BROADER OR DEEPER?
EXPLORING THE MOST EFFECTIVE INTERVENTION
PROFILE FOR PUBLIC SMALL BUSINESS SUPPORT

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Broader or Deeper? Exploring the most effective intervention profile for public small business support

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Abstract

In the UK as in most other advanced economies significant advisory support is offered for start-up firms and SMEs. UK services for SMEs are provided by Business Links which structures its support into non-intensive – one off contacts providing information or advice – and more intensive support involving a diagnostic process and repeated interaction with firms. A key choice for managers of Business Links is resource allocation between these two types of service – i.e. should support be broader or deeper? Drawing on resource dependency theory which combines elements of structure and agency we develop a typology of intervention models for Business Links in the UK reflecting differences in the breadth and depth of the support provided. We then test the impact of these alternative intervention models on client companies using subjective assessments of impact by firms and econometric treatment models allowing for the potential for selection bias. Our analysis suggests two key empirical results. First, Business Links' choice of intervention model has a significant effect on outcomes, and secondly our results are consistent in emphasising the value of depth over breadth. The implication is that intensive assistance should perhaps be available to no more than 7-10 per cent of client firms and where additional resources are available these should be used to deepen the assistance provided rather than extend intensive assistance to a wider group of firms. This suggests that ideas such as mentoring that increase the deepening of advice may generate more positive effects than approaches that broaden advice such as an 'MOT for business'.

Broader or Deeper? Exploring the most effective intervention profile for public small business support

1. Introduction

Publicly-funded advisory support for small and medium sized firms (SMEs) is available in most developed countries (Chrisman, McMillan and Hall, 2005; Mole and Bramley, 2006; Bennett 2008), and has been seen as particularly important in supporting development in not only transitional and developing economies (Lyon, 2006; Samoff and Stromquist, 2001 Welter and Smallbone, 2006) but also in less developed regions (Bennett, Robson and Bratton, 2001; Bennett and Smith, 2002; Hart and McGuiness, 2003; North and Smallbone, 2006; Smallbone, Baldock and North, 2003). Across the OECD, however, policy-makers have made different choices about the types of advisory services that they provide and the profile of recipients they target[1]. In this paper we consider the experience within England, part of the UK, where a regionally devolved decision-making structure has allowed support organisations – called 'Business Links' - to develop different support strategies within a national policy framework (Priest, 1999; Turok and Raco, 2000; Mole, 2002)[2]. Some Business Link Organisations (BLOs) have adopted a 'deeper' strategy, focussing resources on intensively assisting a small proportion of service recipients; other BLOs have operated a 'broader' strategy spreading their resources more thinly across a broader range of recipients. Business Links in different areas also developed different resource-seeking strategies, building local partnerships to either augment their resource-base or improve service delivery.

Here, we consider whether a 'broader' or 'deeper' approach worked best in terms of maximising the impact on businesses, and thereby increase the return for the taxpayer. Somewhat surprisingly given the potential value of the answer, this question has been largely ignored in previous evaluations of business support in the UK (PACEC, 1999; Roper and Hart, 2005; Johnson, Webber and Thomas, 2007; Mole et al., 2008). Our approach has two key stages. First, we draw on resource dependency theory (Pfeffer and Salancik, 1978) to identify indicators which we then use to identify clusters of BLOs adopting different approaches to the delivery of business support services. This takes into account both the extent to which BLOs

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[1] See Mole and Bramley (2006) for a taxonomy of OECD advisory services
[2] This policy-making approach could be seen as consistent with the recommendations of *Building Institutions for Markets* (World Bank, 2002). The only principles of institution building that was not followed was that the Business Links were not forced to compete (each covering a separate geographically defined territory), and the natural experiment has not been systematically evaluated.

are able to utilise the resources of partner organisations in providing business support as well as BLOs ability to offer a route to the SME market for other public sector service providers such as training organizations. We operationalise this typology using cluster analysis identifying four groups of BLOs that we call: 'Light touch', 'managed brokerage', 'pipeline forcing' and 'managed pipeline forcing brokerage'. This approach allows us to distinguish between the structures that enable and constrain BLO managers to deliver high impact services, and the decisions and strategies that managers have taken to improve their position. This is consistent with a perspective where agency and structure are both present (Archer, 1995). The second stage of our analysis uses an econometric approach to evaluate the impact of each approach to intervention on business performance. This leads to some clear messages about the impact on business performance of broader and deeper strategies.

Our paper continues the tradition of econometric evaluations of the outcomes of Business Links intervention in England (Bennett, Robson and Bratton; 2001; Bennett and Robson, 2004; Robson and Bennett (2008); Mole et al, 2008; Mole et al, 2009). Our major innovation, suggested by resource dependency theory, is to relate intervention outcomes to the intervention strategies adopted by individual BLOs. This contrasts with earlier more 'structural' or 'institutional' perspectives which have tended to downplay the capability of BLO managers to shape their support policy and priorities within a given inter-organisational structure. The rest of the paper is organised as follows. Section 2 discusses the conceptual framework based upon resource dependence theory and considers how it relates to the choices made by BLO managers. Section 3 sets out the data and explains the stages of our analysis. Section 4 provides the empirical results and section 5 develops the conclusions and the implications for theory and policy.

2.1 Policy and Operational Context

The majority of industrialised countries support small and medium-sized firms through information and advice. Public advisory services are justified as a mixed (private-public) good (Storey, 2003). This supposes that advice is available through the private sector, by accountants for example, but the difficulty in placing a value on advice coupled with the potential for its benefits to spill over to those who have not paid for the advice, leads to a sub-optimal amount of advice being taken.

Policymakers have a series of decisions to make concerning the rationale; administration, rationing, and its implementation (see Mole and Bramley, 2006). There have been a number of distinct phases of development of business support policy in the UK in the past forty years, commencing the Bolton Committee's report in 1971 which provided a rationale for the Small Firms Service (Bennett and Robson, 2003a). In the 1990s, Business Links were created in a decentralised local business support system that interacted with other existing local agencies (Bennett and Robson, 2003; Greene, *et al.,* 2004, 2007). In 1999, local Business Links Operators (BLOs) were reorganised, with the number of BLOs being reduced to 45. Each local franchise was intended to be a distinct local body that contracted directly with the national Small Business Service (SBS). The Business Links were supported by government money from the Small Business Service, a department within the Industry Ministry. This money was determined by performance indicators. The most important were the amount of 'market penetration' and the 'satisfaction rate'[3]. The higher the performance; the more money the BLO received.

In terms of their provision of business support services, all BLOs operate in both high and low volume businesses. The high volume business is the supply of comparatively simple information to firms either through printed material, face to face, telephone or through a website. The low volume business is face-to-face 'intensive' assistance diagnosed and brokered by a business adviser. The role of the business adviser also changed in order to emphasise brokerage and referral rather than direct help. Hence, advisers provided impartial diagnostic advice (Hjalmarsson and Johansson, 2003; Mole and Bramley, 2006; Mole and Keogh, 2009; Turok and Raco, 2000).

As we referred to above core funding for each BLO was at the time of our study provided by the national Small Business Service, a section of the Department for Trade and Industry. On the basis of this funding, a key strategic choice for BLO managers was therefore the balance between high volume and low volume, more intensive, business support. However, where BLO managers could convince other organisations to use the BLO as a 'route to market', or secure additional resources in other ways, this created other options. For example, some BLO managers convinced other agencies that were trying to develop skills that they could help them

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[3] The impact was also measured through impacts on Gross Value Added but this measure was difficult to operationalize and therefore was not as effective.

gain clients and so reach their targets. In particular, a small number of BLOs chose to work very intensively with some client companies variously described as a 'high cost per intervention' (Birmingham) 'very, very intensive assistance (Sheffield). Both cases depended on obtaining funding to supplement their core funding, most frequently from the EU, although even here the regional offices are those that dispense the EU funding so that the choice by BLO managers depends on these relationships. Consequently, a way to measure the successful management of the interdependencies is through the BLOs' ability to secure non-core funding. We might expect that those BLOs offering more intensive assistance, or offer intensive assistance to more companies, would rely less on the core funding coming from the SBS.

In delivery terms, there was evidence that these changes to the Business Links network had a positive impact on BL performance and increased market penetration. In the period 1997-2002, market penetration by BLOs increased to 32.6 per cent of businesses (Bennett and Robson, 2003). This positioned Business Link as the primary source of public sector business support in England. The level of client satisfaction with the service still depended strongly on the characteristics of the individual business adviser, argued (Bennett and Robson, 2004).

Crucially, however, the BLO was not constrained from bidding for funds from outside agencies, such as the EU structural funds and therefore could augment its income from non-SBS sources. In that sense, for some BLOs their core funding from SBS became just another funding source. The BLOs who reduced their dependence on core funding are most interesting for the story in this paper. So, the policy context is where BLOs are given core funding depending upon their performance in terms of satisfaction and the proportion of small firms that it helped.

