018).

Legal form has important implications for businesses that cannot fully repay external debt obligations. In addition, limited liability status is often seen as a signal of credibility and legitimacy in the market (Harhoff, Stahl, and Woywode, 1998; Yildirim, Akci, and Eksi, 2013). Table 1 shows that 62.8% of supported businesses have a private limited company legal status and only 27.5% operate as either sole traders or 'old style' partnerships. Size of business has similar finance ramifications for business financing as age of business with a well-established inverse relationship between size and problems accessing external finance. In short, the bigger a business is, the easier it is to raise external funds (Casey and O'Toole, 2014). In this sense, most public interventions in this landscape have an explicit size criterion for eligibility. More than 8 in 10 finance packages go to micro businesses (those with fewer than 10 employees). This is consistent with supporting micro businesses which are the most likely to be discouraged borrowers per se (i.e. they do not even apply for loans as they fear rejection) and face higher rejection rates when they do apply (Cowling et al., 2016). In this respect LDB funding is focused on that end of the size spectrum that faces the greatest barriers in accessing external finance.

An important dimension of senior human capital available to the business is the number of partners. This is important as the collective experience and knowledge available to the business that informs its strategic decision-making is enhanced when there is a larger partnership team (Cowling, 2003). Larger teams also tend to have wider access to valuable networks (Krasniqi and Mustafa, 2016; Corbett, 2007). We note that only 17.7% of businesses are run by a single individual, with the most common partnership size of 3 (including the senior

respondent) which accounts for 43.1% of businesses. This suggests that the majority of supported businesses have more than a single senior management input available to them. Having said that, we note that financial and accounting knowledge is a major area of skills shortages in SMEs (McMahon, 2001), thus highlighting the problematic nature of financial decision-making at the early stages of the enterprise development.

To summarise, whilst conventional service-based businesses are the numerically dominant group of supported businesses, there is an over-representation of businesses from the primary, manufacturing, energy, and construction sectors. The 'typical' business that receives financial support from LDB is a micro business, at a relatively early stage in its life-cycle, that has limited liability status and two or three partners. These key age and size demographics have been shown to be the most likely to have problems around access to capital to finance their business activities.

Table 2: Business funding and investment

	% of businesses	**Mean**	**S.D**
Funding sought			
Business angel	0.00		
VC	3.90		
Leasing	5.90		
Factoring	7.80		
Trade credit	11.80		
Secured loan	13.70		
Directors funds	21.60		
Family & friends	35.30		
Unsecured loan	37.30		
Overdraft	41.20		
Number of sources (excluding LDB)		1.78	1.6
Total £ sought		60,731	80,679
Purpose of finance			
New market entry	3.9		
Other	3.9		
Expand premises	17.6		
New product/service	17.6		
Working capital	27.5		
Start-up	51.0		
Asset purchase	51.0		
Market Finance			
Got all that was applied for	45.10		
Got some that was applied for	29.41		
Got none that was applied for	3.92		
No market applications	21.57		
LDB % share of total funds		50.31	30.18

3.2. Business Funding and Investment

Table 2 shows the sources of funding that businesses sought. It is also of note that 49.0% used their own cash to provide capital to the business, which is consistent with the wider evidence that smaller businesses have a pecking order of financing which favours personal and internal sources of funding over external sources (Lopez-Gracia and Sogorb-Mira, 2008). Aside from internal sources, there is a clear preference for debt-based financing, and given the size and life-cycle stages of the typical business supported by LDB, short-term debt and unsecured loans are highly favoured (Cowling, Matthews, and Liu, 2017). We note that external equity from venture capitalists and business angels is an exception for the vast majority of businesses.

For the 78.4% who sought market capital, the average number of different sources of finance applied for is 1.8 and the median number is 1.0. Businesses whose owners had a personal cash input had a lower application rate for other external sources of finance other than LDB funding. However, 45% of businesses applied for two-or-more alternative sources and 16% for four or more sources. At the other end of the spectrum, 21.6% of businesses made no other applications for finance before applying successfully for LDB finance. This separation suggests that for some businesses LDB funds is a vital and complementary source of finance when they are constrained in capital markets *per se*. For other businesses LDB finance may well be a substitute for other more traditional sources of external funding or may indeed be indicative of discouraged borrower behaviour (defined as needing finance but not making an application due to fear of failure (Kon and Storey, 2003)). Further analysis (not shown) shows that there was a positive relationship between the number of funding sources applied for and the total scale of funds required. Our estimates on this suggest that for each additional £12,600 of funding a business would, on average, approach one more provider.

