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What Kind of Business Advice Improves Small Business Productivity?

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What Kind of Business Advice Improves Small Business Productivity?

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ABSTRACT

The UK has a longstanding productivity gap with major competitor economies. Knowledge-based explanations and policy instruments attract substantial attention, including the provision of formal advice for SMEs. This paper estimates the impact of formal business advice interventions on employee productivity. It also estimates the impacts of different advice topics to identify those more likely to enhance productivity. Quantitative analysis is conducted using recent UK data for the period 2015 to 2021. Statistical matching and treatment analysis control for the likelihood that firms which actively seek advice have different characteristics. Findings show that obtaining business advice, across all forms, raises productivity by 10 per cent. Topics associated with sizeable improvements suggest that advice focused on codified knowledge delivered by trusted professional practitioners could provide most traction on improving SME productivity. This has important implications for public policy support and the design of signposting activity.

Keywords: business advice, business knowledge, productivity, small business performance

Data availability statement: the UK Longitudinal Small Business Survey, 2015-2021, data used for secondary analysis in this paper are available from the UK Data Service, DOI: <https://doi.org/10.5255/UKDA-SN-7973-7>

1. INTRODUCTION

The UK has a longstanding productivity gap with major competitor economies, a gap that has been widening since around the time of 2008-9 Global Financial Crisis due to stagnant UK productivity growth (Crafts and Mills, 2020). While there may be a wide range of possible explanations for this, particularly at the macro-economic level, substantial attention is paid to firm-level explanations for productivity (Harris and Moffat, 2017). A range of potential drivers of productivity are identified amongst small and medium sized enterprises (SMEs) (Jibril et al., 2020). Analysis has been motivated by evidence for a long tail of unproductive, mainly small firms in the UK (Haldane, 2017). A place-based dimension to this challenge is also considered important given that the UK has very high levels of regional inequality (McCann and Yuan, 2022).

The search for policy levers which might provide traction on productivity at the firm level extends widely. This covers, non-exclusively, the formation of human capital and skills (Barrett et al., 2018), the promotion of appropriate management practices (Bryson and Forth, 2018), support for innovation and improved access to finance for investment purposes (Owen et al., 2019). Support for SMEs has been a priority of UK government industrial strategy for at least the last 50 years since the publication of the Bolton Report (Wapshott and Mallett, 2022). Small firms support takes many forms, such as attention to the provision of advice and training in pursuit of performance goals including revenue growth, job creation and more recently productivity improvement, including sustainability-enhancing productivity (Mole et al., 2017).

In this paper, research questions are addressed concerning whether take-up of formal business advice by SMEs has a beneficial impact on labour productivity. In a novel contribution, the paper questions which topic areas of business advice are more likely to have a beneficial impact. This is achieved through secondary analysis of the UK Longitudinal Small Business Survey, covering the period from 2015 to 2021, through an extended period of uncertainty about the UK's future trading arrangements with the EU, into the COVID-19-induced economic crisis. Matching methods and treatment analysis are used to address a problem, apparent in previous literature, that those SMEs who access formal business advice are not representative of the wider SME population. The analysis here is unashamedly empirical – to identify a potentially robust statistical difference in the performance of SMEs who do, and do not, access formal business advice. There are implications here for business support practice and for policy design, as well as pointers

towards further research beyond the aim in this paper to develop an improved conceptualisation of *how* business advice impacts performance.

The first contribution in the paper is to show that across all forms of business advice, access to business advice improves productivity (revenue per employee) by 10 per cent within a year. It does not appear to make much difference whether a small firm, in any given year, accesses business advice relating to one topic only, or to two or more different topics. However, there are very clear differences in the impacts of different topic areas of advice on productivity. The second contribution is to show that these findings do not easily align to topics which might be thought directly to support productivity enhancement, such as advice on how to improve operational efficiency, how to improve workforce skills or how to enhance management and leadership. By contrast, the findings suggest that it is the provision of reliable and trusted professional advice on regulatory, legal and taxation matters, as much as subjective advice on more direct drivers of productivity (skills, innovation, management and leadership practice), that may yield the most significant gains for SME productivity. The former are more likely to be of an objective and codified nature. An outline conceptualisation is proposed from this to inform further research – research which would require richer and more nuanced data than that available in this study. The conclusion here is potentially challenging for those who fund and deliver business advisory programmes across the UK, and for those seeking to use SME-level micro-interventions to address the UK productivity gap.

2. BACKGROUND AND RESEARCH QUESTIONS

In 2022 SMEs accounted for 61 per cent of private sector in employment in the UK and 51 per cent of private sector business revenue (Source: BEIS, 2022, see Table 25). Their productivity performance measures the extent to which they can produce goods and services with given inputs, notably labour, and is therefore an important indicator of overall business performance. Productivity makes a central contribution to other ultimate economic performance indicators including real wage growth, profitability, and economic growth. SME productivity performance is therefore a critical indicator of wider entrepreneurial dynamism. Business support policy is often aligned to SME growth, but has been subject to critique as policy is often poorly contextualised and designed to identify well those firms best placed to benefit from support (Mason and Brown, 2011). In this context it is important to note that productivity enhancement need not align directly to growth (in turnover or in employment). Furthermore, SMEs where ownership or leadership is orientated towards growth may not necessarily be also orientated towards productivity enhancement, as

productivity may not have salience as a performance indicator (McBride et al., 2019). The focus on productivity as a critical performance outcome is framed here in terms of assessing formal business support as an intervention for addressing, at the micro level, the UK's poor productivity performance.

Across industrialised economies, government at various tiers seeks to promote and support the provision of formal business advice on the basis that this form of support is likely to enhance SME performance. There is, however, no reason for thinking that a positive impact is automatic. Most of the extant empirical research on formal business advice has focused on the question of which firms are more likely to take up formal advice. A well-established feature in UK data is that most SMEs at some point in their lifecycle will seek formal advice, but at any one time the proportion of firms using formal advice may be quite low (Johnson et al., 2007). Low levels of advice seeking may indicate the problem of “unknown unknowns” – that many SMEs, at any one time, are unaware that knowledge exists elsewhere which might be valuable in achieving improved outcomes. Crises, especially external ones, may form an important trigger for SMEs to initiate advice seeking (Jibril et al., 2023). While research has focused on advice take-up (Mole et al. 2017), a smaller literature has sought to evaluate the important question of whether uptake of formal business advice delivers positive performance impacts (Mole et al., 2011; Cumming and Fisher, 2012; Barbera and Hasso, 2013; Mole, 2016).