2.2 Theoretical perspective
Our aim here is to develop a framework to reflecting the emphasis of business support provision in different areas. This emphasis depends on the strategic decisions and success of BLO managers, and degree to which SMEs seek, utilise and implement advice received from Business Links. Recent studies by Bennett and Robson in the UK and Chrisman in the US have suggested the resource-based view as a theoretical basis for the analysis of such business support services (Bennett, Robson and Bratton, 2001; Bennett and Robson, 2004; Chrisman and McMullan, 2004; Chrisman, McMullan and Hall, 2005; Robson and Bennett, 2000, 2008). Chrisman, McMullan and Hall (2005), for example, argued that the interaction between

business adviser and client firm involves the transfer of (tacit) knowledge, justifying use of the resource-based view. However, the focus of this paper was on the choices and the resources garnered by BLO managers, rather than the interaction between adviser and client.

Resource dependency theory views managers as agents who interact with their environment, because they need resources that are only available in their environment. Resource dependency theory offers an agent-centred view, because it is the managers who garner resources, while also reflecting the importance of networks of organisational interdependencies, because the resources required are outside of the manager's control (Pfeffer and Salancik, 1978). So, a BLO manager is linked to a web of networks of other agencies involved in business development. These interdependencies then shape the resources (broadly defined) available to the firm or organisation and provide the basis for its operations. To govern a firm or business support organisation in this view, managers have to control both its internal and external environment to manage and stabilize these inter-organisational interdependencies (Fligstein and Freeland, 1995)[4]. In this model, managers can actively seek to influence their environment, seeking essentially to reduce their dependence on external and uncertain sources or resources. Examples of the way they might do this include negotiating long-term contracts, through building alliances or through inter-locking directorships. Hence, the theory is consistent with a 'dialectical' model reflecting elements of both structure and agency (Archer, 1995, 2003; McAnulla, 2002; Reed, 1988). Managers are neither dupes of their environment, nor are they independent of outside forces and interests. Resource dependence theory often focuses on links between organizations, known as dyads. In a recent re-appraisal of resource dependency theory, Casciaro and Piskorski (2005) suggest that two aspects of an interdependent dyad are conceptually different. First, there is the degree of mutual dependence between the two parties, and the higher this is the more organizations might seek alliances. Second, there is the difference in power between two parties, with a greater difference reducing the ability to form alliances.

In terms of BLOs, resource dependence theory would suggest that we would expect to see BLO managers making alliances with external resource providers, such as Learning and Skills Councils, and local agents of the EU emphasising their mutual dependence. Strong local, inter-organisational dependencies shaped the resources available to many of the business support

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[4] In terms of the internal environments, historically Business Links have had an issue controlling their business advisers (see Mole, 2002a). Indeed, this was one reason for the franchise approach to BLOs (Mole and Keogh, 2009).

organisations considered here, shaping resource availability and influencing the business model they adopted. Bennett and Robson (2004) showed that many BLOs had interlocking directorships with other business support organizations. They classified 55 per cent of BLOs as independent, with others (23 per cent) related to Chambers of Commerce, or other local public or quasi-public institutions (16 per cent). In some cases these relationships were positive and resource-enhancing. In others, more adversarial relationships reflecting power imbalances were evident between Business Link managers and other regional and local policy makers[5] (Casciaro and Piskorski, 2005). These patterns of local inter-organisational dependencies stem in part from Business Link Organizations (BLOs) evolving from existing local business support organisations (Bennett, 2008). Some previous studies of the effectiveness of Business Links support were based on patterns of interlocking directorships between BLOs and partner organisations (most notably Chambers of Commerce) (Bennett, Robson and Bratton; 2001; Bennett and Robson, 2004). In their earlier paper Bennett, Robson and Bratton (2001) found that the reported satisfaction with Business Link support varied little with the pattern of local relationships. In the later paper, Bennett and Robson (2004) suggested that there were some benefits at the margin from having BLOs connected to Chambers of Commerce; although their conclusions were tempered by their observation that there were high levels of variability within those organisations that had similar types of inter-relationships. The Bennett-Robson-Bratton (BRB) approach of using interlocking directorships to represent organisational inter-relationships characterises the management of the BLO by the nature of their ownership and partners. However, the way in which resources are gathered from the environment maybe independent of the structures of directorship; consequently, our paper stresses differences in local strategy (Priest, 1999), rather than directorships structures in our analysis of the effectiveness of BLO support.

2.3 The model

When a BLO starts operating after winning a franchise, it might have existing relationships with other agencies within the environment and it has core funding. 1n 1999, it therefore started in a position where it depended upon core funding for its survival. It is resource dependent. In Figure 1, the BLO starts in the low intensive and low 'penetration rate' of local

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[5] In many cases these more adversarial relationships were contractual, with the more powerful Regional Development Agency staff, which had the power to develop business support policy, seen as developing regional policy priorities without reference to Business Link executives. There have been a number of publications concerned with the influence of individual BLO performance targets set nationally, see Priest, 1999.

firms as a proportion. Many BLOs remain in this position; however, the BLO managers can build relationships and it might be that the environment is fairly rich in resources, which in this case means public sector support such as being in an EU Objective 2 area. Some BLO managers there may be greater opportunities to involve others in their business and provide a 'route to market' for other agents, thus managing their environment. In reducing this dependence on the SBS core funding, the question we pose is what strategy would make the greater impact for the taxpayer? Do you use the extra money to increase the number of firms that receive more assistance, forcing more firms along a pipeline? Or do you stick with the existing proportion of intensively assisted but support even more intensively, what many BLOs termed 'managed brokerage'?

In terms of the impact of business support by any given BLO this raises two key issues which underpin our analysis. First, given the two-tier model of intervention adopted by all of the BLOs, a process of selection is inevitably involved to determine the proportion of firms which will receive more intensive assistance. This means that firms with certain pre-existing characteristics – whether observable or not - are more likely to receive, say, intensive assistance. As these characteristics may be linked to business performance it is important for us to allow for this selection effect in modelling the impact of BLO support. Not doing so is likely to result in biased estimates of the net effect of BLO support (Maddala, 1983). The second issue is the intensity of the more intensive support actually offered by each BLO. Where resources permit, or the proportion of firms selected for intensive assistance is smaller, this is likely to be greater. These two strategic choices – proportion of firms to be intensively assisted and the intensity of intensive assistance – essentially define the strategic space within which BLOs operate. Four alternative operating models can then be distinguished (Figure 1):

- Model 1 Light-touch brokerage - this is the default model characterised by BLOs which were 'lean and mean' with low levels of 'touch with their clients and not too much follow-up'. The payoff here is that BLOs are able to achieve high penetration rates among SMEs albeit with more uncertain outcomes. BLOs adopting this Light touch or transaction-approach (Chaston, 1999) tend to be concentrated in areas that receive little non-core funding such as EU supported funds.

- Model 2 Managed brokerage - the managed brokerage model is essentially similar to the Light-touch brokerage model but provides more substantial intensive assistance to

clients. This may involve non-core funding and more interaction between the clients and advisor in a relationship-building approach (Chaston, 1999).

- Model 3 Pipeline Forcing - in this model, BLOs aim to get a high proportion of firms through to the 'end of the pipeline' providing intensive assistance for a high proportion of client firms. The ability to operationalise this type of strategy often depends on the receipt of non-core funding by the BLO, either from EU or other sources.

- Model 4 Managed Pipeline Forcing Brokerage - a combination of models 2 and 3, this option requires high levels of funding per assisted firm and a high proportion of firms to be assisted. It is likely, therefore, to be more prevalent in areas where additional non-core support was available to the BLO.

2.4 Hypotheses

Having outlined the four intervention models, this sub-section develops some hypotheses concerning the impacts of BL which follow from the operating models.

In the first place, our conception of these models from resource dependence theory suggests BLO managers have to actively interact with the environment to create the intervention model. Hence,

H1: there is no 'hard and fast' connection between the environment and the choice of models.

Since, the different intervention models are the result of the interactions of BLO managers with other agencies then we would expect that the intervention models would result in slightly different services delivered to the SME clients. We might expect, for example, the light-touch brokerage (model 1) to provide help to find external consultants and therefore quickly move the client through the process. Those with more managed brokerage would be expected to be involved with more and deeper interventions such as helping with finance and operational issues.

H2: Different services are offered by different intervention models.

We ask in the paper's introduction whether the intervention models that emphasis broadly based high penetration rates are better than those who emphasise more costly, deeper interventions. In the first instance, we ask the client about their perceived impact of different

services and can therefore, assess whether the perceived impact differs between the intervention models.

