

**BERR**

Department for Business  
Enterprise & Regulatory Reform

**THE ECONOMIC DRIVERS OF  
GOVERNMENT-FUNDED BUSINESS  
SUPPORT**

Supporting Analysis for  
'Solutions for Business:  
Supporting Success'

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# Contents

<b>1. Introduction.....</b>	<b>3</b>
<b>2. Enterprise and Business Creation.....</b>	<b>7</b>
<b>3. Skills and Expertise.....</b>	<b>11</b>
<b>4. Investment.....</b>	<b>17</b>
<b>5. Innovation .....</b>	<b>24</b>
<b>6. Encouraging Competition and Global Market Access.....</b>	<b>34</b>
<b>7. Reducing Inequalities.....</b>	<b>44</b>
<b>8. Climate Change and the Environment.....</b>	<b>51</b>
<b>References.....</b>	<b>59</b>
<b>Annex A.....</b>	<b>64</b>

# 1. Introduction

The Government provides a range of programmes to help businesses meet the challenges they face in starting up, running and growing their operations. Such Government-funded programmes are often collectively referred to as business support<sup>1</sup> and usually take the form of grants, subsidies, advice or other support services. It has been estimated that the Government spends around £2.5 billion per annum on business support.

## **Simplifying publicly-provided business support**

In the [Budget 2006](#), the Government announced a Business Support Simplification Programme (BSSP) to streamline the system of around 3,000 business support schemes to 100 or less by 2010. The result of this process will be a simplified, cost-effective and better targeted portfolio of business support products that is better accessed and understood by business. The Annual Small Business Service Survey 2005 found that over 50 per cent of small businesses wanted Government help, but struggled to find their way through the maze of provision.

A streamlined portfolio will reduce the cost of administering schemes to Government and business, and make it easier for companies and entrepreneurs to understand and access Government funded grants, subsidies and advice with which to start and grow their businesses<sup>2</sup>. Such cost savings to business and ease of access to public-funded support is particularly timely in the current economic climate, which may exacerbate the coordination failures that could result in sub-optimal provision by the private market, for example, in the availability of finance for new, small businesses or innovations.

## **Assessing the case for business support**

This paper summarises the economic rationale and evidence that supports the simplified portfolio of business support outlined in the accompanying 'Solutions for Business' policy document.

All publicly-funded programmes, whether revenue, capital or regulatory, are subject to a comprehensive but proportionate prior assessment and ex-post evaluation of their impact and value for money. These assessments follow a comprehensive set of criteria as outlined in the HM Treasury (HMT) 'Green Book'<sup>3</sup>. This involves two steps: identifying the rationale for Government

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<sup>1</sup>Business Support can also be provided privately, but this paper considers just those publicly-provided business support products defined in the BSSP portfolio.

<sup>2</sup> For more information on the benefits from BSSP see the impact assessment at:

<http://www.berr.gov.uk/files/file42813.pdf>

<sup>3</sup> See greenbook: <http://greenbook.treasury.gov.uk>

intervention, and; applying cost benefit analysis to show that the intervention is additional<sup>4</sup>, non-distortionary<sup>5</sup> and value for money.

This paper summarises the rationale for the products and draws on evaluation evidence, where possible, to show how each product fulfils that rationale and is cost-effective.

Business support programmes that tackle an identifiable market or systemic failure have been shown to achieve better results than those that do not<sup>6</sup>. Such rationale would involve addressing market, coordination or institutional failures that could present barriers to entrepreneurship or business growth.

## **Government objectives**

The Government's strategic objectives for 2008-11 were set out in an updated list of Public Service Agreements (PSAs) in the Comprehensive Spending Review 2007. This paper has considered the Green Book arguments which underpin the simplified portfolio of business support products and grouped them into areas which relate to Government objectives on productivity, inequalities and the environment. Chapters 2 to 6 consider products that enhance the five drivers of productivity: enterprise, skills and expertise, investment, innovation and competition. Chapters 7 and 8 describe those products principally directed at reducing inequalities and the environment.

The broad grouping of products by objectives set out in this paper is not definitive. In practice, many of the business support products will contribute to the attainment of a number of Government objectives. For example, a product targeted at increasing or exploiting innovation could contribute to PSAs aimed at promoting world class science and innovation, regional economic performance and raising productivity. Nevertheless, Table 1 gives an indication of how business support products broadly relate to delivery of the Government's PSA objectives.

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<sup>4</sup> For a comprehensive definition see the greenbook: <http://greenbook.treasury.gov.uk/>

<sup>5</sup> Government interventions can distort competition between private providers. The business case must show that this is benign.

<sup>6</sup> This is one of the key messages emerging from work by SQW Ltd on business support SQW Ltd (2001) "DTI Industrial Support Policies, Mapping and Assessing the Patterns of DTI Industry Support and its Impacts, Report to DTI" ..