Within the literature it is possible to identify various perspectives or conceptualisations on how a potentially positive impact on firm performance might arise. An economic perspective suggests that a firm will seek out business advice if the anticipated benefits of that advice outweigh the costs of accessing it (Johnson et al., 2007). Anticipated benefits for certain forms of advice may be very difficult for firms to assess *ex ante*, and thus the market for commercially costed and provided advice may fail, resulting in a case for public support. Where economic benefits can be articulated, the level of confidence in their achievement may be higher where sufficient trust is present. So, a sociological perspective, based on the strength of the ties between advisor and firm, may also provide a basis for conceptualising impact (Kautonen et al., 2010). Economic benefits may be conditional on absorptive capacity, which is in turn dependent on business and business owner characteristics (Cohen and Levinthal, 1990; Audretsch and Lehmann, 2006; Engelen et al., 2014). In addition to economic benefits, the provision of advice may confer other non-cognitive psychological benefits, such as stress reduction and improvement in self-confidence, leading on to second-order business performance benefits. Following an approach used in psychology-based judge-advisor system models of advice giving¹, the

likely impact of advice may depend on the characteristics of the advisor and the nature of the advice (Mole et al., 2016). However, of equal importance may be considerations of how well the SME is able to absorb knowledge and translate it into valuable resources or dynamic capabilities.

A summary of the extant literature here suggests that advice needs to be intensive and shift the firm's development trajectory to yield benefits (Mole, 2016). The organisational learning approach and the resource-based view of business strategy have both been deployed in the literature to conceptualise this process. An organisational learning perspective focuses on the role that formal advice provision might play in the acquisition of new dynamic capabilities, which in turn enhance knowledge absorption (Cumming and Fischer, 2012; Cumming et al., 2015). A resource-based view perspective focuses on research (knowledge resource) deficiencies and the acquisition of formal advice to fill these and thus improve performance (Barbera and Hasso, 2013; Jibril et al. 2023). However, the direction of causality is an important issue in any empirical investigation of these ideas, since SMEs who already have acquired the conditions needed for improved performance may seek formal advice to maintain those gains. The choice of performance outcome in earlier work is also important. Existing findings on the relationship between business advice take-up and growth performance may have limited relevance for productivity, particularly where SME productivity improvement is be linked to the efficient allocation and use of existing levels of factors of production (lean management).

Turning to directly relevant empirical analysis, Cumming and Fischer (2012) use a sample selection correction to mitigate the causality question in addressing the impact of publicly funded business advice on a range of performance outcomes, with findings which include a positive impact on sales revenue. However, the cross-sectional sample in this study was too small to permit a more robust statistical matching and treatment analysis. Mole et al. (2008) are able to use statistical matching in estimating the impact of participation by SMEs in the publicly-funded Business Link support programme in England in 2003. They find that take-up of support is associated with a 4.4 percentage point increase in employment growth, but, although positive, the impact on sales growth is not statistically significant. The implication here is that, if business support assists increased employment but not sales, productivity could be damaged. Also using treatment analysis, further direct evidence of the Business Link programme on productivity (sales revenue per employee) is provided by Mole et al. (2011). Evidence from this analysis confirms this implication, since support in various modes may impact more on job creation than on sales growth, with correspondingly adverse effects observed for productivity. Because of the robustness of the empirical

methods assessed, a literature on the impact of public grants in the EU to SMEs is also worth noting (Dvoulety et al., 2021). This systematic review provides a mixed conclusion on impact on productivity. Comparability is restricted because, although business support in the form of public grants may encompass some formal advice provision, overlap between the two forms of support may be limited.

If attention in the literature is given to the acquisition and the absorption of potentially valuable knowledge, this in turn raises important questions about the knowledge content of business advice (topic area). This has implications for the nature of the advice (for example whether it is generic or codified, operational or strategic, directive or non-directive), and the characteristics of those to whom knowledge is imparted and their relationship to those providing advice (for example formal qualification or accreditation). However, an important gap in the literature concerns whether advice on different issues or topics may impact differentially on SME performance. Provider relationship issues relate to the professionalism of advisors and therefore trust (Kautonen et al., 2010), as well as to expert power imbalance and to the longevity or embeddedness of the relationship (Barbera and Hasso, 2013). Formal advice on some topic areas may yield higher benefits in terms of overcoming knowledge resource deficiencies or building dynamic capabilities. These considerations may influence why SMEs fail to seek (sufficient) formal business advice, or why, having sought advice, they are unable to absorb and apply it in a performance-enhancing manner. These are all further considerations which might follow from identifying empirically significant impacts of business advice on SME performance.

This paper focuses on the empirical impact of short episodes of formal business advice on productivity performance and explores potential differences in that impact across different advice topics. Two research questions are addressed:

RQ1: Is the take-up of formal business advice by SMEs associated with improvements in productivity?

RQ2: Are some topic areas of formal business advice more strongly associated with improvements in productivity compared to others?

Since a raw comparison of the performance of SMEs who access and who do not access advice is likely to be biased because of the effect of sample selectivity (Storey, 2017), any quantitative comparison will need to use control variables to differentiate statistically between those firms who access advice and those who do not, to constructing well-matched comparison samples. Previous literature which seeks to identify differentiators

between those who access and do not access formal business advice is of value in informing the choice of these controls. This is discussed further in the next section.