H3: Different intervention models result in different services being perceived to impact on the business client

Moreover, we distinguish between these perceived impacts and the impact on more objective measures of firm growth (see Weinzimmer, Nystrom and Freeman, 1998). If the taxpayer is to see benefits from the programmes then they would need to show impacts not just on the perception of the recipients but on the growth of the firm. The interventions differ from those that are concerned to impact quickly (model 1) and to impact on many firms (model 3), from those that expect to make more major impacts on a comparatively smaller number of firms (models 2 and 4). We expect therefore that the quantifiable outcomes from business clients would differ.

H4: Different intervention models result in different subsequent impacts on the employment and sales

3. Data and Methods

Our empirical methodology aims to assess the impact of BLO's choice between these four intervention models on the impact of assistance on firms. First, we use administrative data on resource use by the BLOs to profile their intervention model, and then group individual BLOs into one of the four models identified earlier. We then use firm-level survey data to evaluate and compare the performance impact of assistance provided through each intervention model. Finally, this allows us to compare the cost-effectiveness of each intervention model.

3.1 Data

The data used for the study come from two main sources: monitoring data for the BLOs and a large-scale survey of BL clients. We derived the four models of BLOs from SBS (the national agency with responsibility for the monitoring data. This was data supplied to the SBS for the purposes of monitoring the BLOs performance. These would be the satisfaction rates, the penetration rates and costs. This data was all at the BLO level, and covered the period for April-September 2003.

The second stage of our empirical analysis considers the impact of the assistance provided by BLOs adopting each of the intervention models. This is based on information taken from a

structured survey of firms in England assisted by BL between April and September 2003, and a comparable group of non-assisted businesses matched by size, broad sector and region. As indicated earlier, firms supported by Business Links could either be assisted 'intensively' or 'non-intensively', a classification made by the Business Links themselves. Intensive assistance typically involved a series of interactions between the firm and Business Links over a period of months, usually involved the development of an action plan and often the involvement of external consultants. Non-intensive assistance was typically a one-off piece of advice provided in response to a telephone call from the company to Business Links, for example, suggestions about where further information was available.

Firm survey work was conducted by telephone between May and July 2005 with owner-managers and firm managing directors comprising the majority of respondents. The sampling frame for firms assisted by BL was provided directly by the BLOs[6], who were asked to provide information on **all** recipients of advice during the reference period. A random sample was then drawn from the population of firms that had received advice. The sampling frame for non-assisted firms was drawn from the Dun and Bradstreet UK database. Here, an initial question was used to confirm that they had not received assistance from BL over the reference period[7]. The response rates to the survey were 44 per cent among the intensively assisted group, 36 per cent among other assisted firms and 23 per cent among non-assisted firms. A Computer Aided Telephone Interviewing (CATI) system was used to automate the administration of the telephone survey. The survey was piloted and a number of questions were amended or withdrawn after the pilot phase. The key characteristics of the 3,448 respondent firms are summarised in Table 2.

The characteristics of firms in the assisted and non-assisted groups are seen to differ significantly in some instances, which we would expect to influence average growth rates between the two groups, even without BL intervention (see Table 1). Assisted firms were generally younger, with more multi-plant firms and with higher export propensity than those in

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[6] Firms' receipt of BL assistance was also confirmed by a survey question asking whether firms had used BL services during the reference period (April to October 2003). 96.5 per cent of respondents confirmed their use of BL services.

[7] Of the non-assisted respondents, 13.8 per cent reported using BL as a source of advice or assistance at some point in the past, with the majority of these (92.4 per cent) confirming that this BL assistance had been provided prior to the start of the reference period (i.e. before April 2003). The remaining 7.6 per cent were unable to be certain about the timing of the BL assistance they had received. The suggestion is, however, that the extent of any contamination of the non-assisted sample was low, and that they will therefore provide a valid control group. In the non-assisted group 43.1 per cent responded negatively when asked whether 'they had ever heard of BL before this interview today'.

the non-assisted groups (for further details see Mole, Hart, Roper and Saal 2008, Table 1). There are more limited liability firms in the sample, with a greater proportion with non-executive directors, differences in strategy and planning, and differences in the age and number of serial founders (Barkham et al., 1996; Deakins et al., 1998; Orser et al., 2000; Roper, 1999; Storey, 1994; Ucbarasan et al., 2003; Westhead et al., 2003). All these differences suggest assisted firms are likely to grow; indeed some suggest that growth prompts firms to seek advice because they face problems that they have not encountered before (Johnson, Webber and Thomas, 2007). The systematic differences in the characteristics of firms in the assisted and non-assisted groups are taken into account in the econometrics see below.

3.2 Methods

The first stage of our empirical methodology involves the grouping of BLOs by their use of the four intervention models identified in Figure 1. This is based on a cluster analysis using monitoring data for April 2003-September 2003 provided by the Small Business Service and is described in detail in Annex 1. To measure the intensity of assistance we use three indicators for each BLO: the cost per intervention, the proportion of BLO funds accounted for by core support from SBS; and, the proportion of funds provided through EU programmes. The proportion of firms which received intensive assistance is measured directly from the SBS monitoring data (Table A1). The result of the cluster analysis on this data suggests that, of the 45 BLOs which existed during our study period, 31 were adopting a Light-touch brokerage intervention model, 8 were using a Managed Brokerage approach, 4 were using Pipeline Forcing and only two (Durham and Northumberland) were adopting a Managed Pipeline Forcing Brokerage approach (Table 1).

3.3 Performance measures

To assess these effects we adopt two approaches. First, we consider firms' perceptions of the impact of BLO support in each intervention model. Secondly, we use an econometric approach based on a two-stage treatment model with sample selection reflecting the probability of receiving assistance (Heckman, 1979). Elsewhere (Mole et al., 2008) we have reported national results using a similar approach and reflecting the overall treatment effect of the Business Links network at national level. Here, we focus on the results distinguishing between intervention models by partitioning the national treatment effect into four elements reflecting the different intervention models. The econometric analysis is described in detail in Annex 2.

The performance measures for the econometric analysis are twofold. First, we examine the perceived impact of the intervention on the SME clients. The use of perceived impacts has been widespread in the literature on small firm policy particularly from the Cambridge Business Surveys (see Bennett and Robson, 2004; Bennett, Robson and Bratton, 2001; Robson and Bennett, 2008). The rationale for this measure is that the client is in the best position to evaluate whether they believe the intervention to have helped. Presumably this might lead them to be able to value external advice again on a subsequent occasion, which appears more plausible given the justification for advisory support that focus on the inability to value advice (Wren and Storey, 2002) . These performance measures are classified in two assessments: first, whether the service was important for change and two, whether BL services were critical for change. Again our expectations are that the intervention models that emphasize more intense advice (model 2 'managed brokerage' and model 4 managed pipeline forcing brokerage) would show greater impacts on the perceived performance.

However, we are able to buttress these perceived performance measures with more 'objective' measures of performance since the intervention to examine the effects on subsequent employment, sales and sales per job. The latter measures of performance are used often in studies of firm growth (see Weinzimmer, Nystrom and Freeman, 1998). In effect, we use these measures to ask whether the intervention have any significant effects on firm growth. Although in previous work we have shown this to be the case (Mole et al., 2008, 2009). However, these impacts have not been separately assessed by intervention model. Again we might expect the models that use more intensive assistance to have greater impacts.

3.4 Explanatory variables

In this section we set out the explanatory variables used in the selection and performance equations. As previously discussed, the performance equations are concerned with the impact of BL assistance on the employment and sales, and sales per employee, and the technique used involves the treatment effect approach to control for selection. This section provides a rationale for the use of the variables within the models (See annex 2). The section starts with the selection equation.

The selection equation uses a bivariate probit to model the influence of different firm characteristics on the probability of receiving assistance from BL. The theory of advice as a

response to a perceived knowledge gap (Chrisman and McMullan, 2004) is consistent with younger owner-managers of firms being are more likely to seek public advisory services. Consequently, the age of the owner-manager was included in the selection equation.

Another strand has suggested that a future growth-orientation is associated with gaining advice, and therefore that the limited liability of the company might be associated with a greater need for knowledge (Johnson, Webber and Thomas, 2007). Hence, we included limited liability as an explanatory variable. Others have argued that there is a sense in which some more disadvantaged are discouraged from obtaining advice (Scott and Irwin, 2009), and that this can be seen in gendered effects (Robson, Jack and Freel, 2008). Consequently, we incorporated a measure of the gender diversity in the leadership of the SME clients.

In addition to the characteristics of company and owner-manager and management team, we modeled the channels through which owner-managers came to hear about the advisory services. Given the nature of advisory requests as responses to problems (Mole and Keogh, 2009), the marketing effort of BL continues to be strong (Mole, et al., 2009). As such information variables, like referrals or mailshots, can be useful to identify those owner-managers who are likely to receive BL help; yet are unlikely to make any impact on the subsequent performance of the firm. There is no reason why those receiving mailshots from BL would be more likely to grow, for example.