**Table 1: List of relevant Public Service Agreements (PSAs) outlined in the Comprehensive Spending Review 2007.**

Chapter Areas	Public Service Agreements (PSAs) 2007 <sup>7</sup>
Increasing Productivity: <ul style="list-style-type: none"> <li>• Enterprise and Business Creation</li> <li>• Skills and Expertise</li> <li>• Investment</li> <li>• Innovation</li> <li>• Competitive Framework</li> </ul>	PSA 1: Raise the productivity of the UK economy  PSA 2: Improve the skills of the population, on the way to ensuring a world-class skills base by 2020  PSA 4: Promote world-class science and innovation in the UK  PSA 6: Deliver the conditions for business success in the UK
Reducing Inequalities	PSA 7: Improve the economic performance of all English regions and reduce the gap in economic growth rates between regions  PSA 21: Build more cohesive, empowered and active Communities
Climate Change and the Environment	PSA 27: Lead the global effort to avoid dangerous climate change  PSA 28: Secure a healthy natural environment for today and the future

(Source: BERR)

## Monitoring and evaluation

While the portfolio includes both existing and new business support products, it is also dynamic. Business cases for the incorporation of new products will be considered on a case-by-case basis<sup>8</sup>. Such robust appraisal is vital to ensure monitoring and evaluation informs ongoing policy development so that the Government maintains a balanced portfolio of business support in a dynamic economy.

A robust monitoring and evaluation framework for the BSSP products has been outlined and is currently being developed by BSSP reporting bodies<sup>9</sup>. The proposed framework will lay out the principles, processes - including product monitoring and evaluation logic chains and a common template, roles and reporting lines. The monitoring and evaluation process will appraise and monitor the effectiveness and value for money of the Government's portfolio of

<sup>7</sup> For the list of Government PSAs see: [http://62.164.176.164/d/pbr\\_csr07\\_annexc\\_92.pdf](http://62.164.176.164/d/pbr_csr07_annexc_92.pdf)

<sup>8</sup> The Economics of Business Support Group (EBS) attached to the BSSP policy team is responsible for providing economic analysis on the approval of business cases (for new products); and on evaluations of BSSP products.

<sup>9</sup> The Transition Management Board (TMB) of the BSSP policy team has responsibility for ensuring that, across the public sector, the delivery of business support is simplified, easy for business to access & understand and provides value for money for the taxpayer.

business support products and review the performance of these products by groups and regions.

The business case appraisal of additional business support products and the development of a robust monitoring and evaluation framework to evaluate the existing products, will ensure that the suite of business support products offered by Government continues to be valid, appropriate and cost-effective.

# 2. Enterprise and Business Creation

There are a number of functions traditionally associated with enterprise. Enterprise involves innovation and acting in the face of uncertainty. Yet it can also involve coordinating the factors of production and arbitraging between markets to bring the economy into equilibrium (Gill et al, 2007). All of these functions have an element of initiative for the purpose of achievement or gain.

It has been appreciated for some time that enterprise is one of the basic drivers of productivity (DTI, 2002). Enterprising people take risks to develop new products, services and business processes, adding economic value and increasing productivity. Entrepreneurs start new companies and are often more flexible and willing to experiment in order to develop new products. New companies increase competitive pressures in markets, by displacing old products and practices with better, more efficient ones and requiring existing firms to improve (see BERR, 2007; Disney et. al., 2003). As such, enterprise policy is a major contributor to PSA 1 on productivity.

Government policy to help create and sustain enterprise involves several strands which are discussed here and other sections of this paper. These include culture, skills and knowledge, access to finance, innovation, and regulatory reform (BERR, 2008). The business support products discussed in this chapter are designed to promote start-ups. This type of innovation directly increases productivity as well as promoting an enterprise culture, for the reasons discussed above.

## 2.1 Rationale

### **Information failures**

Information failures may prevent some people from knowing how to start an enterprise and where to go to find that information. Much of the information required to start and run a business concerns Government regulations on areas such as tax, VAT and, health and safety. The Government may fail to make this information readily available unless it makes special provision to supply this information and lets people know where to get it.

The problem of information failure may be more acute today than in the past. At the present time, about half the workforce in the UK is employed by large companies. Many will not have friends and family with experience of starting or running a business. This problem is more pronounced in the UK, where only 26 per cent of adults know someone who has started a business in the last two years, compared to 49 per cent in France, 33 per cent in the US and 38 per cent

in Italy (GEM, 2007). This shortage of contacts may be more prevalent among some ethnic and social groups than others.

The economic benefits of supplying this information may be insufficient to motivate private firms to supply this information on a commercial basis in all areas. While business advice is given through accountants and banks, this information may not be available to all. Furthermore, new entrepreneurs may be incapable of distinguishing between good and bad advice due to their relative lack of knowledge, and therefore may not be willing to pay a price commensurate with the quality of the information they might receive. In turn, low prices may drive competent information providers from the market, further worsening the situation (Akerlof, 1970).

There may also be information failures about the risks of starting an enterprise. For example, many people over-estimate the time it takes to establish a business, thinking it takes years whereas it takes less than six months in most cases. Furthermore, most people considering starting a business perceive that the majority of SME start-ups fail within one year, whereas 80 per cent continue trading (BERR (SBS), 2005). Such misconceptions may increase the fear of failure and deter enterprise. Fear of failure is lower and entrepreneurial activity is higher in the US and Canada than it is in the UK. In France, Germany and Italy fear of failure is higher than it is in the UK while entrepreneurial activity in these countries is lower (BERR, 2008c). Erroneous perceptions of risk may also explain in part why the level of actual entrepreneurial activity is disproportionately low among women and some ethnic minority groups (BERR, 2008d).

## **Externalities**

The benefits of new business creation may extend beyond those who start an enterprise. New businesses are often more innovative than existing ones and generate new products, services and business models. Other firms can learn not only from their success by creating similar products and services but from their failures as well. There are consequently possible cost savings as well as revenue generating externalities from new business creation. Moreover, these externalities cannot be internalised by small and medium sized enterprises (SMEs). This market failure provides a rationale for Government to support new business creation up to the point where new benefits across all firms equal additional costs.