3. DATA AND METHODOLOGY

Analysis of the impact of receiving business advice on productivity is conducted using data drawn from Waves 1 to 7 of the UK Longitudinal Small Business Survey (LSBS). LSBS was initiated as a survey of SMEs (under 250 employees) by the UK Government's Department for Business, Energy and Industrial Strategy in 2015. Seven waves up to 2021 are available to researchers for analysis at the time of writing. The purpose of the survey is to provide insight into the drivers of and barriers to small business performance and growth. The survey uses an annual telephone questionnaire instrument which covers topics such as ownership structure, exporting, finance, innovation, and business support. The sample is constructed from records drawn from the UK Inter-Departmental Business Register covering SMEs who employ others. This is supplemented by a sample of non-employer sole-trader businesses drawn from Dun and Bradstreet business records, although as explained shortly these records are not used here. Surveying is undertaken by telephone. The initial achieved sample in 2015 was 15,502 businesses, with some attrition and subsequently sample replenishment in subsequent years. The sample size is reduced in 2020 due to surveying limitations imposed by COVID-19 lockdown restrictions.

Because it is not possible to compute the labour productivity of employed workers in businesses with no employees, all sole-trader (non-employer) businesses are dropped from the analysis. There is also a small reduction in the sample used for model estimation because the top and bottom one percent of the productivity distribution are winsorised, to eliminate the influence of extreme outliers. This leaves an available sample of 47,662 business-year observations. 32 per cent of observations in this sample relate to businesses who only appear in one wave (15,017 businesses). A further 21 per cent of observations relate to businesses who appear in only two waves (5,057 businesses). Only 6.1 per cent and a 6.7 per cent of observations relate to businesses who appear in six and seven waves (488 and 456 businesses). So, the sample is largely treated as pooled cross-sectional observations. Analysis is undertaken to examine the impact of business advice on current year productivity (i.e. impact which appears between 0 and 12 months after advice), as well as sustained impact after a year's lag (i.e. impact which appears after 12 to 24 months). This is achieved by estimating the difference in mean productivity between those who accessed business advice and those who did not, using a quasi-experimental approach. Statistical matching is used to construct a counterfactual sample of non-advised

businesses with similar characteristics, in effect controlling for the effect on the raw productivity differential of any systematic differences between the “treated” and “control” groups.

Due to limitations in the level of accounting data obtained in the survey, productivity is defined as business turnover per employee. In ideal circumstances a value-added measure (revenue minus materials) should be used for the numerator. The LSBS source does not provide information on materials costs. However, the larger component in variation in materials intensity is likely to be between sectors rather than between firms within sectors, and so this limitation will be ameliorated if sectoral level controls are used in the statistical matching process to generate comparison samples. In just over one quarter of business-year responses, turnover data is banded and for these sample observations band mid-point interpolation is used. As seen in Figure 1, the distribution of productivity levels across the sample is right-skewed, revealing small numbers of high productivity “frontier” firms and a dense distribution of “laggards”. This aligns with the distributions of other sources of firm-level productivity data (Haldane, 2017). However, also in Figure 1, the distribution is close to normal after log transformation, and so log (revenue per worker) is used as the outcome variable.

The key questionnaire items used in the analysis are: 1) a question on whether the SME has in the last 12 months sought external advice or information on matters affecting their business (where this is more than a “casual conversation”), and 2) a question on what the SME sought advice or information about. The response to 2) is open-ended and subsequently coded by the interviewer against a coding frame. Table 1 describes the incidence (take-up) of business support in the sample of employer SMEs used for analysis, with information on incidence levels across the coding frame. Observations are pooled across the available seven survey waves, generated a sample 47,662 business-year points. Across the sample the incidence of any form of business advice is 34.1 per cent. There are some SMEs who take-up multiple forms of business advice in any year. Most SMEs take up only one form of business advice in any year. So, the sample average is 0.56 instances of take-up per year. However, among the sample of 47,662 business-year points are 6,528 instances of take-up of more than one form of advice in any year. At the extreme there are 117 instances of 10 or more forms of advice take-up in any year. The most popular forms of business advice concern business growth (7.5%), followed by employment law/redundancies (5.9%), accounting (5.7%), and legal issues (5.0%). The relatively higher incidence of professional advice on legal and accounting issues suggests that SMEs drawn on ready access to and ongoing trusted relationships with qualified

practitioners in the legal and accounting professions. However, fifth on the list is advice related directly to business efficiency and productivity improvement (4.3%). But incidences of advice in other areas which might lead to productivity enhancement, including management and leadership development, training and skills, and innovation are all towards the bottom of the ranking, in each case below 2 per cent of advice incidence.

Because counterfactual outcomes are not directly observable (i.e. firms either access advice or not in any year), propensity score matching (PSM) is used to generate a matched sample of observations of SMEs who did not take-up business advice to assess the effect of business advice (the “treatment”) on log productivity as outcome. The purpose of this method here is to identify and quantify any causal impact, although not to directly test ideas about why any impact might have arisen. The average treatment effect on the treated (ATET) is expressed as:

$$E(y^1 - y^0 | treatment = 1) = E(y^1 | treatment = 1) - E(y^0 | treatment = 1)$$

where y^1 is observable log productivity and y^0 is the unobservable counterfactual log productivity of the treated group if that this group had not received business advice. *treatment* is a binary variable taking a value of one if business advice was received and zero if not. Different estimates can be computed for business advice on different topics. The following model is used to estimate propensity scores for sample matching purposes:

$$\Pr(treatment_{it} = 1) = \Phi(h(X_{it}))$$

where $\Phi(\cdot)$ represents the cumulative density function of a normal distribution. X_{ki} is set of control characteristics for firm i in year t and h is a vector of matching model parameters.

The specification of the control variable set needs to provide statistical acceptable matching – it does not need to encompass all potential explanations for the (non-)take-up of business advice. However, the literature is helpful here in that it identifies a range of business and owner characteristics have been associated with the take-up of formal business advice. In their survey Mole et al. (2017) adopt a contingency approach based on circumstances. These contingencies might include the internal characteristics of the business such as existing knowledge level (Chrisman and McMullan, 2000), or firm size (Johnson et al., 2007; Boter and Lundström, 2005), or demographic and education level of owner-managers (Robson et al., 2008; Scott and Irwin, 2009). They also concern management orientation (or more specifically growth orientation) and attitudes (Johnson et al., 2007; Edwards et al., 2010; Rostamkalaei and Freel, 2017). Finally external drivers may drive

advice take-up, including sectoral and spatial context, as well as dynamism and the speed of external change. For example, small businesses operating in a rapidly changing external environment, or where internationalisation is an explicit objective, may have stronger motives for seeking formal advice and support (Bennett and Robson, 2003; Heyden et al., 2013; Cumming et al., 2015). Table 2 lists and describes the control variables used, which include business age, size, spatial, sectoral and, to control for changes in macroeconomic conditions including the impact of COVID-19, time (wave) variables.