In the performance equation are controls for effects on performance extraneous to BL intervention. The firm controls refer to the firm age. A well-known result in growth modeling is the negative correlation between firm age and growth (Evans, 1987a, b). The focus of the firm's strategy has been seen to make significant differences too. Put simply we expect firms who focus on new markets to show growth, with or without assistance (see Roper, 1999). Furthermore, the presence of formal business planning has been shown to improve growth (see Orser, Hogarth-Scott and Riding, 2000). Again, we control for the age of the owner-manager because this has been argued to make a significant difference to growth intentions with older entrepreneurs being less likely to want to grow (Barkham et al., 1996).

4. Empirical Results

Turning to the empirical results, we first consider the issue of the whether the differences in the models was a simple case of distance to the more prosperous south-east region of England (see

table 1). In this case the focus is on the choices that can be made by different BLOs. In the main we do find that the south-east is dominated in the light-touch model (1). However, there are northern counties such as West Yorkshire and areas with high levels of public subsidy available such as Cornwall, also represented in this model. In model 2 we see many of the urban conurbations such as Merseyside, Manchester and Tyne and Wear, yet Hertfordshire also makes it into this group, as it followed a different approach. In model 3 are a number of more peripheral regions where the pipeline forcing might be linked to lower new firm starts. Finally, model 4 has two North-East BLOs. In the north east the rate of new firm formation is comparatively low and the munificence of the environment as far as public support is concerned is high, which has enabled two of the BLOs to avoid making a choice between broader or deeper; they could be both! There are strong geographical effects from the context, nevertheless different BLOs have approached the problem in their own way. In the West Midlands, Birmingham BL has used managed brokerage whilst the nearby Black Country BL adopted a light-touch. Suffolk used pipeline forcing whilst nearby Norfolk used a light-touch. Geography matters but does not determine, suggesting that we cannot reject H1.

4.1 The functional mix in the different models

In addition to these differences in the characteristics of firms in each group, it is also worth considering the functional mix of business support being provided in each of the intervention models. Grouping firms in terms of the intervention model adopted by their local BLO suggests significant differences between the functional mix of the four models of BL assistance for intensively-assisted firms (see Table 3): Managed Brokerage BLOs were most likely to be providing intensively-assisted firms with business planning assistance, action plan development and help with raising finance; Managed brokerages and Managed Pipeline Forcing Brokerage were also most likely to be providing assistance with e-commerce and IT. More significant differences were evident, however, in the service profiles being provided to other-assisted firms (Table 3): Managed brokerages were providing 42.3 per cent of their clients with help for raising finance compared to only 19.7 per cent of the clients of light touch brokerages; Managed brokerages were also providing more of their clients help with exporting, e-commerce and IT than other types of BLOs ; BLOs operating as managed pipeline forcing brokerage were most likely to be offering their clients help with training, reflecting links with Learning and Skills Councils. Consequently, we cannot reject *H2: Different services are offered by different intervention models.* These differences in the functional mix of both intensive and non-intensive assistance suggest that any differential impact of the four

intervention models does not simply reflect a broader v deeper trade-off but also involves questions related to the functional orientation or focus of each profile of support which may also be contributing to differential impacts on business performance.

4.2 Self-reported impacts

The perceived impact of BL assistance by intensively assisted firms is summarised in Table 4, differentiating between areas in which BL support had either 'important' or 'crucial' impacts. The top of table 4 shows % important; the lower half shows % critical. Among these firms the proportion of firms citing BL assistance as either important or crucial to improved capability was generally similar for all four intervention models. Significant differences were evident, however, in respect of financial capability, training, and innovation capability (Table 4). First, firms which received intensive assistance support under the Managed Brokerage model, which provided 'highly intensive' assistance to a small group of firms, were significantly more likely to report that BLO support was an important, but not critical, source of change in financial sourcing. The broader group of intensively assisted firms helped under the Managed Pipeline Forcing Brokerage model reported that BLO assistance was important in improving their training capabilities (Table 4). Only in terms of innovation capability were there significant differences in the proportion of intensively-assisted firms citing BL support as a crucial factor in change in the firm (Table 4). This was most common among intensively-assisted firms helped through the 'Light Touch Brokerage', a model in which intensive support was targeted on a relatively low proportion of client firms[8]. Among non-intensively assisted firms significant differences between the proportions of firms reporting that BL assistance was an 'important' driver of change was evident only for financial sourcing and innovation capability (Table 5). In both cases, non-intensively assisted firms were most likely to cite BLO assistance as important where it was provided through the Managed Brokerage model. No significant differences were evident between intervention models in terms of the perception of BL non-intensive assistance as a 'crucial' factor in stimulating business development.

Firms' subjective assessments of the impact of BL support provided under the four intervention models therefore tend to suggest the superiority of the Managed Brokerage model, a 'deeper' rather than 'broader' strategy (Figure 1). This is evident in the significantly higher proportions of both intensively and non-intensively assisted firms citing BL support as an 'important' or

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[8] This maybe interpreted as that very intensive assistance drives out innovation, however this is not correct in our view. More likely is that firms in areas covered by the light-touch assistance are more likely to be innovative (see Greene, Mole and Storey, 2007 for a comparison of Buckinghamshire with tees valley)

'crucial' driver of change in financial and innovation capability. It is also evident in some other aspects of capability improvement where the proportion of firms citing BL support as an important driver of change was higher under the Managed Brokerage model than under the other intervention models (Tables 3 and 4). In this respect it is notable that support provided under the Managed Brokerage model more commonly involved help for raising finance and, for intensively assisted firms at least, a greater likelihood of supporting R&D and new product development (Table 3). The suggestion is that firms' perceptions of the value of BL support are linked not only to the level of resources devoted to the provision of assistance – i.e. the question of broader or deeper - but also to its functional focus. Nevertheless we cannot reject H3 Different intervention models result in different services being perceived to impact on the business client.

4.3 Econometric impacts

Econometric estimates of the impact of BL support provided through the different intervention models are reported in Table 6. The reported values are the estimated coefficients on treatment terms in two-stage selection models of employment growth, sales growth and sales per employee (a proxy for productivity). For intensive assistance and non-intensive assistance, we report the estimated coefficients from two models: a model including a single national treatment term; and a less restrictive model including treatment terms for each of the four intervention models (See Annex 2 for details). At national level, BL intensive assistance has a positive and significant effect on employment growth, increasing average growth by 2.2 per cent pa with a larger, but statistically less robust, impact on sales growth. No significant national impacts are evident from non-intensive assistance on either sales or employment growth.

Tests of the restriction that the coefficients on the four treatment terms for each intervention model are the same are rejected in two cases (intensive assistance impacts on employment growth and non-intensive assistance on sales growth) but not rejected for intensive assistance impacts on sales growth and non-intensive assistance on employment growth. There is therefore some support from our econometric estimates for the differential impact on business growth from each of the different intervention models. In particular, we see positive employment growth effects from intensive assistance provided through the Light Touch Brokerage and Managed Brokerage models and significant sales growth effects through both Light Touch Brokerage and Managed Pipeline Forcing Brokerage (Table 6). There is, perhaps

unsurprisingly given the limited nature of the assistance being provided, little consistent evidence of any sales or employment growth effects from non-intensive assistance. Focussing on the impact of intensive assistance our econometric results suggest that more significant impacts are achieved where the intervention model focuses intensive assistance on a relatively small proportion of firms (i.e. the Managed Brokerage or Light Touch Brokerage models). Where additional resources allow, however, as in the cases of the two BLOs adopting the Managed Pipeline/Forcing Brokerage model (i.e. Durham, Northumberland) it is clearly possible to generate positive impacts from intensive assistance across a broader group of recipient firms. The weakest econometric results are suggested for the Pipeline Forcing model, where intensive assistance is broadly spread but of low intensity (Figure 1). Finally, we cannot reject H4: *Different intervention models result in different subsequent impacts on the employment and sales.*

Comparing the econometric with the self-reported perceptions, there is the promise to trace some of the effects. The shows the greater impact of the managed brokerage on employment growth (table 6) reflected in self-reported impacts on improved financial sourcing and (weakly) increased investment in training (table 5) reflected in the greater help with business planning, raising finance, e-commerce and IT issues (table 3). The impact of light-touch, intensive assistance on employment and sales is reflected in self-reported impacts on critical assistance for innovation (table 5) although light-touch assistance does not help more in any area help significantly in any aspect more than the other models (table 3).