## **2.2 Business Support Products**

As described in the Enterprise Strategy (BERR, 2008) the Government is taking a number of steps to address these problems, including improved support to encourage new business creation. The BSSP product portfolio includes two products:

- Starting a business
- Starting a high growth business

### 2.2.1 Starting a Business

Starting a Business is part of the core services supplied by Business Link. It is intended to help rectify the information failure problem by supplying information which is not available from trusted sources. The information provided will cover the essentials of starting and running a business, namely:

- Compliance and regulatory information;
- Business planning;
- Finance;
- ICT;
- Business idea development and understanding of the market;
- Management;
- Employment.

By centralising the source of basic business information in Business Link, information will be made available at a low cost to business. The product will keep costs low by using low cost methods such as web sites, telephone support, self-help material and one-to-many instruction.

Business Link will be an effective way of reaching those thinking of starting a company and those having committed to doing so. Support for start-ups currently accounts for about 228,000 Business Link “assists” per annum, 27 per cent of total clients assisted (RDAs, 2008). This amounts to about 45 per cent of those who have decided to start up<sup>10</sup>.

### 2.2.2 Starting a High Growth Business

Starting a High Growth Business will provide mentoring support to individuals or teams in potentially high growth enterprises. The emphasis will be on supporting start-ups with high capabilities and high aspirations, i.e. expecting to achieve £500,000 in turnover after three years. Recent UK cross-country evidence suggests that there is a strong link between aspiration combined with formal business planning and achievement of high growth. Research also indicates that high growth owner-managers are more likely to have prior business ownership experience or industry-specific experience than the general population of business people.

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<sup>10</sup> The calculation is based on the total number of people thinking about starting a business annually estimated at about 4.7 million (BERR, 2007). Of these, an estimated 13 per cent of people thinking of starting a business actually start one (ESRC, 2005), 23 per cent of total clients assisted.

The product aims to address the market failures by concentrating on business issues that would particularly affect rapidly growing businesses, such as accessing capital, handling personnel issues, as well as guiding and controlling the development of the enterprise. These problems are likely to be more complex in a rapidly growing enterprise and management is more likely to require transfer of tacit rather than codified knowledge. The intervention would provide mentoring and coaching which is suited to this type of assistance.

Focusing on potential high growth start-ups should provide greater value for money from the product. Evidence from England is limited at present because there is currently no similar national product, and while there are five similar regional products, they are relatively new. The limited survey evidence to date indicates that the regional products have been able to leverage private funding and the products have had high customer satisfaction ratings (SEEDA, 2006).

# 3. Skills and Expertise

There are a variety of skills and expertise ranging from manual dexterity, literacy, machine operation through managerial skills and experience of advanced business and technical processes. Skill is a function of a number of factors including experience, education and training. In the modern economy knowledge as well as skills is required to achieve high productivity and be internationally competitive (DTI, 1998). Processes such as lean manufacturing have transformed industrial processes while new IT methods have enabled the application and integration of entirely new design and innovation methods, e.g. using information modelling and simulation (BERR/DIUS, 2008).

Managerial and workplace skills as well as expertise, i.e. advanced coaching, mentoring and advice, are major drivers of productivity (CEP/McKinsey, 2007). More skilled management can organise employees better and direct their efforts into more productive activities and processes. More skilled employees can make better use of available machinery and operate processes more efficiently. Government policies to enhance these and other skills and expertise support PSA targets regarding productivity (PSA1) and skill itself (PSA2).

The UK faces major problems regarding its skill base and use of expertise. Evidence indicates that the UK workforce and management are relatively less qualified, trained and knowledgeable than those in some other advanced economies (OECD, 2008). International comparative research concluded that differences in management practices explained 10-15 per cent of the productivity gap between the UK and US (Bloom et al, 2005). Moreover a number of market failures stop the UK from realising the productivity benefits of improved skills and expertise. To overcome these problems the Government uses a number of policy instruments including its educational and training policies as well as the business support products within the BSSP portfolio. These products are designed to overcome the market failures that affect labour and information markets.

## 3.1 Rationale

### **Labour market externalities and the “poaching” problem**

Market failures in the labour market restrict the training that employers provide to their employees. Evidence from the 2007 National Employer Skills Survey showed that a third of establishments in England provided no training and 9 per cent of those that did provided training to less than a quarter of their workforce (Learning and Skills Council, 2007). Employers who train their employees in transferable skills increase the value of their employees to others as well as to their own firms. As a result, their employees are more likely to be “poached” by other employers, or the employees are more likely to seek

employment elsewhere. Since they are unable to recover the full value of training employers are less willing to invest in the skills of their employees. In consequence the amount of training is less than would be merited by the benefits and costs (see the seminal contribution of Becker, 1964).

### **Missing market**

In modern enterprises high-level skill is often aligned to the expertise of individuals, particularly when this concerns new processes. However, UK firms may be unable to obtain knowledge of valuable business processes or acquire experience in their use. This may occur when more efficient processes are developed in other countries, for example, with the development of lean manufacturing. Foreign firms that develop such processes may wish to protect their knowledge of best practice for commercial reasons; or may wish to limit their use to a few suppliers in their domestic supply chains. Furthermore, new methods, knowledge and practices may be developed with foreign academic institutions which UK firms may not be able to access. Indeed, similar barriers to access may conceivably exist within UK universities and research centres. Such problems may exist at both the national and local levels. In such cases there may be a missing market for the provision of such processes.