We observe that the median total level of funding sought was £30,000, although the average was higher at £60,731. One quarter of supported businesses sought £15,000 or less which is within the realms of what is termed micro financing. At the opposite end of the funding scale, 10% of businesses had a funding requirement of £200,000 or more. This is consistent with the provision of a broad suite of grant and debt products that LDB offer in the sense that they are able to offer small grants alongside quite large loan facilities. In terms of why businesses were seeking finance, the purchase of an asset and financing a new business start-up were the dominant reasons cited by more than half of businesses. The requirement for additional working capital was also an important reason for seeking funding and to a lesser extent reasons associated with growth and expansion such as introducing new products or services, expanding premises and financing entry into new markets. We note that the majority of businesses were not seeking funding for a single reason but were seeking to fund several new activities in parallel.

In terms of businesses being able to have their funding applications to traditional providers approved, our data shows that this was the case for 57.5% of businesses. In 37.5% of cases, businesses were able to access some, but not all, of the funds requested from traditional providers (quantity constraints). Absolute denial was apparent for 5.0% of businesses who received none of the finance requested from traditional providers. These findings suggest that around 33.3% of all businesses approaching LDB for finance do so to seek additional funds that they were unable to access from the market, and 45.1% do so as the LDB finance offer complements traditional sources of funding. For 21.6% of businesses LDB funding is the only source they used which suggests that it is an alternative provider. The LDB funding contribution expressed as a share of the total capital raised by businesses shows that the mean and median contribution of the LDB financial support is 50%.

Table 3: Impact of funding

	% of businesses	Mean	Median	S.D
Start Employment		6.98	2.00	13.25
Current Employment		11.01	3.00	19.68
Start Sales £		689,461	30,000	1,882,546
Current Sales £		1,277,532	175,000	2,445,294
Additionality of LDB Funds				
Abandoned entire project	37.30			
Proceeded on a smaller scale or over longer time	52.90			
Proceed on similar scale and at same time	9.80			
Growth Prospects Improved	84.31			36.73

3.3. Impact of Funding

Here we assessed the impacts on recipient businesses that were able to access LDB funding. The first issue we consider is whether, or not, the project that the business initially sought capital for would have proceeded, and if so at what scale or over what time period. This is a measure of the additionality (and deadweight) associated with the LDB funding. Additionality is defined by the European Bank for Reconstruction and Development "in relation to the magnitude and quality of the impact on the existence, design or functioning of a project" and deadweight as "changes that would have occurred even in the absence of intervention" (Tokila and Haapanen, 2009: page 133).

Deadweight is very low, as only 10% of funded projects supported by LDB would have proceeded at a similar scale and over a similar time-period. This, for comparative purposes, compares to estimates of between 23% and 40% for the Enterprise Finance Guarantee (Allinson, Robson, and Stone, 2013). Full additionality ('in the absence of LDB funding we would have abandoned the project') is estimated to be 37.3% and partial additionality ('we would have

proceeded on a smaller scale') is estimated to be 52.9%. In total, these findings suggest that there is some degree of additionality associated with 9 in 10 projects that have an element of LDB financial support. Alternatively, in the absence of LDB financial support only 9.8% of projects would have proceeded as planned and at the same scale.

Table 4 reports our estimated economic costs and benefits at an aggregate level across the total recipient population of 288 businesses who received funding from LDB. The first step is to derive the gross change post treatment per business for employment and sales (shown in Table 3). As the total population in this case is 288 supported business, but not all of them are considered to be creating additional economic value over and above that which would have been achieved in the absence of LDB funding, we then net out (i.e. deduct) those 9.8% of businesses who stated they would have achieved these outcomes anyway (deadweight). For example, in the jobs case it is 288 businesses to start. Deduct 28 who were deadweight. Then multiply jobs change in non-deadweight businesses, which is 4.25, by 260, gives a final total of 1,104 net of deadweight new jobs created.