4. FINDINGS

Treatment effect (ATET) estimates are presented in Table 3. Pseudo-control samples, obtained from propensity score matching, are created using the controls listed in Table 2. This method addresses the concern that any raw samples of firms who access and do not access formal business advice will not be comparable, and that differences are likely, as seen in previous research, to be systematically correlated with observables. In all instances a very good level of statistical matching is achieved. Inspection of sample distribution plots and raw versus matched sample differences by control variable confirms this (see an example in the Appendix – a full set of plots is available on request). Two sets of estimates are presented in Table 3. The first set reported in column (1) uses current year incidence of business advice as the treatment. This allows for any productivity impact to accrue up to one year after advice is received. The second set reported in column (2) uses the previous year (lagged) incidence of business advice as the treatment. This allows any productivity impact to accrue between one and two years after advice is received. As noted previously, the use of lags entails a significant reduction in available sample size, and may introduce some degree of bias if sample attrition is not random.

The first row of results reports ATETs for any form of business advice as treatment. Using the current year as treatment, the estimate shows that take-up of business advice results in increase in productivity of 10.3 per cent. This estimate is highly statistically significant. In the lagged model, estimating the impact of advice after one year, a slightly lower but still highly significant estimate of 8.0 per cent is found.

The remaining rows of Table 3 report ATET estimates for each business advice topic separately. In each case propensity score matching draws a difference pseudo-control sample for treatment effect estimation. In column (1) of Table 3 strongly statistically significant ATETs are found for advice about exporting (35.3% productivity increase), legal issues (21.0% productivity increase), general business accounting (5.8% productivity

increase), regulations (17.0% productivity increase), improving business efficiency/productivity (5.1% productivity increase), tax/national insurance law and payments (26.3% productivity increase), and other advice (9.4% productivity increase). Advice about employment law/redundancies has a small but significant negative impact on productivity.

The impact of advice on productivity may not necessarily occur entirely within the same year. Impacts may take time to accrue or may persist beyond one year. Furthermore, since there may be two-way causality between productivity and business advice, even given the set of other controls used for propensity-score matching, productivity-orientated SMEs may more actively seek external guidance. Using a lagged treatment will better allow for this possibility. The “cost” for this analysis is the loss of the first whole wave of productivity data. Hence there is a substantial reduction in available sample size, which make also impact the estimates. As reported in the findings in column (2), most of the strongly significant estimates seen in column (1) are robust to switching to lagged treatment effects. There are some movements in coefficient sizes, both up and down, indicating both delays in achieving full impact and attenuation of impact over time. Exporting advice in the previous year leads to a 61 per cent increase in productivity. Advice on legal issues in the previous year leads to a 18 per cent increase. In both cases a fuller impact on productivity is delayed. Advice on other issues in the previous year leads to a 9.6 per cent increase, a level which is very close to that in the current year. Advice on business growth has no significant impact on current year productivity but has a statistically significant delayed impact of 6.6 per cent after a year. Advice on regulations in the previous year leads to a 12 per cent increase, and advice on tax/national insurance law and payment in the previous year leads to a 18 per cent increase. While these two impacts are statistically significant, in both cases the lagged impact is smaller than that in the current year. This suggests attenuation of impact after one year. Finally, the second column also shows that advice on training/skills results in a marginally significant 10 per cent reduction in productivity after one year – a finding that appears counterintuitive but may suggest that supporting improvements in training initially lowers productivity as workers take time away from work to train.

Also, as reported in the bottom rows of column (1) of Table 3, treatment effects are estimated for the incidence of multiple forms of advice in the same year. SMEs who access advice across two or more topics in any year experience an 8.3 per cent increase in productivity, a little lower than the main result for accessing any advice either on one or more occasions of 10.3 per cent. SMEs who access advice across three or more topics in any year experience a productivity increase of 6.5 per cent. However, as noted earlier, the

number of SMEs who access three or more forms of advice is much smaller - 2574 compared to 16,276 instances of one or more forms of advice in any year. Smaller productivity effects arising from multiple instances of receiving advice could occur because of systematic differences in characteristics between those SMEs who access only one form of advice and those motivated to seek advice across two or more different topics.

Further findings are presented in Table 4. These are findings from the estimation of multiple regression models for log productivity in which, alongside the same set of controls used for propensity score matching, business advice take-up is included as a potential productivity driver. The models are estimated as a robustness check to corroborate the treatment effect estimates. Multiple regression analysis with productivity as the outcome can also estimate the impact of taking up business advice on one topic conditional on whether advice has been acquired on other topics. Column (1) uses the incidence of any form of business advice as the explanatory variable. The results here show that the take-up of business advice is, after controlling for other influences, associated with a strongly statistically significant 13.3 per cent increase in productivity. This estimate is higher than the treatment effect estimate reported in column (1) of Table 3, pointing the importance of correcting for sample selectivity. This provides corroborating evidence of a significant impact, although the larger estimate of the productivity impact here may reflect bias arising from selection bias on the part of SMEs who take up advice, controlling for which other instrumental variables might be required. Advice take-up and the set of controls explain around 22 per cent of the sample variation in log productivity. In column (2) the equation is lagged to model delayed impact. The estimated impact of advice on productivity is a little lower at 11.7 per cent, consistent with the earlier pattern of findings.²

In column (3) the single advice take-up variable is replaced with a full set of binary indicators, one for each different advice topic. These findings are not directly comparable to those in columns (3) and (4) of Table 3 because they assess the impact of each form of advice controlling for access in the same year to other business advice topics. Eight of these are individually statistically significant, although not all are positive. Productivity is positively associated with advice on exporting (34.1% increase), on legal issues (22.3% increase), on regulations (12.7% increase), on tax law and payment (22.7%) and on other topics (11.0%). However, in three cases the sign of the coefficient is negative, showing that incidence of advice on employment law/redundancies, on obtaining finance and on training and skills needs is associated with lower productivity, controlling for the effect of any advice which might have been received at the same time. Although as noted few SMEs take-up more than one form of advice in any years, these results do allow for potential spillovers or

mediating influences between different advice topics. In column (4) reported these findings using the set of lagged advice indicators. Most impacts remain at the same level or are attenuated with the passage of additional time.