### **Asymmetric information**

There may also be attendant problems that further impede the dissemination of commercially valuable processes. For the reasons described above, there may be a lack of intermediate suppliers with the expertise to supply knowledge about the new processes. Potential users of new knowledge and processes may not understand which processes have commercial worth to them, nor the skill to use it; hence demand may be low. Moreover, asymmetric information between buyers and sellers may mean that buyers do not appreciate the quality of different suppliers, and therefore may be unwilling to pay a high price commensurate with the benefits of the advice. This may result in too few suppliers.

### **Externalities**

New practices may spillover from an early adopter to another through movement of labour, reverse engineering or copying. The example of one company may also convince other companies of the benefits of new processes and increase demand for consultant advice. Successful use of one consultant may reduce the search costs to others users of finding another consultant. However if there are few suppliers dissemination of new practices will be slow. This would slow and reduce the positive externalities from new practices.

## 3.2 Business Support Products

These various market failures provide a rationale for some form of Government intervention. There are a number of possible forms Government interventions might take. For example, the Government has encouraged foreign direct investment by Japanese automobile companies to gain access in the UK to lean manufacturing techniques (see Investment) below). Business support is another policy alternative. In the BSSP portfolio there are five business support products that address market failures by providing skills and expertise of various types. They are:

- Train to Gain
- Manufacturing Advisory Service
- Designing Demand
- Innovation Advice and Guidance
- Coaching for High Growth

### 3.2.1 Train to Gain

The Train to Gain product will help employers identify the training needs of their employees and create tailored training packages. Train to Gain offers full funding to enable employers to help their employees gain basic, first full level 2 qualifications; and provides partial subsidies for level 3 training and in some cases offers subsidies to obtain subsequent qualifications, update skills or gain technical and specialist qualifications. Train to Gain will also provide part funding for owners and managers of businesses with 10 to 250 employees to develop their leadership and management skills at various levels.

Train to Gain is designed to reduce the cost to employers of tailoring training to suit their employees and increases their demand for it. Since the product is available widely it is intended to raise skills in tandem across companies. This should reduce the likelihood of “poaching” between companies.

Evaluation evidence indicates that the Train to Gain product is an effective means for employers of raising the skills of their employees. Over nine in ten employers taking up training under Train to Gain (92 per cent) were satisfied with the content of the training course and the provider that delivered it. Three-quarters of employers taking up training under Train to Gain (74 per cent) report that they have noticed an improvement in the skills of employees in relation to their specific job role. Two-fifths of employers (42 per cent) said that the training they have engaged with through Train to Gain has had a beneficial impact on the bottom-line or profitability of their business. (See Learning and Skills Council, 2008.)

### 3.2.2 Manufacturing Advisory Service

The Manufacturing Advisory Service (MAS) essentially provides advice concerning lean manufacturing techniques and processes. Lean manufacturing is a set of techniques and processes that can greatly improve the productivity of plants and companies by eliminating waste and other costs. It was largely developed by Japanese auto companies who did not assemble autos in the UK until the 1980s. Moreover, foreign product integrators have often continued to use foreign suppliers because of historical connections and because of their greater experience of lean manufacturing. As a result they have not necessarily spread lean manufacturing techniques to suppliers in the UK.

MAS addresses this problem in a number of ways. In the first place MAS provides advisers with knowledge of new manufacturing techniques and the experience of introducing them. MAS advisors raise awareness of lean manufacturing techniques. This increases demand for consultancy and adoption of innovative techniques. MAS advisors also work with management to improve their capability to implement and manage new techniques. Furthermore they help manufacturers to work within a supply chain and to choose lower level suppliers.

Evaluation evidence attests to the effectiveness of MAS. The average cost per intervention over the 2002-5 period was £11,000-£13,000. While gross average benefit per intervention was £120,000 the net benefit allowing for non-additionality was £38,000. This gave an average net cost-benefit ratio just in excess of 3:1. During the sample period, 7 per cent of English and Welsh manufacturing companies accessed MAS, leading to £155 million of Gross Value Added from 2002-5. (See DTZ, 2007.) Subsequent evaluations by RDAs in their own regions have shown similar results.

### 3.2.3 Designing Demand

Designing Demand raises awareness of the design's role within business and offers three intensive diagnostic services that help determine the need for design in the context of business challenges. It then supports the development and implementation of appropriate design projects to directly address those challenges. This is achieved through guidance and advice from a design associate. Designing Demand thus introduces business to design thinking and processes that help drive innovation. By providing a design associate, the product supplies the strategic design expertise and skill that may otherwise have not been available. As a result, the product helps enterprises to identify the appropriate level of investment to make in order to generate required returns.

Third party evaluation of the three intensive support services (Generate, Innovate and Immerse) indicates that even though the product is still at an early stage in the market, the products are effective at producing desired outcomes:

- Of the 75 SMEs that completed a Generate Design project 97 per cent expected to see an increase in sales, around half of which expected the total to be in excess of £100k; 90 per cent expected to see increased profits, half of which were expected to be above £50k; and 80 per cent expected to create or safeguard jobs (EKOS Consulting Ltd, 2008);
- Of the 20 technology ventures that participated in the Innovate pilot programme between 2002 and 2005, 80 per cent increased their ability to raise finance, 75 per cent invested significantly in design and were confident of a return on investment and 100 per cent thought the programme had led to stronger business propositions, enhanced income and survival prospects, faster time to market and alignment of products and services with customers (EKOS Consulting Ltd, August 2008; Technopolis, June 2006)
- Of the 30 SMEs that participated in the Immerse Pilot Programme between 2002 and 2005, turnover increased by 14 per cent, profit increased 9 per cent and employment increased 13 per cent above earlier predicted levels (EKOS Consulting Ltd, August 2008; PACEC, July 2007; Technopolis, October; Technopolis Ltd, November 2006)

### 3.2.4 Innovation Advice and Guidance

The Innovation Advice and Guidance product offers advice to enterprises to undertake innovation, in the sense of exploiting new ideas successfully (to use a common definition; see DIUS, 2008). Advice is directed toward advanced technologies and processes that may have a major impact on an enterprise, such as open innovation, but which are not available nationally or at a local level. Those who appraise new cases are responsible to ensure that these conditions are met.