For value added, which is difficult to explicitly capture *per se* (particularly from micro businesses), we use a standard UK department for Business Energy and Industrial Strategy (BEIS) ratio which transforms known sales growth into an estimate of value added. The BEIS ratio is from government input-output ratio tables.[2] The reporting of average and median estimates is often the case in evaluations as it allows for a better understanding of what a policy intervention does for the 'typical' recipient and what it does allowing for the distortion of high-growth firms that drag the overall average up.

Table 4: Economic costs and benefits

Item	**Estimated Unit**	**Benefits per £1 funding and funding per job created**
Total Funding		
Total amount of grants and loans issued to businesses, n=288 (using median amount per business)	£5,413,832 (£3,528,980)	
Total amount of grants and loans net of non-additional investment, n=260 (using median amount per business)	£5,265,598 (£4,395,990)	
Benefits		
Jobs created (excluding entrepreneur) net of non-additional investment	1,104	£3,258 — £4,999 per job
Additional sales	£18,226,600	£3.37 — £5.16
Additional Gross Value Added Multiplier (0.329)[1]	£5,996,551	£1.11 — £1.70

Note:[1] Using BEIS estimates for SME value added as proportion of sales. Department for Business, Energy and Industrial Strategy (2010) Economic Evaluation of the Small Firms Loan Guarantee Scheme. URN 10/512. London. UK.

2. See https://www.ons.gov.uk/economy/nationalaccounts/supplyandusetables/articles/inputoutputanalyticaltables/methodsandapplicationtouknationalaccounts

On jobs and sales growth, we net out non-additional investment from businesses that would have proceeded on a similar scale without their LDB funding which accounts for 9.8% of businesses in our final calculations in Table 4. This reduces our gross job creation estimates by 55 jobs. The estimated funding provided for each gross additional job is between £3,258 and £4,999. In total, we estimate that 1,104 gross jobs were created in the post-funding period by supported businesses. Even using the average pay for the lowest 10% of wage earners in East Sussex which is £16,350 per annum, this would equate to £17.7 million in total wage income which suggests that there may be a significant local economic multiplier associated with this scale of gross job creation. Gross Value Added is estimated to be in the region of £6 million which again is a non-trivial amount in a local economy context. We must not forget the indirect impacts of job creation on local communities, which might include poverty reduction, improved job and career prospects, increasing demand for education and community wellbeing. These impacts are significant for building the local capacity for sustainable development (Warburton, 2018).

For context, total employment in Hastings is 30,800 and in East Sussex is 1.5m. The respective full-time median wages are £25,948 and £23,244. The Job Seekers Allowance rate is above the UK national average at 4.7% in Hastings and 2.5% in East Sussex. Total net incomes from employment for Hastings and East Sussex are estimated to be £599m and £25bn respectively. The consumer expenditure derived from this net income is estimated to be around £392m and £17bn. Our best estimates of the relevance of the LDB employment impact is a maximum local effect of 3.2% on jobs and 2.8% on the total employment income. Taking a wider view for East Sussex, the respective maximum regional effect is estimated to be 0.06% addition to total employment and a similar share of total employment income.

Finally, we questioned whether-or-not supported businesses felt that the future growth prospects of their businesses had improved as a result of receiving their LDB funding. In one sense we have already established what they did with their funding, and documented how their businesses had evolved in the post-funding period across several performance metrics, so this captures whether they felt that the longer-term prospects of their business had changed (or not). In total, 84% of LDB supported businesses considered that their future growth prospects had improved as a direct result of them receiving funding. This suggests that even for those start-up and early stage businesses that have established and consolidated their position in their relevant markets this has provided a base from which future growth can occur. For later stage businesses, who tended to have extended their activities, it would appear that funding has enabled them to embark on a growth trajectory that is sustainable beyond the immediate post-funding period.