5. DISCUSSION

Previous analyses of the impact of formal advice are limited in scale and scope (Mole, 2016). A key finding from this new quantitative analysis is that the take-up of formal business advice by SMEs is associated with improvement in productivity (RQ1). With incidence of formal business advice defined as the take-up of advice on any topic on at least one occasion during the past year, the estimated impact is strongly significant and robust. The central estimate, obtained from using statistically robust treatment analysis, suggests that take-up of formal business advice yields an average improvement in productivity of around 10 percent, with evidence that impact persists at least up to two years after advice take-up. This is an important conclusion because it effectively provides a formal evaluation of a popular form of SME support policy, in terms of its efficacy for addressing the important wider economic challenge of low UK productivity.

Just over one third of SMEs accessed some form of formal business advice across the UK between 2015 and 2021. This was a turbulent period for SMEs, encompassing the UK referendum on departure from the EU and subsequent uncertainties leading up to the implementation of a withdrawal agreement in early 2020, as well as from early 2020 the impact of the global COVID-19 pandemic. It would be reasonable to state that reliable and trustworthy business advice for SMEs had never been more important, despite no evidence of any upward trend in take-up of advice over the period of analysis. This period also coincided with continued stagnation in UK productivity levels. The design, focus and mix of policy in pursuit of improved business productivity continues to be hotly debated and contested. The question of whether micro policy intervention directed towards SMEs should be the principal focus of productivity improvement policy might be left to debate elsewhere. What the findings in this paper show is that public support appropriately designed to assist SMEs in accessing high quality formal business advice can support productivity growth by helping SMEs to move towards the efficiency frontier. The nature of the knowledge contained within that advice is important for performance improvement, consistent with the proposed conceptual underpinning.

A significant gap in the extant literature is that it has not addressed the impacts of differing business advice content, and specifically whether advice on certain topics has a greater

impact on performance (RQ2). The findings here reveal a range of impacts across different advice topic areas. There is no evidence of any current productivity impacts (treatment effects) in eight out of sixteen identifiable topic areas, but there are statistically significant and positive impacts of varying size in the other eight topic areas. One further topic area, business growth, shows no current productivity impact but does show a significant positive impact after a year's lag. An important question arising from these results is whether there are any aspects of commonality across those advice topic areas which are found to impact productivity positively. Earlier literature suggests that the nature and form of the knowledge contained within business advice as potentially important.

The findings emerging from this study show the strongest impact on productivity arises from advice about exporting. The current year impact is sizeable (35% productivity improvement), yet this figure almost doubles after a further year. However, less than 1 per cent of SMEs in the sample analysed take up formal exporting advice, reflecting low levels of internationalisation across the UK SME population. Previous research, some using early waves of the same data source, has shown for small and micro businesses that exporting can be a key channel through which innovation generates productivity gain (Bootink and Saka-Helmhout, 2018; Henley and Song, 2020). Aside from the 'other' catch-all category, the other topic areas where the within year impact of formal advice on productivity is in double-digits are tax/national insurance law and payments, legal issues, and regulation. For these topics, a common feature is that advice is likely to be more codified, more directive in nature, and to have been acquired from trusted and qualified professional practitioners, principally lawyers, accountants and government-authorized product and trading standard certification bodies (since Brexit renamed Conformity Assessment Bodies). The latter comprise a mixture of public-sector and accredited independent organisations. Take-up rate of advice on two of these topics are among the highest (see Table 1), although take-up of advice on regulations is lower. Relationships between business and advisor may be moderated by the existence of formal contracts (Bennett and Robson, 2004), and may be conditional on the longevity and strength of the professional relationship (Barbera and Hasso, 2013).

As noted, research has also identified across the board low levels of take-up of formal business advice (Johnson et al., 2007). Consistent with this, the data analysed here show low numbers of multiple forms of advice take-up in any year. Furthermore, in this study, the lower incidence of formal business advice is striking on those topics (innovation, operational efficiency, management and leadership practice, workforce skills), which a wide body of commentary suggests might relate directly to productivity (McCann and Vorley,

2020). Potential explanations for this feature in the data may again relate to the nature of knowledge (too generic) and the attributes of those who may provide it (more difficult *ex ante* to establish expertise and trustworthiness). One consequence of the COVID-19 crisis may have been to stimulate greater advice take-up (Jibril et al., 2023), with the results here consistent with a view that the provision of appropriate business advice may have alleviated some of the worst performance consequences of the crisis.

The process of translating the take-up of formal business advice into beneficial performance impact is likely to depend on levels of trust in the knowledge provider, the content of that knowledge provided (the relevance and salience of the topic area), and the ability of the SME to absorb the knowledge provided. (Is it clear and codified? Is it directive and/or providing actionable insights?) Figure 2 proposes a simple conceptualisation of the process from disposition to take up formal advice through to positive impact, based on insights from the extant literature. The take-up of formal business advice is determined by a range of firm characteristics. The exploration of this relationship has formed the basis of much of the previous quantitative and qualitative work. Once advice is accessed the value of that advice is in terms of its ability to generate improvement in firm performance. The findings in this study show that the content (topic area) of business advice has an important conditioning influence on any impact, and therefore points towards issues of knowledge content and trustworthiness. Future research is therefore needed to refine and test this possible model of impact, informed by the range of ideas discussed in the literature review about how to conceptualise that impact pathway.