The product overcomes the market failure directly by delivering the missing advice. This help can range from self-help information, through specialist expertise delivered on a one-to-many or individual basis, or help over an extended period. The innovation advice also helps companies to transfer knowledge from academic institutions to business.

Innovation Advice and Guidance is a new product which as yet has not been evaluated. A similar product has been running for a few years in the South-East. Currently much of the activity is at an early stage and it is likely that tangible investments and increases in profitable turnover will begin to start feeding through in the next 6 to 18 months. According to SEEDA the service resulted in participating companies investing £8.5 million internally, obtaining £19.8 million of external research and development (R&D) investments, and generating additional annual turnover of £15.7 million (Source: SEEDA).

### 3.2.5 Coaching for High Growth

There are a number of new techniques and processes that are of particular help to companies who intend to grow quickly. These techniques may involve new business models and e-marketing, for example. Other processes may be needed to meet the special needs of high growth companies, i.e. those with an annual average rate of 20 per cent over three years (OECD definition of 'high growth', OECD <http://ice.foranet.dk/upload/highgrowth.pdf>). In such companies coordination and control of business processes is difficult not only because of the degree of change but also because of the complex nature of change within the organisation.

The product provides support to meet these needs in three ways. It provides advice, first, to develop good planning. Secondly the product provides structured performance coaching in how to implement new processes. Lastly the product provides coaching and mentoring to enable leaders to address specific business problems.

Coaching for High Growth is a new product which is currently not available nationally. However a small scheme along similar lines has been run recently in the Midlands. Evidence from an EMDA evaluation of five firms in a scheme with 19 participants indicated an average 17 per cent rise in sales, a 24 per cent rise in profits and 19 per cent rise in employment as a result of the programme costing about £2,000 per assist. (Startegem, 2007). The results however exclude adjustment for selection bias, displacement or deadweight. Coaching for High Growth, like the other skills and expertise products will be subject to regular monitoring and periodic evaluation to see if the product is an effective use of public funding.

# 4. Investment

Investment is defined as those resources which are not consumed but are used to acquire resources to increase future production output or income. Investment is classed by the Government as one of the five drivers of productivity growth<sup>11</sup>, since it directly increases labour productivity by increasing the capital stock that each worker can utilise<sup>12</sup>. In fact, investment is often cited as a major factor in explaining the UK's productivity gap with comparator countries. It is estimated that in 1999 lower levels of capital investment accounted for around four-fifths of the output per hour gap with France and around half the gap with the US and Germany.

Encouraging investment is one of the key objectives of the Government in meeting PSA 1: *raise the productivity of the UK economy*. The Government has several roles in encouraging investment; first, by directly providing public investment; second, by setting a stable and rewarding environment for firms to invest in<sup>13</sup>; lastly, by improving access to finance for business and investment. The provision of four financial products within the BSSP portfolio play an important role in improving access to finance, since they specifically target market failures, which affect finance markets.

## 4.1 Rationale

Before the recent financial disturbances, the UK's financial markets, were able to provide the majority of businesses with the finance they required, with only around an eighth of businesses being refused finance<sup>14</sup>. However, recent developments in the financial markets have negatively impacted on the financial services offered to business, particularly SMEs. The majority of the evidence on the impact of the "credit crunch" before September 2008 suggested that tightening in credit was limited and mostly confined to a few sectors and individual companies with high gearing. However, recent evidence from the Bank of England<sup>15</sup> indicates that credit tightening may have become more widespread. Banks have become more cautious and have demanded larger collateral and lower loan-to-value ratios in providing loans. As a result, not only has the cost of finance to business risen but the availability has diminished.

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<sup>11</sup> DTI (2003) "Economics paper No. 6: "UK Productivity and Competitiveness Indicators".

<sup>12</sup> The relationship between investment and productivity is explained in DTI/ BERR (2006) "Economics paper No 17: UK Productivity and Competitiveness Indicators"

<sup>13</sup> This includes ensuring low levels of "red tape", macroeconomic stability, a sound legal system and a sound regulatory framework

<sup>14</sup> Centre for Business Research (CBR) (2008) "Financing UK Small and Medium-sized Enterprises: The 2007 Survey"

<sup>15</sup> Bank of England (September 2008) "Agents' Summary of Business Conditions", and the Bank of England (Q3 2008) "Credit Conditions Survey".

Moreover, recent developments are likely to aggravate information failures, which exist in the financial markets. These market failures create barriers for a minority of viable businesses, which leads to a lower amount of finance being supplied or demanded than is optimal in a properly functioning finance market.

### **Asymmetric information: supply side**

Imperfect and asymmetric information between the borrower and potential finance provider means the finance provider is not able to accurately assess the risk and returns associated with the business proposal. Providers of debt-based finance often mitigate this risk by requiring collateral and evidence of a favourable financial track record instead of undertaking costly due-diligence.