5. Conclusions
5. 1 Implications for Practice

Two main empirical results follow from our analysis. First, it is clear that differences in the intervention model adopted by Business Links – and more generally for the provision of small business support – can have a significant impact on outcomes. In this sense our results support those of Bennett and Robson (2004) who also identified performance distinctions between BLOs. Unlike their results, however, which were based on the organisational structure of BLOs, and the argument that those BLOs linked to Chambers of Commerce were better able to identify firms' support needs, our results reflect resource availability and use by BLOs (McGuiness and Hart, 2004). Secondly, faced with a choice of spending priorities between *gaining more* intensive customers or *spending more on each* our results suggest that a more

focused, highly intensive profile of assistance works best. Deeper is better than broader. Hence, in our analysis the poorest results come from the Pipeline Forcing model where a relatively high proportion of firms are provided with relatively limited intensive assistance. The implication is that it is not simply structure that matters. Instead, agency - the choices made by the local management of the BLO – also make a difference to the effectiveness of intervention, a point sometimes overlooked in evaluations (e.g. Chrisman, McMullan and Hall, 2005; Chrisman and McMullan, 2004, Mole et al., 2008).

The weakness of the results from Pipeline Forcing, where intensive assistance is provided to a broad group of firms, also emphasises the value of matching support to the needs of the business and, potentially, suggests some inefficiency of target driven intervention models (Mole and McLaughlin, 2009). There is considerable evidence to suggest, for example, that firms that benefit most significantly from public support are those who choose to use advice at the time because they are faced with a problem (Markham, 1997; Mole and McLaughlin, 2006; Mole and Keogh, 2009; Wren and Storey, 2002) or were most likely to grow (Storey, 1994). Although in practical terms identifying and targeting these firms clearly presents significant practical difficulties (Smallbone, Baldock and Burgess, 2002; Turok and Raco, 2000), something which may be made more difficult by the reluctance of business advisers to implement specific targeting initiatives (Mole, 2002), our analysis emphasises the importance of focussing more intensive assistance on appropriate beneficiaries.

5. 2 Implications for Theory

The importance of both agency and structure in shaping our final results on the impact of business assistance provide some support for our use of resource dependence theory as a motivating framework. In particular, our analysis emphasised the importance for final outcomes of the way in which the managers of BLOs developed strategies to enable them to reduce their dependence on other organisations, to create greater organisational autonomy and offer their organization as a route to market for other publicly funded initiatives. One factor which was very effective in enabling them to do this was the SBS funding, because it was not tied to particular outcomes. This core funding was a springboard that enabled BLO managers to accommodate the requirements of other funders and therefore to acquire more resources (Vickers and North, 2000). We believe that resource dependence theory provides a useful framework integrating elements of structure and agency for other researchers in inter-organization fields such as public management, or researchers examining contexts in which

organisational alliances are important (see for example, Katila, Rosenberger and Eisenhardt, 2008).

Contrary to Sherer and Lee (2002) we show that the resource dependency perspective is useful not just in competitive environments but also in situations where local monopolies are created. We also show how the design of institutions can take advantage of resource dependence to enhance the resources available to public institutions, though the possibility for BLOs to augment their resources from other agencies. Our evidence is consistent with Casciaro and Piskorski (2005) showing that the mutual dependence tends to enable partnering arrangements; however, we examined the resources garnered from the environment rather than alliances and mergers (c.f. Casciaro and Piskorski, 2005; Katila, Rosenberger and Eisenhardt, 2008). Furthermore, we examined how these resources supported strategies that led to different impacts. Again, we highlight the open nature of resource dependency that puts the BL managers as in charge of their own destiny since we could not reject H1 (Barringer and Harrison, 2000; Katila, Rosenberger and Eisenhardt, 2008)

Our cross-sectional analysis of course took place at a particular time and when the organisation of the UK's small business support network was different to the current pattern. Since our analysis the service has been more strongly regionalised with the overall administration of the system shifting from a national body (the Small Business Service) to the (11) regional development agencies (RDAs). The national rationale for undertaking this regionalisation of BL services was to 'make business support services more responsive to local people and local businesses ... [and] give RDAs the freedom and flexibility to be the driving force behind enterprise and business growth in every region of the country'. Devolving Business Link services was intended to offer a service more responsive to local needs and therefore RDAs were given the ability to tailor support to the key challenges in their local areas (HM Treasury, 2004). Our analysis suggests this re-organisation is in itself insufficient to maximise the business benefits of BL. Regionalisation may be helpful but the effectiveness of BL support will also depend on the intervention model adopted with our strong preference being for a Light Touch Brokerage or, where resources permit, a Managed Brokerage approach. In more practical terms this means providing intensive assistance to 7- 10 per cent of those to whom non-intensive assistance is provided, and where additional resources are available using these to increase the intensity of assistance provided to these firms rather than broadening the group of recipients of intensive assistance. Recent qualitative research concerning business advisers supports this view (Mole and McLaughlin, 2006).

Figure 1: Models of Business Link Operators: Intensity of intensive assistance and the proportion of firms intensively assisted

		Proportion of Firms Intensively Assisted	
		Low	**High**
Intensity of Intensive assistance	**Highly intensive**	Model 2 Managed brokerage	Model 4 Managed Pipeline Forcing Brokerage
	Low intensity	Model 1 Light-touch brokerage	Model 3 Pipeline Forcing

Table 1: BLOs by Intervention Model

Model 1: *Light Touch Brokerage*

Bedfordshire	Dorset (Wessex)	London	Somerset
Berks & Wiltshire	Essex	M.Keynes Oxford	Stafford
Black County	Gloucester	Manchester	Suffolk
Cambridge	Hampshire (Wessex)	N&W Lancs.	Surrey
Cheshire	Hereford	N.Yorkshire	Sussex
Coventry	Kent	Norfolk	W.Yorkshire
Derbyshire	Leicester	Northampton	West
Devon & Cornwall	Lincolnshire	Nottingham	

Model 2: *Managed Brokerage*

Tyne and Wear	North Manchester	East Lancashire	Birmingham
South Yorkshire	Merseyside	Hertfordshire	Shropshire

Model 3: *Pipeline Forcing*

Cumbria	Humberside	Suffolk	Tees Valley

Model 4: *Managed Pipeline Forcing Brokerage*

Durham	Northumberland

Notes:
North Manchester BLO was subsequently subsumed into Greater Manchester Chamberlink. East Lancs BLO was subsequently subsumed into Greater Manchester Chamberlink
Source: SBS

Table 2: Sample Characteristics

	Intensively N=1130		Other N=1166		Non Assisted N=1152		Whole Sample N=3448	
	Mean	Std	Mean	Std	Mean	Std	Mean	Std
Firm Characteristics								
Firm Size	22.75	67.89	27.16	308.7	18.80	71.54	22.95	188.6
Sales (Turnover, £000)	2093	7528	2843	1824	2630	1411	2464	13221
Sales Growth (%)	0.09*	0.30	0.06*	0.24	0.02	0.21	0.06	0.25
Employment Growth	0.15*	0.37	0.20*	0.54	0.08	0.23	0.14	0.38
Firm age 3-4 years	0.07	0.25	0.07	0.26	0.04	0.20	0.06	0.24
Firm age: 4-5 years	0.08*	0.28	0.07	0.25	0.05	0.23	0.07	0.25
Firm age: 5-10 years	0.20*	0.40	0.19	0.39	0.15	0.36	0.18	0.38
Firm age: 10-20 years	0.25*	0.43	0.28*	0.45	0.26	0.44	0.26	0.44
Firm age: 20 plus years	0.27*	0.45	0.28*	0.45	0.41	0.49	0.32	0.47
Multi-plant company	0.18*	0.38	0.17*	0.38	0.13	0.34	0.16	0.37
Exporting firm	0.29*	0.45	0.20*	0.40	0.15	0.35	0.21	0.41
Legal form								
Legal Partnership	0.12*	0.32	0.14	0.35	0.18	0.38	0.15	0.35
Ltd Liability Company	0.72*	0.45	0.59*	0.49	0.50	0.50	0.60	0.49
Other types of firm	0.02	0.15	0.03	0.17	0.04	0.18	0.03	0.17
Management Team								
Non-executive	0.14*	0.34	0.14*	0.35	0.10	0.30	0.12	0.33
Number of directors	2.34*	2.51	2.31*	2.30	2.10	1.64	2.25	2.18
Gender diversity (%)	28.78	33.70	28.76	34.16	27.19	34.34	28.24	34.07
Ethnic diversity (%)	3.52	16.57	4.36	19.27	3.25	17.26	3.71	17.75
Business Strategy								
Focus: Sales in current	0.55*	0.50	0.53	0.50	0.50	0.50	0.53	0.50
Focus: Sales in new	0.19*	0.39	0.14*	0.35	0.10	0.30	0.15	0.35
Focus: New products,	0.09*	0.29	0.07	0.26	0.06	0.23	0.07	0.26
Formal Business Plan	0.63*	0.48	0.53*	0.50	0.30	0.46	0.49	0.50
Owner-Manager Characteristics								
O-M has equity	0.86	0.34	0.86*	0.35	0.86	0.35	0.86	0.34
O-M age 25-34	0.09	0.28	0.10*	0.30	0.07	0.26	0.08	0.28
O-M age 35-44	0.29	0.46	0.28	0.45	0.29	0.45	0.29	0.45
O-M age 45-54	0.37*	0.48	0.35	0.48	0.32	0.47	0.35	0.48
O-M age 55 plus	0.22	0.41	0.21	0.41	0.24	0.43	0.22	0.42
Serial Founder	0.40*	0.49	0.36*	0.48	0.28	0.45	0.35	0.48
Market								
Intense main market	0.64	0.48	0.59	0.49	0.61	0.49	0.61	0.49
High Own Price-	0.08	0.27	0.05*	0.22	0.09	0.29	0.07	0.26
BL Information								
BL Mailshots	0.91*	0.29	0.90*	0.30	0.17	0.37	0.66	0.47
BL Website	0.67*	0.47	0.63*	0.48	0.05	0.21	0.45	0.50
BL Direct contacts	0.54*	0.50	0.42*	0.49	0.05	0.22	0.34	0.47
BL referred by friend	0.32*	0.47	0.22*	0.41	0.04	0.20	0.19	0.39
BL referred by advisor	0.15*	0.36	0.09*	0.29	0.01	0.11	0.08	0.28