These discussion points have implications for design of business support policy. Barriers to entry in the business advice market can be very low, and levels of trustworthiness correspondingly low (Bennett and Robson, 2004). Consequently, businesses may be over-confident in their own abilities or rely on close and informal but not necessarily expert contacts (Kautonen et al., 2010). The absence of professional regulation or accreditation may lead to market failure, resulting in both over-supply and low demand. The familiar issue of adverse selection may arise, such that high quality providers of business advice may struggle to attract interest in their services at fee levels which cover their costs of provision. Governments, including in the UK at national and devolved levels, intervene to reduce the cost of access to business advice, and to signpost SMEs towards sources of advice. This may create circumstances in which SMEs expect low or zero-cost provision but have limited confidence in the quality of that provision. Although these findings show that formal business advice overall is associated with a significant positive impact on SME productivity, they also point to the potential benefits of signposting of SMEs towards professionally

delivered, codified forms of knowledge related to topics not directly aligned to the strategic and operational drivers of productivity. Rather than subsidising the cost of provision, a challenging recommendation here is that business support policy might be better served through brokerage, regulatory and quality assurance activity to improve SME trust in and long-term engagement with advisors. In the meantime, the best productivity-enhancing policy in the domain of business advice may be to encourage and support SMEs to develop trusted contract-based relationships with professional advisors. There are also very clear benefits in providing SMEs with formal advice to assist in developing and executing internationalisation strategies, consistent with earlier research (Cumming et al., 2015).

There are various limitations in this present analysis, some of which point towards further research. While the data source provides a much larger sample than available in earlier, cross-sectional quantitative studies, the LSBS provides limited control information to differentiate between those firms who take-up advice and those who do not. There are gaps in information about business owner attributes, and the data source does not provide more subjective information, for example on business orientations and on knowledge absorptive capacity, which might permit a wider investigation of the proposed conceptualisation of the impact path. The data source is also not able to provide rich information about the mode of delivery of the advice (as distinct from the topic area). Further research is possible using the LSBS to address potential differences in impact from different sources of advice (public agency, professional specialist, generalist advisor etc.), and, relevant to recent circumstances, whether advice was delivered face-to-face or remotely. A further limitation in the data, which is common to many surveys, is that the labour productivity definition relies on the use of turnover rather than value added data. This issue is mitigated to the extent it can be addressed using sector-level controls, provided that major differences in raw materials usage are between sectors rather than between firms within sectors. Finally, the high sample attrition rates in the LSBS, seen in the very small proportion of SMEs who appears in all waves, militates against a full exploitation of the longitudinal aspect of the data. In the case of advice on business growth the results show, perhaps unsurprisingly, that modest productivity benefits take longer to emerge. Full benefits from other topics may take even longer requiring a more extended longitudinal design.³ Ideally further research in this area should be conducted along best practice lines in quantitative evaluation methodology using an experimental policy design.

6. CONCLUSION

This paper has focused on the question of whether formal business advice for SMEs can positively impact productivity, and thus contribute to addressing the challenging issue of low UK business productivity, and the well-documented problem of a long tail of less productive businesses. The question is conceptualised through a model in which some SMEs are more likely than others to take up business advice, and therefore that any attempt to measure the impact of advice on productivity, as a performance indicator, must account for this self-selection issue. Modelling impact ought also to consider aspects of the nature of the advice and in particular its subject relevance to the business (and therefore its ability to be translated into effective decisions and actions). Two research questions were formulated – one which addresses the overall impact of advice on productivity and a second which asks whether advice on some rather than other topics is more likely to improve productivity. The analysis presented is a quantitative one, drawing on a large-scale recent UK longitudinal survey of SMEs.

For the first research question, the contribution of the paper is to show that the take-up of business advice, on whatever subject, leads to a productivity improvement of 10 percent. This is an encouraging conclusion given that UK government agencies at national, devolved nation and regional levels commit significant resource to the provision of business advisory services. However, SMEs access advice from a range of public and private sector sources, provided both through public subsidy and through private contractual arrangements with consultants and with professional advisors such as lawyers and accountants. For the second research question, the contribution of the paper is to show clear differences in and ranges of impact for different advice topics. In addition to a very strong impact from exporting advice where take-up is very low, the largest impacts (and in some cases highest levels of advice take-up) are for topics related to legal issues, tax and national insurance law and payments, and regulatory compliance, where knowledge is likely to be codified and specific, and is trusted because it is provided by qualified or accredited professionals. By contrast, more subjective advice on more direct drivers of productivity, such as workforce skills, innovation, and management and leadership practice, is not found to deliver SME productivity gains.

These findings challenge conventional wisdom on the design and resourcing of business support activity and point instead to the importance of encouraging SMEs to establish and pay for long-term relationships with professional practitioners, and to a potential role for policy in supporting long-term trust-based relationships through quality assurance and

brokering activity. However, in conclusion it is important to note that for many of the wider potential drivers of productivity, including management and leadership development, support for innovation, and skills acquisition, other means of support, delivered “slow burn” through other institutions and interventions including further and higher education, may be more effective than the provision of short formal business support engagements.

Footnotes

¹ A judge-advisor system model is one in which, in the present context, the small firm receiving advice is the judge and is the key decision maker. The model focuses on the dynamics of the relationship between the two parties, with implications for the nature and utilization of the advice and the extent to which the judge discounts that advice based on their level of trust.

² The longitudinal nature of the dataset can be exploited to replace the control variables with individual business fixed effects. However, in this case this is a stiff test because, as already noted, one third of businesses in the sample only appear in one wave. Therefore, any take-up of business advice by these businesses in the year in which they appear will be exactly correlated with the fixed effect. In a fixed effect the estimated impact is only captured for those who switch from receiving no advice in the previous year to advice in the current year. It is therefore not unexpected that the size and statistical significance of the advice impact on productivity disappears when including fixed effects, suggesting that the use of fixed effects as controls in this case is not appropriate.

³ The high level of sample attrition across the seven waves of LBS makes the investigation of longer impact time lags problematic. Evaluation evidence for longer term SME leadership development interventions suggests that impact can take several years to arise (Goldman Sachs, 2021). However, impact time lags may depend heavily on the nature of the intervention or the form of knowledge which is transferred. In the case of “short burst” formal professional advice, particularly where this is sought in response to immediate circumstances (Jibril et al., 2023), it is reasonable to think that impact lags might be shorter. On the other hand, where advice relates to wider issues of business strategy and growth paths impacts may take longer than two years to emerge.