On the other hand, equity finance providers, mitigate the risk by undertaking due-diligence and monitoring progress. These costs often do not vary proportionally with the size of investment and lead providers to exploit economies of scale by focusing on fewer, larger investments in more established businesses. Without Government intervention to address market imperfections, venture capital investors are likely to shift capital towards larger, later-stage deals, as more funds flow into the private equity market. This is likely to result in the development of an equity gap, which places a structural constraint on the provision of funds and venture capital expertise to smaller and riskier companies.<sup>16</sup> Research has shown that businesses seeking between £250,000 and £2 million have particular problems accessing equity finance.<sup>17</sup>

In summary, the effects of these barriers are to constrain investment, innovation and growth in SMEs with significant growth potential, and hence reduce enterprise and productivity growth in the UK.

### **Asymmetric information: demand side**

SMEs may lack information on the appropriate finance available, be unable to judge the quality of advice and support or be unable to evaluate its benefits in terms of improved access to finance and business performance. Many smaller businesses do not have their finances managed by a qualified individual. Some entrepreneurs can therefore lack the knowledge, skills and confidence to access external finance. Small businesses in the UK appear to be less aware of the possibilities of different forms of risk finance than their US counterparts<sup>18</sup>. Only around three per cent of businesses in the UK use equity finance<sup>19</sup>. Negative perceptions of equity finance frequently deter businesses from seeking it. More generally, survey evidence reveals a lack of knowledge amongst businesses

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<sup>16</sup> Business Venture and Capital Association (BVCA) data shows that although deal funding increased from £10.3 billion in 2006 to £12 billion in 2007 the number of UK companies receiving investments only increased by 12 to 1,330.

<sup>17</sup> HM Treasury (2003) "Bridging the Finance Gap".

<sup>18</sup> SBS/ HMT (2002) "Enterprise Britain: a modern approach to meeting the enterprise challenge".

<sup>19</sup> Fraser, S. (2005) "A Report on the 2004 UK Survey of SME Finances", University of Warwick.

considering equity funding. Only one-third considered themselves knowledgeable about the processes for securing equity finance<sup>20</sup>.

Research has shown that SMEs that would otherwise benefit from external investment miss out because they do not know how to make their business proposals into attractive investment opportunities and are often unable to present a convincing business case to investors<sup>21</sup>. A lack of investment readiness in some SMEs is confirmed by the comments of investors themselves that they would be able and willing to make more investments but are prevented from doing so because of the poor quality of the proposals that come before them.

### **Asymmetric information: market entry**

Incomplete and asymmetric information may limit the entry of inward investors and inward investment. In particular, a limited knowledge of local market conditions can be a significant barrier to inward investment. A survey of inward investors carried out for UKTI in 2005 by OMB Research<sup>22</sup>, found that the key barriers were:

- Local linkage barriers, e.g. recruiting the right staff and finding suitable local suppliers;
- Framework barriers, e.g. understanding legal requirements.

### **Spillovers**

Positive externalities may be generated from investment in the form of knowledge spillovers. These are important to the economy because they can yield significant economic benefits, such as increasing productivity. Moreover, the Government is often best placed to encourage investment, such as inward investment, which is able to generate large spillovers. The Government's access to social networks and intermediaries play an important role in overcoming local barriers, enabling international linkages and flow of information, and allowing businesses to identify and gain access to overseas contacts and opportunities.

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<sup>20</sup> DTI Small Business Service (2005) "Annual Small Business Survey".

<sup>21</sup> Mason, C.M. and Harrison, R.T. (2001) "A report to the DTI Small Business Service on designing an 'investment ready' programme: some considerations", London, UK.

<sup>22</sup> DTI/ BERR (2006) "Economics Paper No 18: International Trade and Investment - the Economic Rationale for Government Support".

## 4.2 Business Support Products

There are four business support products that provide skills and expertise, namely:

- Finance for Business
- Support to Lenders
- Understanding Finance for Business
- Maximising Foreign Direct Investment.

### 4.2.1 Finance for Business

This product provides debt, equity and mezzanine support to SMEs that have viable business plans, but are unable to raise finance on the commercial market. SMEs seeking equity financing can receive a maximum amount of £2 million or two-thirds of an individual deal, whereas SMEs seeking loans can receive a maximum amount of £250,000.

The product targets supply-side information asymmetries. Equity financing is provided where the gap is deemed most acute<sup>23</sup> through approved fund managers with access to public funds to promote more “deals”. Loan support is available to SMEs who are unable to secure finance from commercial lenders, despite appropriate awareness raising and a viable business plan. The loan product is not designed to compete with commercial lenders; and to ensure this, interest rates are set higher than commercial rates.

Since elements of this product are new, detailed evidence on the impact of this product remains limited. However, recent research by the European Venture Capital Association (EVCA) indicates that equity financed business make an important contribution to the economy by virtue of their being high growth companies. Venture capital firms are an aspect of a well-functioning capital market and a driver of the economy. For example, between 2000 and 2004, European private equity and venture capital-financed companies created about 630,000 jobs from venture investments (equating to an annual growth rate of employment of 5.4 per cent), while total employment in the EU25 only grew by 0.7 per cent over the same period.

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<sup>23</sup> Centre for Business Research (CBR) (2008) “Financing UK Small and Medium-sized Enterprises: The 2007 Survey”.