On the base evidence presented thus far, we conclude that it is consistent with Step 1 in that LDB funded businesses generated additional economic activity as

measured by employment, sales, and value added. In relation to Step 2 (which is that the aggregate effect of all additional employment, sales, and value added is non-trivial) in the context of Hastings and East Sussex, we referenced our aggregate totals against local and regional benchmarks. We were drawn to consider that the local effect was certainly non-trivial in respect of jobs and consumer expenditure, and made a considerably smaller contribution in the wider regional context. Finally, on Step 3, which was the potential for this short-term growth to be sustained, we find that businesses indicated that the LDB support had directly made them more focused on medium-term growth over the next three years. This is broadly supportive that LDB has created the conditions that may lead to persistence in growth.

4. Results

Here we present the empirical findings from our core outcome analysis. The key metrics we consider are job growth, sales growth, and growth prospects improved. For our job and sales growth modelling we draw on Gibrat's Law of Proportionate Effect. The widely cited interpretation of the Gibrat's Law (Gibrat, 1931) is that the growth rate of a given rm is independent of its size at the beginning of the period examined or the probability of a proportionate change in size over time is the same for all rms in a given industry—regardless of their starting size. Empirical studies using broad business population data, and particularly small firm samples, generally rejected Gibrat's Law and found that, at least in the short-run, smaller and younger firms grew at a faster rate than larger and older firms (Lotti, Santarelli, and Vivarelli, 2009), particularly when sample attrition was accounted for (Jovanovic, 1982). The key relationship that we will test for in this study is the logarithmic specication of Gibrat's Law:

$$\ln S_{i,t} - \ln S_{i,t-1} = \beta_0 + (\Upsilon_1 - 1) \ln S_{i,t-1} + \varepsilon_{i,t}$$

where $S_{i,t}$ is the size of rm *i* at time t, $S_{i,t-1}$ is the size of the same rm in the previous period and $\varepsilon_{i,t}$ is a random variable distributed independently of $S_{i,t-1}$. As the β_1-1 is essentially our Υ_1 coefficient, we can say that smaller rms grow at a systematically higher rate than larger firms if $\beta_1 < 0$. If $\beta_1 > 0$ then larger firms grow faster than smaller firms.

Table 5: Regression results for growth in employment, sales, and future growth orientation

	(1) Employment Change				**(2) Sales Change**				**(3) Future Growth Orientation**			
	Coeff	Std Error	t-stat	Pr>t	Coeff	Std Error	t-stat	Pr>t	Coeff	Std Error	z-stat	Pr>z
LABOUR / SALES at Finance Time	-0.263	0.058	-4.560	0.000	-0.934	0.090	-10.430	0.000	0.743	0.425	1.750	0.081
Growth Rate Sales or Employment	0.034	0.013	2.630	0.014	0.956	0.489	1.950	0.061	0.715	0.505	1.420	0.156
Age Class (0-4 years)												
5-7 years	0.592	0.192	3.080	0.005	1.723	1.321	1.300	0.203	-1.336	1.180	-1.130	0.257
>7 years	0.595	0.216	2.750	0.010	1.988	1.342	1.480	0.150	-2.030	1.390	-1.460	0.144
Industry Sector (non-service)												
Knowledge intensive services	0.248	0.164	1.520	0.141	0.488	1.070	0.460	0.652	-3.067	1.469	-2.090	0.037
Traditional services	-0.365	0.145	-2.510	0.018	1.190	0.957	1.240	0.224	-1.798	0.968	-1.860	0.063
Investment Status (Fully additional)												
Partially additional	-0.377	0.097	-3.890	0.001	0.837	0.721	1.160	0.255	-0.433	0.607	-0.710	0.476
Non-additional	-0.245	0.156	-1.570	0.128	-0.179	1.085	-0.170	0.870	2.421	1.185	2.040	0.041
Market Funding (Applied and Got All)												
Applied and got some	-0.355	0.133	-2.680	0.012	-0.578	0.886	-0.650	0.520	1.963	0.994	1.970	0.048
Applied and got none	-0.663	0.232	-2.860	0.008	-1.055	1.625	-0.650	0.521	2.693	1.915	1.410	0.160
No applications	-0.708	0.136	-5.190	0.000	-1.988	0.914	-2.170	0.038	0.982	1.063	0.920	0.356
Management Skills												
Marketing	-0.064	0.056	-1.150	0.262	-0.338	0.382	-0.890	0.383	0.794	0.374	2.120	0.034
Finance	0.055	0.089	0.620	0.538	0.074	0.648	0.110	0.910	0.889	0.693	1.280	0.199
Operations	0.318	0.084	3.770	0.001	0.047	0.604	0.080	0.939	-0.297	0.638	-0.470	0.641
HRM	-0.072	0.080	-0.900	0.377	0.567	0.531	1.070	0.295	-0.341	0.451	-0.760	0.450
General Management	-0.084	0.083	-1.010	0.319	0.056	0.590	0.100	0.925	0.101	0.550	0.180	0.854
Constant	0.119	0.326	0.360	0.718	8.625	2.433	3.540	0.001	-5.054	2.574	-1.960	0.050
N Obs	45				45				49			
F (LR 2)	7.53				23.76				22.93			