Notes: Source: BL Telephone Survey (2005), * indicates a statistically significant difference between assisted groups and the non-assisted group means at the 5 per cent confidence level. Sample sizes in the table are the maximum for each sample group. Responses are weighted by region, broad sector and size to adjust for differential survey response. Missing values mean that in some cases sample sizes for some variables are smaller, a factor reflected in subsequent regression models. (Source: Mole, Hart, Roper and Saal, 2008)

Table 3: Profiles of intensive assistance: by Intervention model
(% of firms receiving each service)

	Light-touch	Managed Brokerage	Pipeline Forcing	Managed Pipeline Forcing Brokerage	All Firms	X^2	ρ
A. Intensive Assistance							
General business information	58.7	58.4	51.1	55.4	57.4	3.201	0.362
Business benchmarking or diagnosis	14.3	12.6	11.8	11.6	13.6	1.077	0.783
Business planning, action plan development	37.7	51.9	39.6	41.5	39.6	8.671	0.034
Information on regulation and compliance	34.9	42.5	29.6	35.8	34.9	4.700	0.195
Help with finding external consultants	24.5	21.7	15.9	23.4	22.9	6.059	0.109
Help with raising finance	32.9	51.8	33.5	42.6	35.4	16.863	0.001
Help with making cost/quality improvements	15.5	12.6	15.1	19.1	15.4	1.667	0.644
Help with marketing	36.4	39.8	28.9	32.9	35.4	4.399	0.221
Help with R&D or NPD	12.1	16.5	10.3	13.6	12.3	2.549	0.459
Help with exporting	13.2	17.1	13.3	11.9	13.5	1.554	0.670
Help with training	42.3	42.8	33.6	40.6	41.0	4.305	0.230
Help with e-commerce	14.0	21.4	16.1	30.9	16.0	16.037	0.001
Help with IT issues	19.1	30.4	15.9	40.1	21.0	24.883	0.000
B. Non-intensive assistance							
General business information	56.8	62.6	54.6	45.4	56.6	4.269	0.234
Business benchmarking or diagnosis	7.2	4.6	6.5	8.0	7.0	0.968	0.809
Business planning, action plan development	24.0	22.0	27.8	19.7	23.9	1.513	0.679
Information on regulation and compliance	23.0	30.2	27.8	28.0	24.1	3.177	0.365
Help with finding external consultants	11.3	16.1	8.7	12.5	11.5	2.084	0.555
Help with raising finance	19.7	42.3	26.7	40.5	22.9	34.758	0.000
Help with making cost/quality improvements	7.5	7.9	11.8	7.7	7.8	1.668	0.644
Help with marketing	20.0	23.2	26.5	19.9	20.8	2.223	0.527
Help with R&D or NPD	9.5	12.3	7.7	15.3	9.8	3.054	0.383
Help with exporting	7.1	15.2	5.4	4.8	7.5	10.084	0.018

Help with training	31.3	31.6	17.4	34.9	30.5	8.424	0.038
Help with e-commerce	8.9	16.7	4.2	14.1	9.4	9.387	0.025
Help with IT issues	13.1	23.2	10.5	19.5	14.0	9.217	0.027

Source: BL Telephone Survey (2005)

Table 4: Perceived Impact of BL Services: Intensively Assisted Firms

	Light-touch	Managed Brokerage	Pipeline Forcing	Managed Pipeline Forcing Brokerage	All Firms	X^2	ρ
Part A: BL Services Important for Change (% of all respondents)							
More inclined to use external support services	29.0	32.9	24.4	28.4	28.7	2.395	0.495
More inclined to use specialist consultants	28.8	37.4	25.2	36.4	29.6	5.991	0.112
Image of business has improved	38.5	48.5	40.3	35.6	39.6	4.493	0.213
Technical capability has improved	17.4	23.9	16.0	19.8	18.0	3.797	0.284
Financial management has improved	28.0	35.4	25.0	31.4	28.5	3.558	0.313
Better at planning	40.9	34.9	38.4	39.4	39.8	1.495	0.683
Export capacity has improved	13.6	19.9	9.7	14.2	13.7	5.136	0.162
Financial sourcing has improved	30.8	46.2	24.7	44.4	32.2	18.86	0.000
Regulation and compliance capability has improved	33.0	37.9	27.8	40.1	33.1	4.375	0.224
Invested more in training	31.3	34.1	22.4	35.2	30.5	6.882	0.076
Increased innovation capability	20.5	24.1	21.9	20.0	21.0	0.596	0.897
Improved product or service quality	24.7	25.0	25.0	30.6	25.1	0.939	0.816
Part B: BL Assistance Critical to Change (% of those experiencing change)							
More inclined to use external support services	65.9	67.8	64.9	56.7	65.5	0.952	0.813
More inclined to use specialist consultants	66.8	71.2	60.0	75.9	67.2	1.844	0.605
Image of business has improved	77.0	72.1	73.3	79.2	75.9	1.046	0.790
Technical capability has improved	73.2	57.9	78.6	66.2	71.4	3.670	0.299
Financial management has improved	71.5	74.4	63.6	79.2	71.3	1.649	0.648
Better at planning	71.8	80.4	68.0	64.6	71.6	2.674	0.445
Export capacity has improved	76.8	57.9	72.4	87.1	74.3	4.481	0.214
Financial sourcing has improved	70.0	58.1	63.9	73.6	68.0	3.500	0.321
Regulation and compliance capability has improved	69.8	78.3	60.8	70.4	69.7	2.795	0.424
Invested more in training	77.0	81.5	78.6	56.1	76.2	4.880	0.181

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Increased innovation capability	69.9	55.8	52.2	36.3	63.7	8.667	0.034
Improved product or service quality	69.4	53.4	71.5	56.3	67.2	3.632	0.304

Source: BL Telephone Survey (2005)

Table 5: Perceived Impact of BL Services: Non-intensively assisted firms

	Light-touch	Managed Brokerage	Pipeline Forcing	Managed Pipeline Forcing Brokerage	All Firms	X^2	ρ
Part A: BL Services Important for Change (% of all respondents)							
More inclined to use external support services	15.9	24.2	17.2	15.2	16.6	4.111	0.250
More inclined to use specialist consultants	14.9	18.7	17.3	22.6	15.7	2.990	0.393
Image of business has improved	24.6	32.9	26.3	26.3	25.5	3.064	0.382
Technical capability has improved	12.4	19.1	14.4	10.5	13.0	3.785	0.286
Financial management has improved	18.8	22.2	23.2	13.8	19.2	2.489	0.477
Better at planning	27.5	26.5	28.9	19.1	27.2	1.697	0.638
Export capacity has improved	7.4	10.0	6.9	8.4	7.6	0.818	0.845
Financial sourcing has improved	15.2	24.6	23.8	22.6	17.0	10.216	0.017
Regulation and compliance capability has improved	19.0	21.2	21.8	26.2	19.7	1.704	0.636
Invested more in training	19.3	19.2	17.8	16.9	19.1	0.312	0.958
Increased innovation capability	10.9	21.8	12.5	11.6	12.0	9.802	0.020
Improved product or service quality	14.8	20.4	15.4	4.1	14.8	6.964	0.073
Part B: BL Assistance Critical to Change (% of those experiencing change)							
More inclined to use external support services	47.2	66.4	68.1	59.0	51.6	5.276	0.153
More inclined to use specialist consultants	51.9	52.9	67.9	73.5	54.8	2.741	0.433
Image of business has improved	57.3	77.3	64.1	63.5	60.4	4.294	0.231
Technical capability has improved	47.7	56.9	57.7	47.0	49.6	0.490	0.921
Financial management has improved	56.2	86.2	54.6	61.7	59.1	6.255	0.100
Better at planning	55.5	74.0	57.0	65.3	57.4	3.290	0.349
Export capacity has improved	65.4	64.3	74.5	100.0	67.7	2.075	0.557
Financial sourcing has improved	58.1	56.9	74.7	61.7	60.1	2.201	0.532
Regulation and compliance capability has improved	60.8	53.7	74.5	78.2	62.2	3.002	0.391
Invested more in training	62.4	49.8	55.9	36.8	59.7	3.328	0.344