## 4.2.2 Support to Lenders

The Small Firms Loan Guarantee (SFLG) product was introduced in 1981 as a joint venture between the Government and a number of lenders. Participating lenders are provided a Government guarantee of 75 per cent of the loan amount for SMEs seeking loans of between £5,000 and £250,000.

The SFLG targets SMEs that are unable to access finance from the debt market, as previously outlined. These SMEs are likely to be exposed to supply-side asymmetries. SMEs eligible to receive a loan must be able to demonstrate that they are a viable business, but have insufficient track record or collateral to secure a normal loan. Evidence shows that the majority of SMEs who access SFLG do so because of a lack of security (71 per cent) or because of a lack of a track record (20 per cent).

The 1999 evaluation of SFLG suggests that SFLG saved a third of firms from closure and estimated that £1million of public expenditure would increase the GVA in the economy by between £1.4 million and £2.4 million. More specifically, SFLG is estimated to have resulted in the creation of between 5,400 and 9,500 additional jobs and around £400 to £700 million additional sales (after displacement and deadweight). The evaluation also noted potential multiplier or spillover effects. Over half of firms used the SFLG to develop new products or service, 64 per cent to open a new market, 25 per cent to develop a new process and 32 per cent to introduce a leading- edge technology in the sector.

## 4.2.3 Understanding Finance for Business

Understanding Finance for Business provides advice to SMEs on various forms of financing and business planning or investment proposals. The product addresses information failures on the demand side of finance markets. Research has shown that businesses can fail to seek the most appropriate type of finance. For growth businesses, information needs, particularly with regards to appropriate sources of finance, become particularly critical. Without the information and skills to access appropriate finance businesses can become inadequately capitalised and their survival and growth threatened.

Since the product brings together a number of regional products, evidence of its overall effectiveness is limited. However, the evaluation of the Small Business Service Investment Readiness programmes<sup>24</sup> demonstrates that demand for such an intervention exists, and that the provision of financial awareness and capability support can address information failures. As a result of the support, businesses have been able to improve the quality of their investment propositions, understand various forms of financing and

<sup>24</sup> SQW (2004) "Evaluation of investment readiness demonstration projects" ..The paper can be found at the following link: [http://www.sqw.co.uk/file\\_download/44](http://www.sqw.co.uk/file_download/44)

subsequently benefit from securing external finance. Moreover, there has been a marked shift in interest toward equity finance as a result of the support. Around a half of SMEs reported a 'large positive change' to their business, while around 40 per cent changed their behaviour, a fifth increased their funding requirements, and around 13 per cent sought equity which they had not intended to do at the start of the support.

#### 4.2.4 Maximising Foreign Direct Investment (FDI)

The Maximising FDI product provides information, advice and tailored help for potential and existing inward investors to help them decide to invest in the UK and develop their UK businesses.

The product addresses market entry failures, by using the Government as the role of trusted intermediary, bridging gaps in private sector networks in ways that might not be done as effectively by the private sector. Intervention is not in the form of financial assistance, but in the provision of information resources, by bridging networks between inward investors and institutions within the UK (such as universities and R&D suppliers).

Research has identified network and intermediation failures as the key barrier to entry for inward investors. For instance, evidence from DTI Economics Paper No. 18 determines that knowledge spillover effects from inward investment are most likely to occur when:

- Inward investment takes place in close proximity to domestic firms which have the necessary absorptive capacity, such as in knowledge-intensive clusters<sup>25</sup>;
- Firms are embedded in networks within the UK through which knowledge may be shared.

Evidence suggests that trade and investment are likely to be sub-optimal in the absence of Government action to address information asymmetry and bridge networks. Survey evidence suggests that support provided by the product can significantly influence project scope and profile. For instance, around 40 per cent of respondents acknowledged that the product had influenced the scale or scope of their knowledge intensive activities in the UK.<sup>26</sup>

In addition, there is evidence that foreign subsidiaries are less likely to engage in knowledge transfer than internationally connected UK firms.<sup>27</sup> Griffith et al (2004)<sup>28</sup> suggest that investment by foreign multinationals in R&D in the UK may be a potentially important source of knowledge spillovers.

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<sup>25</sup> Harris and Li (2007) suggest that investment projects which generate employment in relatively lagging areas are unlikely to generate knowledge spillovers.

<sup>26</sup> OMB Research (2007) PIMS Pilot Extension to Inward Investment.

<sup>27</sup> Harris and Li (2002) and Dunning (1998)

<sup>28</sup> Griffiths et al (2004)

# 5. Innovation

Innovation is defined as the successful exploitation of new ideas.<sup>29</sup> Innovation involves the creation of new designs, concepts and ways of doing things, their commercial exploitation, and subsequent diffusion through the rest of the economy and society.

Existing and emerging businesses play a fundamental role in generating, adopting and disseminating innovations from which the whole of society can benefit. Business innovation is a key driver of economic productivity, global competitiveness and higher standards of living. The Government's strategy for innovation set out in BERR's Enterprise Strategy and in DIUS's "Innovation Nation" White Paper, articulates a vision of an environment in the UK in which innovation can flourish and where many more businesses identify and capture the benefits of their innovation.

## 5.1 Rationale

Establishing a solid foundation for policy intervention in the form of business support for innovation involves two main steps. The first is to identify a reason why the market and the overall institutional setup do not provide incentives to business to undertake the "optimal" amount of innovation activity. Schemes that tackle an identifiable market or systemic failure achieve better results than those that do not.<sup>30</sup> A sound rationale is a necessary, but not sufficient condition to justify intervention. The likely benefits of an intervention must also exceed its costs. The second step is therefore to demonstrate how business support by Government can boost innovation incentives without distorting well-functioning features of the economy. It is also important to note that business support is only one of the many ways in which Government encourages innovation. As a result, a business case for business support must also establish the added value of support relative to alternative forms of intervention in achieving the desired innovation outcomes.