Table 5 reports the econometric results for our two alternative growth models for employment and sales, which are estimated by OLS, together with our growth orientation (defined as growth prospects improved) model which, due to the binary nature of the outcome variable, is estimated as a probit model. On our tests of the independence of growth rates with initial size at the point of receiving LDB funding we find evidence consistent with the smallest firms achieving higher growth rates for employment and sales (the β_1 coefficients are statistically

significant and less than 0). It was also the case that the smallest firms measured by sales grew their sales proportionally faster than was the case for the firms with the smallest employment. Regarding age class of firm, we find that employment growth was positively associated with age for all age groups beyond 4 years. In relation to broad industry sector, we find that employment growth was lower for businesses operating in traditional service sectors. No age or industry effects were apparent for sales growth.

In respect of the key investment status variable, that distinguishes between businesses who would have proceeded with their investment project regardless, or whether they would have abandoned the project completely, or proceeded at a smaller scale or over a longer time-period, we find some interesting results. For employment growth, we find that fully additional funding (the business would have abandoned their project completely) was associated with more job creation than partially additional investment (the business would have proceeded at a smaller scale or over a longer time). However, this was not the case for sales growth. Thus, for jobs growth, our evidence is supportive of Step 1 (generates additional activity) particularly where the LDB offer is complemented by market capital. Where the LDB offer is a direct and first port-of-call for businesses the additional economic activity generated is far lower. Thus, in relation to Step 2 (creates a non-trivial level of additional activity), we find evidence that the complementary role is superior to the sole provider role for jobs and sales growth.

On the relationship of how businesses interacted with external capital markets and LDB, we find some important and particularly nuanced results for employment and sales growth. For job growth, we find that businesses who approached the market and got all the funds they requested had the highest job growth rates. In contrast, firms who went directly to LDB and had no other market interactions had the lowest job growth rates. In this sense, the market functions well and allocates more capital to the best businesses. The role of LDB, as a not-for-profit, allows for much broader societal gains in their funding allocation decisions over and above the private returns that a market institution appropriates. For sales growth, we find no differences in growth rates for all but those who had no market interactions. This group had lower sales growth rates.

Regarding Step 3 of our potential causal chain of events from funding to short-term economic impact, and then to a longer-term potential impact, we observe that having a growth orientation going forward was unaffected by initial firm size or age. This is contrary to empirical studies of actual growth (Cho, Chun, Kim, and Lee, 2017) and those considering life-cycle aspects of having the desire and willingness to seek growth (Wiklund and Shepherd, 2005) as a precursor to actual growth. We also observe that KIS businesses are significantly less likely to have a growth orientation.

We do find a positive and significant association with future growth orientation for businesses that approached the market for finance but were quantity rationed in the sense that they did not receive all the funding requested.

This latter finding might suggest that there are potential longer-term local economic gains as more businesses are looking to grow in the future per se. However, this is particularly true where LDB funding is complementary to that which the market provides. In fact, for businesses where there was no additionality present in respect of LDB funds they were more growth orientated on average. Finally, we note that businesses with a stronger marketing capability have a stronger future growth capability. Our final measure of impact, Step 3, considered whether there was the potential for this initial support to create a more sustainable and persistent effect. On this, we suggest that more businesses have a growth orientation and enhanced capability in terms of the next three years and this effect is common across businesses who reached LDB through all potential pathways (note that 84% of LDB supported businesses considered that their future growth prospects had improved as a direct result of their receiving funding; see Table 3), but particularly those who were quantity rationed in capital markets.