Increased innovation capability	48.0	50.3	64.8	51.3	49.9	0.981	0.806
Improved product or service quality	52.2	66.9	76.9	72.6	56.2	3.862	0.277

Source: BL Telephone Survey (2005)

Table 6: Business Links impact coefficients models of employment growth, sales growth and productivity

| | | Intervention model treatment effects | | |
		Employment Growth	Sales Growth	Sales per Employee
A. Intensive Assistance				
BL assistance (all models)	Coeff.	0.022**	0.040*	-0.141
	se.	(0.008)	(0.018)	(0.087)
Light touch brokerage	Coeff.	0.019*	0.038*	-0.084
	se.	(0.009)	(0.019)	(0.092)
Managed brokerage	Coeff.	0.062***	0.066	-0.044
	se.	(0.016)	(0.035)	(0.172)
Pipeline forcing	Coeff.	0.011	0.009	-0.369**
	se.	(0.013)	(0.029)	(0.136)
Managed brokerage/pipeline forcing	Coeff.	0.028	0.116*	-0.309
	se.	(0.020)	(0.046)	(0.238)
B. Non-intensive assistance				
BL assistance (all models)	Coeff.	0.009	-0.005	-0.205*
	se.	(0.007)	(0.035)	(0.096)
Light touch brokerage	Coeff.	0.008	0.071**	-0.178
	se.	(0.008)	(0.024)	(0.102)
Managed brokerage	Coeff.	0.008	0.045	-0.185
	se.	(0.018)	(0.045)	(0.189)
Pipeline forcing	Coeff.	-0.008	-0.047	-0.155
	se.	(0.017)	(0.064)	(0.283)
Managed brokerage/pipeline forcing	Coeff.	0.029	-0.068	-0.664*
	se.	(0.023)	(0.063)	(0.294)

Source: BL Telephone Survey (2005)

Annex 1: Allocating BLOs by Intervention Model

Our objective here is to allocate individual BLOs each of which works in a separate geographical area to one of the four intervention models identified in Figure 1. This is done by clustering BLOs on each axis of Figure 1 (i.e. the intensity of intense assistance and the proportion of intensively assisted firms) and then combining these two cluster classifications. Our cluster analyses are based on administrative data for April 2003-September 2003 provided by the national agency for responsibility for the BLOs, the Small Business Service or SBS (Table A1.1). To measure the intensity of assistance we use three indicators for each BLO: the cost per company supported, the proportion of BLO funds accounted for by core support from the SBS; and, the proportion of funds provided by other sources such as the EU. The proportion of firms which received intensive assistance from each BLO is measured directly in the SBS monitoring data.

Table A1.1: BLO administrative data: April to September 2003

	N	Minimum	Maximum	Mean	Std. Deviation
A. Intensity of assistance					
Cost per company supported (£)	43	£209.68	£1364.24	£527.63	£227.13
EU and SRB proportion of total funding (%)	43	0.0	63.0	14.5	15.2
SBS as a proportion of total funding (%)	43	18.0	78.0	45.4	15.2
B. Proportion of Firms Intensively Assisted (%)	43	3.0	37.0	9.6	6.8

Source: SBS

Using hierarchical cluster analysis to group the BLOs on the basis of the three intensity of assistance indicators in Table A1.1 suggests five separate clusters (Table A1.2). Clusters 1 to 4 relate to BLOs providing more intensive assistance supported by additional funding from EU and other sources. By contrast, Cluster 5 includes 35 BLOs which were providing less intensive assistance based primarily on core funding from the SBS. BLOs in Tyne and Wear and South Yorkshire were investing most per company supported but differ in the amount of EU funding they were attracting. The two BLOs in Cluster 4 also had high levels of investment per company supported but received relatively low levels of EU funding. Instead, both were strongly supported by the regional development agency during the reference period (April to

September 2003). Overall, there are stronger similarities in terms of the intensity of assistance between Clusters 1 to 4 and Cluster 5 and Clusters 4 and 5. We therefore include Clusters 1-4 in the group of BLOs that provided 'highly' intense assistance.

Table A1.2: BLO Clusters by Intensity of Assistance

Cluster	BLOs	Cost per company supported £	SBS core-funded %	EU and SRB funded %
1	Tyne and Wear	1198.20	24	29
2	South Yorkshire	1364.24	18	63
3	Durham	920.77	26	21
	North Manchester	792.52	30	33
	Merseyside	738.29	45	35
	Northumberland	640.27	30	38
	East Lancs.	637.17	29	39
	Hertfordshire	634.38	35	29
4	Birmingham	750.19	19	9
	Shropshire	735.76	34	0
5	All other BLOs	429.65	52	10

Notes:
North Manchester BLO was subsequently subsumed into Greater Manchester Chamberlink. East Lancs. BLO was subsequently subsumed into Greater Manchester Chamberlink
Source: SBS

The other dimension of Figure 1 relates to the proportion of intensive interventions. This varies from a low of 3 per cent to over 37 per cent in Northumberland. Using hierarchical cluster analysis to group the BLOs on the basis of this indicator suggests a three Cluster solution (Table A1.3). The first cluster is Northumberland all on its own. The second Cluster comprises five rural and North Eastern BLOs which again have a proportion of intensive interventions considerably higher than the average. The final Cluster is the rest of the Business Link Organisations. As with the intensity of intensive assistance a clear binary distinction emerges here between the six BLOs (in Clusters 1 and 2) with a high proportion of intensive interventions and the other BLOs with a significantly lower proportion of intensive interventions. Using this binary distinction together with that identified earlier allows us to allocate all of the BLOs to the four intervention models identified in Figure 1 (Table 1).

Table A1.3: Proportionate Intensive Rate – Cluster Analysis

Cluster	BLOs	Percentage of firms receiving intensive assistance (%)
1	Northumberland	37
2	Tees Valley	24
	Cumbria	23
	Durham	22
	Humberside	20
	Suffolk	18
3	All bar the above	7

Source: SBS

Annex 2: Estimating the effects of alternative intervention models

In this Annex we detail our approach to estimating the firm-level impacts of each of the four intervention models identified in Figure 1. This is based on a two-stage treatment model using the firm-level dataset described in the text. This involves modelling first the probability of receiving BL support, and secondly the impact of this support on business growth. The first question is modelled using a simple bivariate probit, with marginal effects suggesting the impact of different firm characteristics on the probability of receiving BL assistance. In these models, in addition to variables reflecting the characteristics of the firm and entrepreneur we also include a set of variables to represent the channels through which firms may have received information about BL services. Controlling for selection, treatment effects for the different intervention models are then estimated using OLS models for business growth by partitioning the national treatment effect to reflect BLO's adoption of the alternative intervention models.

Table A2.1 reports probit models for the probability that firms received either intensive or non-intensive assistance. These are estimated for the whole sample of firms in each case and highlight the role of the ownership status of the business, the age of the owner-manager and the importance of informational variables reflecting BL publicity efforts in influencing the probability of receiving support. There is a broad similarity between the factors which influence the probability that firms received either intensive or non-intensive assistance with the exception of limited liability status. Other factors such as firm size, ethnic diversity within the leadership team proved less important. These models are discussed in detail in Mole et al. (2009).

Table A2.1: Probit models for the receipt of intensive and non-intensive assistance

	Intensive Assistance	Non-intensive Assistance
Company and Owner manager characteristics		
Ltd Liability Company	0.289**	-0.01
	(0.095)	(0.083)
O-M age 35-44	-0.411**	-0.086
	(0.148)	(0.134)
O-M age 45-54	-0.188	-0.086
	(0.132)	(0.122)
O-M age 55 plus	-0.583***	-0.424***
	(0.124)	(0.115)
Gender diversity in leadership team (%)	0.002	0.002
	(0.001)	(0.001)
Informational Variables		
BL Mailshots	1.499***	1.679***
	(0.097)	(0.088)
BL Website	1.293***	1.201***
	(0.110)	(0.101)
BL Direct contacts	0.962***	0.607***
	(0.110)	(0.108)

BL referred by friend	0.312*	0.188
	(0.137)	(0.137)
BL referred by advisor	1.176***	0.548*
	(0.210)	(0.224)
Constant term	-1.799***	-1.543***
	(0.142)	(0.129)
N	1933	1977

Notes: Estimation parameters are reported with standard errors in brackets. *** indicates significant at the 1 per cent level; ** indicates significance at the 5 per cent level and * indicates significance at the 10 per cent level. Equations also include (15) industry dummies and observations are weighted to reflect survey sampling and differential response.