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Table 1: Business advice - sample description

	Mean (Std. Dev.)
Business advice:	
Incidence - any business advice	0.3415
Count of instances of business advice within a year	0.5598 (1.1883)
Incidence of advice: business growth	0.0749
Incidence of advice: employment law/redundancies	0.0594
Incidence of advice: finance – general accounting	0.0575
Incidence of advice: legal issues	0.0503
Incidence of advice: improving business efficiency/productivity	0.0432
Incidence of advice: other	0.0403
Incidence of advice: tax/national insurance law and payments	0.0339
Incidence of advice: how and where to get finance	0.0273
Incidence of advice: health and safety	0.0273
Incidence of advice: regulations	0.0267
Incidence of advice: marketing	0.0255
Incidence of advice: e-commerce	0.0212
Incidence of advice: training/skills needs	0.0156
Incidence of advice: management/leadership development	0.0149
Incidence of advice: innovation	0.0118
Incidence of advice: exporting	0.0086
N	47,662

Source: author's calculations from LSBS Waves 1 to 7.

Table 2: Control variables

	Mean
Business age:	
0 to 5 years (reference category)	0.0962
6 to 10 years	0.1348
11 to 20 years	0.2208
Over 20 years	0.5465
Size:	
1-4 employees (reference category)	0.2847
5-9 employees	0.1587
10-19 employees	0.1962
20-49 employees	0.1613
50-99 employees	0.1214
100+ employees	0.0776
Industrial 1 digit sector:	
Primary	0.0329
Manufacturing (reference)	0.1155
Construction	0.0874
Wholesale/retail	0.1689
Transport/storage	0.0360
Accommodation/food	0.0907
Information/communications	0.0504
Financial/real estate	0.0433
Professional/scientific	0.1230
Administrative and support services	0.0812
Education	0.0289
Health and social work	0.0793
Arts/entertainment	0.0244
Other services	0.0382
ILT1 region:	
East Midlands	0.0732
East of England	0.1067
London (reference)	0.1118
North East	0.0283
North West	0.0844
South East	0.1549
South West	0.1176
West Midlands	0.0802
Yorkshire and the Humber	0.0705
Scotland	0.0950
Wales	0.0416
Northern Ireland	0.0356
Rural location	0.2830
Year/survey wave	
2015 (reference)	0.1939
2016	0.1310
2017	0.0885
2018	0.1957
2019	0.1617
2020	0.0985
2021	0.1306

Table 3: ATET estimates for business advice on productivity

Outcome: log (revenue per employee)	(1)			(2)		
	ATET	p-value	N treated	ATET	p-value	N treated
Lagged model?	No			Yes		
Any form of business advice	0.1034	0.000***	16,276	0.0798	0.000***	8,139
Advice: business growth	0.0346	0.080	3,571	0.0662	0.037**	1,735
Advice: e-commerce/technology	0.0561	0.132	1,009	0.0422	0.432	534
Advice: employment law/redundancies	-0.0459	0.030**	2,829	-0.0165	0.617	1,392
Advice: exporting	0.3531	0.000***	410	0.6052	0.000***	210
Advice: finance - how and where to get it	-0.0123	0.692	1,302	-0.0105	0.828	661
Advice: finance - general business accounting	0.0583	0.010**	2,739	0.0337	0.347	1357
Advice: health and safety	-0.0002	0.996	1,300	-0.0273	0.581	636
Advice: improving business efficiency/productivity	0.0505	0.047**	2,059	0.0397	0.302	1,050
Advice: innovation	0.0166	0.731	562	-0.0329	0.698	258
Advice: legal issues	0.1790	0.000***	2,402	0.1846	0.000***	1,102
Advice: management/leadership development	0.0140	0.756	710	0.0050	0.931	350
Advice: marketing	0.0258	0.444	1,214	0.0730	0.130	623
Advice: regulations	0.1697	0.000***	1,271	0.1228	0.019**	663
Advice: tax/national insurance law and payments	0.2632	0.000***	1,617	0.1812	0.000***	853
Advice: training/skills needs	-0.0371	0.364	745	-0.1022	0.080*	365
Advice: other	0.0938	0.001***	1,922	0.0958	0.011**	981
2 or more different forms of advice in any year	0.0829	0.000***	6,528			
3 or more different forms of advice in any year	0.0650	0.007***	2,574			
Matching method	PSM			PSM		
N	47,662			22,735		

Notes: propensity score matching method, using controls in Table 2. * denotes p-value<0.1, ** <0.05, *** <0.01. Source – author’s analysis using LSBS Waves 1 to 7.