5. Conclusion

We set out to assess what the potential benefits were for small businesses in a specific locality of the UK who had secured access to loan or grant funding from a specialist local provider of small business support and funding called *Let's Do Business*. The first potential benefit related to growth, measured in employment and sales terms. In terms of the firm level impacts we find that, on average, jobs and additional sales were generated in the post-funding period. More jobs were created where LDB prevents a project from being abandoned completely and when their funding is complementary to market funding. The gains in terms of sales growth, which feed into value added and local consumer spending, are at a level which is certainly not trivial in a local context but fairly insignificant given the scale of the regional economy as a whole.

Drawing on these key findings in relation to employment impact, we estimated the cost per job created using a standard economic cost-benefit calculation. Here the estimates suggest that each net additional job created required £3,000 — £5,000 in funding. The net total jobs was 1,104 (from Table 4) that, using a very cautious local wage rate estimate, made a £17.7m contribution to total wage income. Netting out taxes and insurance paid by employees and using the standard ratio of consumer spending out of disposable income of 0.7, we estimate that the increase in potential consumer spending is around £9m. Of course, not all of this will feed into the local or regional economy, but this gives the scale of the potential local economic multiplier associated with increasing employment and incomes.

Having identified a channel by which local funding for investment can stimulate employment growth at the firm level, and tracing out the income and spending effects, we might conclude that there are potentially significant short-

term benefits arising from the activities of LDB in funding businesses in their locality and region. The final issue we considered was whether there was the potential for supported businesses to create a sustainable and enduring economic legacy. Given the strong association between smaller businesses having an explicit growth orientation and actual future growth, we did find evidence that businesses were also looking to grow more in the future. If this subsequently translates into higher growth in the medium-term then this would be evidence of a sustainable economic legacy.

References:

Alessandrini, P., Presbitero, A.F. and Zazzaro, A. (2009), "Banks, Distances and Firms' Financing Constraints", *Review of Finance*, 13(2): p. 261-307.

Allinson, G.F., Robson, P. and Stone, I. (2013), "Economic Evaluation of the Enterprise Finance Guarantee (EFG) Scheme", London: Department for Business Innovation and Skills.

Becchetti, L., Garcia, M.M. and Trovato, G. (2011), "Credit Rationing and Credit View: Empirical Evidence from an Ethical Bank in Italy", *Journal of Money, Credit and Banking*, 43(6): p. 1217-1245.

Block, J.H., Colombo, M.G., Cumming, D.J., and Vismara, S. (2018), "New Players in Entrepreneurial Finance and Why They Are There", *Small Business Economics*, 50(2): p. 239-250.

Box, M., Gratzer, K. and Lin, X. (2017), "New Firm Survival in Sweden: New Methods and New Results", *International Review of Entrepreneurship*, 15(4): p. 431-464.

Camino, D. and Cardone, C. (1999), "The Valuation and Cost of Credit Insurance Schemes for SMEs: The Role of the Loan Guarantee Associations", *International Small Business Journal*, 17(4): p. 13-31.

Carbo-Valverde, S., Rodriguez-Fernandez, F. and Udell, G.F. (2016), "Trade Credit, the Financial Crisis, and SME Access to Finance", *Journal of Money, Credit and Banking*, 48(1): p.113-143.

Casey, E. and O'Toole, C.M. (2014), "Bank Lending Constraints, Trade Credit and Alternative Financing During the Financial Crisis: Evidence from European SMEs", *Journal of Corporate Finance*, 27: p. 173-193.

Cho, J., Chun, H., Kim, H. and Lee, Y. (2017), "Job Creation and Destruction: New Evidence on the Role of Small Versus Young Firms in Korea", *Japanese Economic Review*, 68(2): p. 173-187.

Corbett, A. C. (2007), "Learning Asymmetries and the Discovery of Entrepreneurial Opportunities", *Journal of Business Venturing*, 22(1): p. 97-118.