Inverse Mills ratios derived from these probit models are then included in OLS models for employment and sales growth to reflect the firm-level impact of BL assistance. Table A2.2 reports illustrative models for the impact of intensive assistance on employment growth with Model 1 including the standard national treatment term and Model 2 partitioning this term into four reflecting the alternative intervention models. This is equivalent to relaxing the restriction that the coefficients on the treatment terms for the alternative intervention models are identical. A Wald test for the equality of the four coefficients rejected this in two of the four cases considered at the 5 per cent level: intensive assistance impacts on employment growth, $F_{(3, 1651)}=2.83$, $\rho = 0.037$; non-intensive assistance on sales growth, $F_{(3, 536)}=2.63$, $\rho = 0.049$. In the other four cases the restriction on the equality of the coefficients of the treatment terms for the alternative intervention models were not rejected: intensive assistance impacts on sales growth, $F_{(3, 768)}=1.78$, $\rho = 0.149$; non-intensive assistance on employment growth, $F_{(3, 1444)}=0.63$, $\rho = 0.592$.

Table A2.2: National and Intervention Model Impact on Employment Growth: Impact of intensive assistance

	Model 1	Model 2
National treatment effect	0.022**	
	(0.008)	
Intervention model treatment effects		
Light touch brokerage		0.019*
		(0.009)
Managed brokerage		0.062***
		(0.016)
Pipeline Forcing		0.011
		(0.013)
Managed brokerage- Pipeline Forcing		0.028
		(0.020)
Lambda	0.000	0.000
	(0.000)	(0.000)
Control Variables		
Firm age: 10-20 years	-0.014	-0.013
	(0.008)	(0.008)
Firm age: 20 plus years	-0.022*	-0.020*
	(0.008)	(0.008)
Focus: sales in new markets	0.022***	0.023***
	(0.007)	(0.007)
Formal business plan	0.031***	0.030***
	(0.007)	(0.007)
O-M age 45-54 years	-0.014	-0.013
	(0.007)	(0.007)
O-M age 55 plus	-0.020*	-0.019*
	(0.008)	(0.008)
Constant	0.016	0.017
	(0.014)	(0.014)
R-squared	0.05	0.053
N	1675	1675

Notes: Dependent variables are defined as the difference in log employment between 2005 and 2004. Estimation parameters are reported with standard errors in brackets. *** indicates significant at the 1 per cent level; ** indicates significance at the 5 per cent level and * indicates significance at the 10 per cent level. Equations also include (15) industry dummies and observations are weighted to reflect survey sampling and differential response. Extreme observations are excluded to prevent a bias in the estimates due to outliers.

Overall at national level, Model 1 suggests a positive impact from BL assistance on employment growth over the 2004 to 2005 period increasing growth by around 2.2 per cent. As Model 2 suggests, however, this growth effect differs markedly between intervention models with the strongest positive and significant effects associated with Managed Brokerage and Light Touch Brokerage. Other intervention models – Pipeline Forcing and Managed Brokerage/Pipeline Forcing – were not associated with positive employment growth impacts.

Other factors also proved important in determining employment growth most notably firm age (negative), a focus on sales in new markets, formal business planning and older owner managers (negative). In neither model does the selection effect prove statistically significant.

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Econometric Impact Models
Not for publication

Table …: Firm-level impacts of Intensive Assistance

	National treatment effects			Intervention model treatment effects		
	Employment Growth	Sales Growth	Sales per Employee	Employment Growth	Sales Growth	Sales per Employee
Treatment Effects						
National treatment effect	0.022**	0.040*	-0.141			
	(0.008)	(0.018)	(0.087)			
Iafk1				0.019*	0.038*	-0.084
				(0.009)	(0.019)	(0.092)
iafkm2				0.062***	0.066	-0.044
				(0.016)	(0.035)	(0.172)
iafkm3				0.011	0.009	-0.369**
				(0.013)	(0.029)	(0.136)
iafkm4				0.028	0.116*	-0.309
				(0.020)	(0.046)	(0.238)
Lambda	0	0.001	-0.006*	0	0.001	-0.006*
	(0.000)	(0.001)	(0.003)	(0.000)	(0.001)	(0.003)
Control Variables						
vint5			0.178			0.182
			(0.117)			(0.116)
vint6	-0.014	-0.060**	0.153	-0.013	-0.059**	0.161
	(0.008)	(0.018)	(0.109)	(0.008)	(0.018)	(0.109)
vint7	-0.022*	-0.077***	0.235*	-0.020*	-0.075***	0.247*
	(0.008)	(0.019)	(0.111)	(0.008)	(0.019)	(0.110)
keyfoc2	0.022***			0.023***		
	(0.007)			(0.007)		
keyfoc3		0.074***	0.046		0.073***	0.035
		(0.019)	(0.092)		(0.019)	(0.092)
busplan	0.031***			0.030***		
	(0.007)			(0.007)		
nonexec		0.047			0.046	
		(0.024)			(0.024)	

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equity		0.036			0.039	
		(0.022)			(0.022)	
compet		-0.019	0.215**		-0.019	0.210**
		(0.015)	(0.076)		(0.015)	(0.076)
ownpe		0.172				0.164
		(0.117)				(0.117)
eage4	-0.014		-0.044	-0.013		-0.038
	(0.007)		(0.083)	(0.007)		(0.082)
eage5	-0.020*		0.089	-0.019*		0.108
	(0.008)		(0.092)	(0.008)		(0.092)
_cons	0.016	0.028	3.167***	0.017	0.027	3.213***
	(0.014)	(0.044)	(0.183)	(0.014)	(0.044)	(0.184)
R-squared	0.05	0.056	0.167	0.053	0.059	0.171
N	1675	792	637	1675	792	637

Table …: Firm-level impacts of Non-intensive Assistance

	National treatment effects			Intervention model treatment effects		
Intensively-as	Employment Growth firms models	Sales Growth	Sales per Employee	Employment Growth	Sales Growth	Sales per Employee
Other-assisted						
Treatment Effects						
oaf	0.009	-0.005	-0.205*			
	(0.007)	(0.035)	(0.096)			
oafkm1				0.008	0.071**	-0.178
				(0.008)	(0.024)	(0.102)
oafkm2				0.008	0.045	-0.185
				(0.018)	(0.045)	(0.189)
oafkm3				-0.008	-0.047	-0.155
				(0.017)	(0.064)	(0.283)
oafkm4				0.029	-0.068	-0.664*
				(0.023)	(0.063)	(0.294)
Lambda	0	0.001	-0.002	0	0.001	-0.002
	(0.000)	(0.001)	(0.003)	(0.000)	(0.001)	(0.003)
Control Variables						
vint3		0.120**	-0.081		0.119**	-0.058
		(0.040)	(0.172)		(0.040)	(0.173)
vint6	-0.016*	-0.048		-0.016	-0.050*	
	(0.008)	(0.025)		(0.008)	(0.025)	
vint7	-0.021*	-0.061*		-0.020*	-0.066**	
	(0.008)	(0.025)		(0.008)	(0.025)	
legform3	0.016*			0.017*		
	(0.007)			(0.007)		
fmulti	0.020*			0.021*		
	(0.010)			(0.010)		

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compet	-0.018**			-0.018**		
	(0.007)			(0.007)		
ownpe	-0.02	-0.102**	0.263	-0.021	-0.101**	0.273
	(0.012)	(0.034)	(0.144)	(0.012)	(0.034)	(0.144)
keyfoc2	0.022**		0.058	0.022**		0.059
	(0.007)		(0.085)	(0.007)		(0.085)
keyfoc3		0.069**	0.16		0.069**	0.148
		(0.026)	(0.113)		(0.026)	(0.114)
keyfoc4	0.030*			0.029*		
	(0.013)			(0.013)		
eage5	-0.013			-0.013		
	(0.008)			(0.008)		
equity	-0.019			-0.018		
	(0.010)			(0.010)		
busplan		0.04			0.038	
		(0.021)			(0.021)	
_cons	0.048**	0.099*	3.426***	0.049**	0.103*	3.418***
	(0.017)	(0.045)	(0.187)	(0.017)	(0.045)	(0.187)
R-squared	0.034	0.085	0.157	0.033	0.087	0.156
N	1472	560	521	1472	560	521