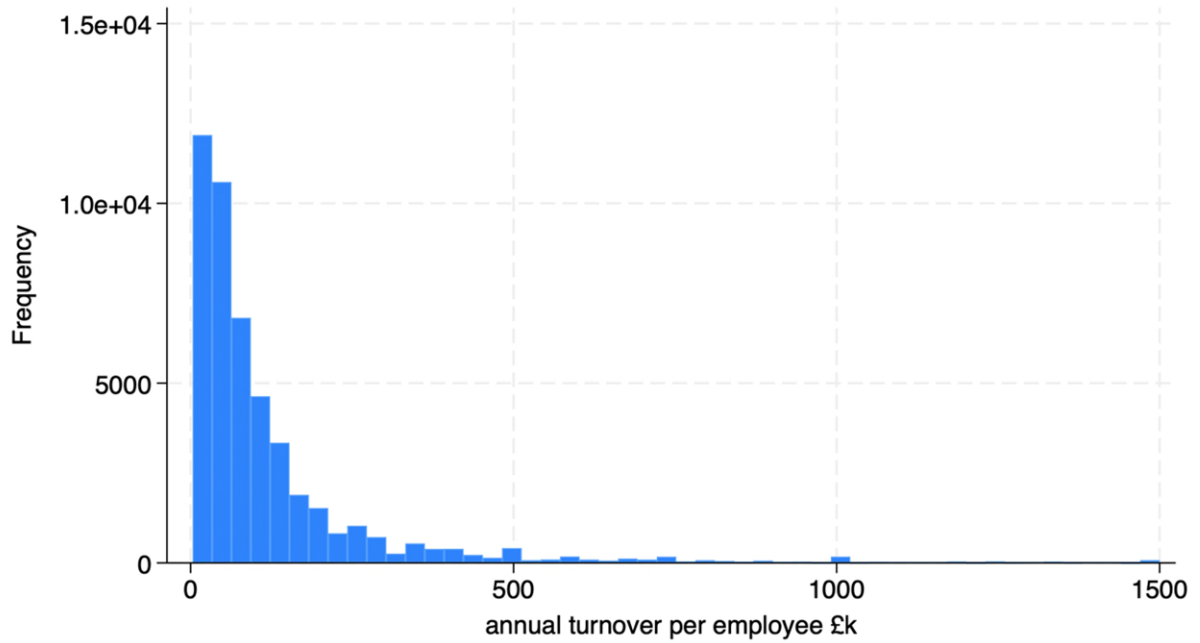
Table 4: Multiple regression analysis

	(1)	(2)	(3)	(4)
Dependent variable: log(revenue per employee)				
Advice indicators lagged?	No	Yes	No	Yes
Any form of business advice	0.1334***	0.1172***		
Advice: business growth			0.0290	0.0386
Advice: e-commerce/technology			0.0372	0.0144
Advice: employment law/redundancies			-0.0958***	-0.0551*
Advice: exporting			0.3413***	0.2927***
Advice: finance - how and where to get it			-0.0626**	-0.0117
Advice: finance - general business accounting			0.0300	0.0205
Advice: health and safety			-0.0185	-0.0331
Advice: improving business efficiency/productivity			0.0264	0.0410
Advice: innovation			-0.0280	-0.0684
Advice: legal issues			0.2231***	0.2353***
Advice: management/leadership development			-0.0193	0.0301
Advice: marketing			0.0181	0.0047
Advice: regulations			0.1266***	0.0991**
Advice: tax/national insurance law and payments			0.2271***	0.1783***
Advice: training/skills needs			-0.1293***	-0.1578***
Advice: other			0.1098***	0.1409***
Controls	Yes	Yes	Yes	Yes
Year dummy variables	Yes	Yes	Yes	Yes
R-squared	0.2234	0.2137	0.2266	0.2367
N	25,573	11,513	25,573	11,513
NT	47,662	22,735	47,662	22,735

Notes: Standard errors adjusted for clustering by firm. Controls as listed in Table 2. * denotes p-value < 0.1, ** < 0.05, *** < 0.01. Source – author’s analysis using LSBS Waves 1 to 7.

Figure 1: Sample productivity distribution

a) levels



b) logs (with normal distribution superimposed)

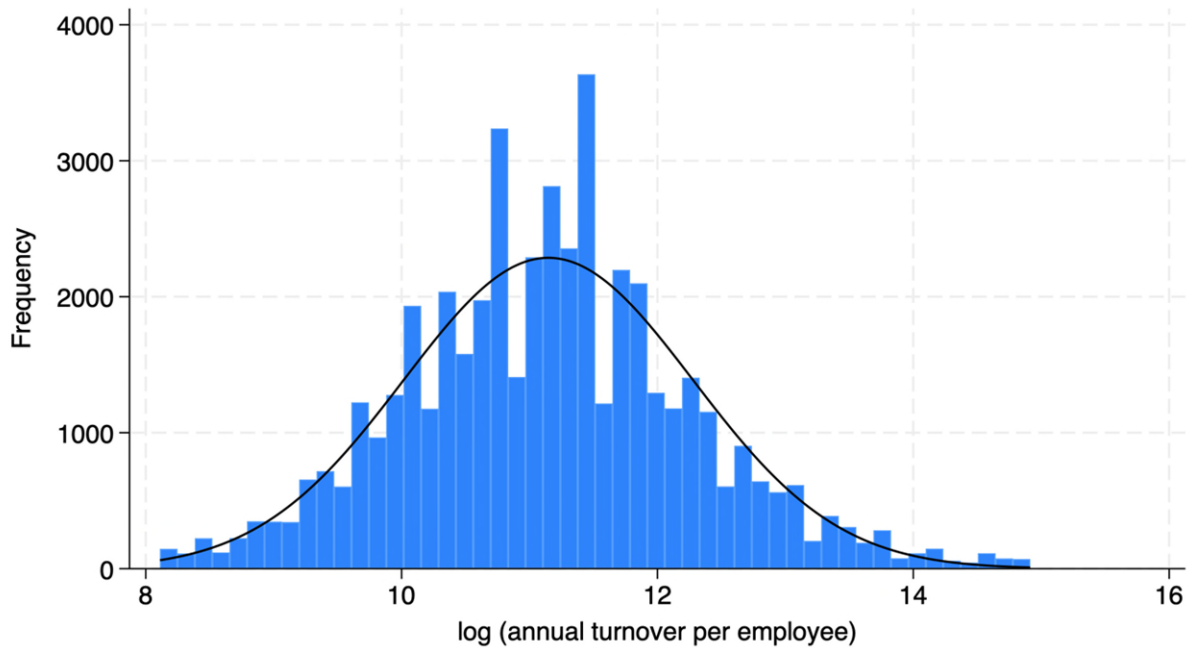
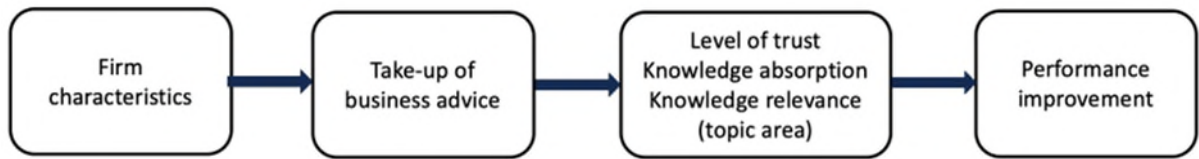


Figure 2: Conceptual framework





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