Cowling, M. (2003), "Productivity and Corporate Governance in Smaller Firms", *Small Business Economics*, 20(4): p. 335-344.

Cowling, M. (2010), "The Role of Loan Guarantee Schemes in Alleviating Credit Rationing in the UK", *Journal of Financial Stability*, 6(1): p. 36-44.

Cowling, M. and Lee, N. (2017), "How Entrepreneurship, Culture and Universities Influence the Geographical Distribution of UK Talent and City Growth", *Journal of Management Development*, 36(2): p. 178-195.

Cowling, M., Lee, N. and Ughetto, E. (2019), "The Price of a Disadvantaged Location: Regional Variation in the Price and Supply of Short-term Credit to SMEs in the UK", *Journal of Small Business Management*, forthcoming: p. 1-21. Published online 19 November 2019.

Cowling, M., Liu, W., Minniti, M. and Zhang, N. (2016), "UK Credit and Discouragement During the GFC", *Small Business Economics*, 47(4): p. 1049-1074.

Cowling, M., Liu, W. and Zhang, N. (2018), "Did Firm Age, Experience, and Access to Finance Count? SME Performance After the Global Financial Crisis", *Journal of Evolutionary Economics*, 28(1): p. 77-100.

Cowling, M., Matthews, C. and Liu, W. (2017), "The Role of Loan Commitment Terms in Credit Allocation on the UK Small Firms Loan Guarantee Scheme", *International Review of Entrepreneurship*, 15(1): p. 15-28.

Craig, B.R., Jackson III, W.E. and Thomson, J.B. (2007), "Small Firm Finance, Credit Rationing, and the Impact of SBA-guaranteed Lending on Local Economic Growth", *Journal of Small Business Management*, 45(1): p. 116-132.

Cressy, R. and Bonnet, J. (2018), "The Long-run Impact of Bank Lending Constraints and Other Economically Important Factors on SME Failure", *International Review of Entrepreneurship*, 16(3): p. 289-328.

DBIS (2015), "SME Lending and Competition: An International Comparison of Markets", Research Paper, No. 270, London: Department for Business Innovation and Skills.

Deloof, M. and La Rocca, M. (2015), "Local Financial Development and the Trade Credit Policy of Italian SMEs", *Small Business Economics*, 44(4): p. 905-924.

Dvoulety, O., Cadil, J. and Mirosnik, K. (2019), "Do Firms Supported by Credit Guarantee Schemes Report Better Financial Results 2 years After the End of Intervention?", *The B.E. Journal of Economic Analysis & Policy*, 19(1), Article number 20180057.

Gagliardi, F. (2009), "Financial Development and the Growth of Cooperative Firms", *Small Business Economics*, 32(4): p. 439-464.

Gibrat, R. (1931), *Les Inégalités Économiques*, Paris: Sirey.

Guiso, L., Sapienza, P. and Zingales, L. (2004), "Does Local Financial Development Matter?", *Quarterly Journal of Economics*, 119(3): p. 929-969.

Harhoff, D., Stahl, K. and Woywode, M. (1998), "Legal Form, Growth and Exit of West German Firms—Empirical Results for Manufacturing, Construction, Trade and Service Industries", *Journal of Industrial Economics*, 46(4): p. 453-488.

Hasan, I., Jackowicz, K., Kowalewski, O. and Kozowski, . (2017), "Do Local Banking Market Structures Matter for SME financing and Performance? New Evidence from an Emerging Economy", *Journal of Banking & Finance*, 79: p. 142-158.

Jovanovic, B. (1982), "Selection and the Evolution of Industry", *Econometrica*, 50: p. 649-670.

Kersten, R., Harms, J., Liket, K. and Maas, K. (2017), "Small Firms, Large Impact? A Systematic Review of the SME Finance Literature", *World Development*, 97: p. 330-348.

Klagge, B. and Martin, R. (2005), "Decentralized Versus Centralized Financial Systems: Is There a Case for Local Capital Markets?", *Journal of Economic Geography*, 5(4): p. 387-421.

Kon, Y. and Storey, D. J. (2003), "A Theory of Discouraged Borrowers", *Small Business Economics*, 21(1): p. 37-49.

Krasniqi, B.A. and Mustafa, M. (2016), "Small Firm Growth in a Post-conflict Environment: The Role of Human Capital, Institutional Quality, and Managerial Capacities", *International Entrepreneurship and Management Journal*, 12(4): p. 1165-1207.

La Rocca, M., La Rocca, T. and Cariola, A. (2010), "The Influence of Local Institutional Differences on the Capital Structure of SMEs: Evidence from Italy", *International Small Business Journal*, 28(3): p. 234-257.

Lee, N. (2019), "Inclusive Growth in Cities: A Sympathetic Critique", *Regional Studies*, 53(3): p. 424-434.

Lee, N. and Brown, R. (2017), "Innovation, SMEs and the Liability of Distance: The Demand and Supply of Bank Funding in UK Peripheral Regions", *Journal of Economic Geography*, 17(1): p. 233-260.

Lee, N. and Luca, D. (2019), "The Big-city Bias in Access to Finance: Evidence from Firm Perceptions in Almost 100 Countries", *Journal of Economic Geography*, 19(1): p. 199-224.

Lopez-Gracia, J. and Sogorb-Mira, F. (2008), "Testing Trade-off and Pecking Order Theories Financing SMEs", *Small Business Economics*, 31(2): p. 117-136.

Lotti, F., Santarelli, E. and Vivarelli, M. (2009), "Defending Gibrat's Law as a Long-run Regularity", *Small Business Economics*, 32(1): p. 31-44.

McPherson, S.H. and Waller, C.J. (2000), "Do Local Banks Matter for the Local Economy? In Search of a Regional Credit Channel", in: G. Mess and E. van Wincoop (eds.), *Intranational Macroeconomics* (pp. 295-316), Cambridge, UK: Cambridge University Press.McMahon, R.G.P. (2001), "Growth and Performance of Manufacturing SMEs: The Influence of Financial Management Characteristics", *International Small Business Journal*, 19(3): p. 10–28.

Moritz, A., Block, J.H. and Heinz, A. (2016), "Financing Patterns of European SMEs–an Empirical Taxonomy", *Venture Capital*, 18(2): p. 115-148.

Nassr, I.K. and Wehinger, G. (2014), "Non-bank Debt Financing for SMEs", *OECD Journal: Financial Market Trends*, 2014(1): p. 139-162.

Porteous, D.J. (1995), *The Geography of Finance: Spatial Dimensions of Intermediary Behaviour*. Aldershot, UK: Avebury.

Porteous, D.J. (1999), "The Development of Financial Centers: Location, Information Externalities and Path Dependence", in: R.L. Martin (ed.), *Money and the Space Economy* (pp. 95-114). Chichester, UK: John Wiley.

Roman, A. and Rusu, V.D. (2015), "Financing of the EU SMEs by the Capital Markets: An Overview", *Ovidius University Annals, Economic Sciences Series*, 15(2): p. 546-551.

Tokila, A. and Haapanen, M. (2009), "Evaluating Project Deadweight Measures: Evidence from Finnish Business Subsidies", *Environment and Planning C: Government and Policy*, 27(1): p. 124-140.

Ughetto, E., Cowling, M. and Lee, N. (2019), "Regional and Spatial Issues in the Financing of Small and Medium-sized Enterprises and New Ventures", *Regional Studies*, 53(5): p. 617-619.

Warburton, D. (2018), "A Passionate Dialogue: Community and Sustainable Development", In: D. Warburton (ed.), *Community and Sustainable Development: Participation in the Future* (pp. 1-39), London: Routledge.

Wiklund, J. and Shepherd, D. (2005), "Entrepreneurial Orientation and Small Business Performance: A Configurational Approach", *Journal of Business Venturing*, 20(1): p. 71-91.

Yildirim, H.S., Akci, Y. and Eksi, I.H. (2013), "The Effect of Firm Characteristics in Accessing Credit for SMEs", *Journal of Financial Services Marketing*, 18(1): p. 40-52.

Zhao, T. and Jones-Evans, D. (2017), "SMEs, Banks and the Spatial Differentiation of Access to Finance", *Journal of Economic Geography*, 17(4): p. 791-824.