Various market failures affecting innovation be attributed to the unique and complex nature of knowledge, which is the immediate output of innovation and a key input in its generation. Knowledge is not a typical commodity because it is often difficult to protect (especially without generating market power) and because the use of knowledge by a firm or individual does not reduce the amount of knowledge available for others to use. As a result, innovation brings about issues of public goods, externalities and uncertainty.<sup>31</sup>

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<sup>29</sup> DTI (2003) "Competing in the global economy: The innovation challenge."  
<http://www.berr.gov.uk/files/file12093.pdf>

<sup>30</sup> SQW Ltd (2001) "DTI Industrial Support Policies, Mapping and Assessing the Patterns of DTI Industry Support and its Impacts, Report to DTI".

<sup>31</sup> See DTI (2003) "Economics Paper No 7: Competing in the global economy. The Innovation Challenge". <http://www.berr.gov.uk/files/file9666.pdf>

Combined, these lead to three forms of market failure rationale: spillovers, coordination failures and information failures.<sup>32</sup>

## **Spillovers**

Innovators fail to appropriate all the returns from their investments in innovation, with benefits spilling over to customers, suppliers, competitors and many others. At the margin, this leads businesses to decide against undertaking projects that would be beneficial to society because they are unlikely to recoup their costs with a return commensurable with the risks incurred. For example, more than 30 per cent of firms in the 2005 Innovation Survey considered the economic risk of innovation as a significant barrier. Business support for innovation can help redress this problem by identifying those projects at the margin and bridging the gap between private and social returns so that there is additional investment in socially desirable projects.<sup>33</sup>

## **Coordination failures**

Another market failure preventing companies from internalising the benefits of innovation relates to the difficulty in coordinating action towards a common objective. For example, it can be socially wasteful for several companies to replicate their innovation efforts. This also applies to instances when firms separately develop new products in a way that does not enable consumers to exploit complementarities between them. Business support can help promote beneficial research collaborations involving companies which would not otherwise have got together.

## **Information failures**

Information is often held privately and can be manipulated, reducing for example the willingness of investors to support theoretically sound innovative projects or preventing companies from investing in partnerships with external parties they know little about. While firms should in principle be willing to pay for such information, they may well ignore that such information even exists, let alone know whether this is information worth paying for. Business support can contribute to the creation and development of markets and other conduits for the exchange and absorption of information and externally generated knowledge.

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<sup>32</sup> This list excludes the support provided by Government as part of its critical role as buyer of innovative products and services that are required for the delivery of public services with their own distinct rationale. This classification is adapted from Abramovsky, Harrison and Simpson (2004). "Increasing innovative activity in the UK? Where now for government support for innovation and technology transfer". Briefing note. Institute for Fiscal Studies. <http://www.ifs.org.uk/bns/bn53.pdf>

<sup>33</sup> Information failures also restrict the ability of business support administrators to identify projects and firms that are genuinely likely to change their innovation behaviour as a result of the support on offer. Efficient appraisal and monitoring structures are key to a product's ability to deliver value for money by reducing the extent of deadweight.

Complementary to business support, other interventions help address these market failures. The enforcement of intellectual property rights protects forms of innovation over a limited period of time. Government funds generic and more speculative research undertaken within the science base which would not be undertaken in the private sector. R&D tax credits also reduce the private cost of R&D activity,<sup>34</sup> while standards and the National Measurement System reduce coordination and information costs that are critical to innovators. Regulations and public sector procurement can also shape the wider conditions for innovation to thrive.

The accumulated evidence on the impact of business support suggests there is a sound market failure rationale for directly supporting innovation within business,<sup>35</sup> particularly when it comes to new technologies. Although non-technological innovations around products, processes, services, marketing and management are increasingly important and prevalent, currently available evidence about market failures is insufficient to justify wider scale public sector intervention. This position will be revisited as new evidence is collected and reviewed through Government initiatives following from the DIUS White Paper "Innovation Nation", working in partnership with key business organisations.

Sectors and technologies are subject to specific combinations and intensities of innovation market failures which the new portfolio is flexible enough to address. For example, the Stern Review (2006) noted the development of low-carbon technologies may be constrained without Government support due to the nature of the market (see the environment chapter for further information). There are various reasons for this, but unique to this emerging "sector" is the need to represent the real cost of carbon compared to the least-cost options businesses prefer.

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<sup>34</sup> R&D tax credits could be considered as a form of business support. About £600 million is claimed annually by about 6,000 companies.

<sup>35</sup> SQW Ltd (2001) "Mapping and assessing the patterns of DTI industry support and its impacts",. Of the 11 programmes which were classified as high impact and either high or medium additionality, nine supported technology acquisition and development.

## 5.2 Business Support Products

There are five products in the BSSP portfolio that are designed principally to promote innovation. These products are:

- Networking for Innovation
- Knowledge Transfer Partnerships
- Innovation Vouchers
- Collaborative Research and Development
- Grant for Research and Development

### 5.2.1 Networking for Innovation

Networking for Innovation offers direct financial support to intermediary organisations<sup>36</sup> to facilitate the setting up of new networks for innovation which are commissioned where no suitable networks currently exist, and to develop networks' capabilities to support innovation. Networking for innovation aims to encourage businesses to build relationships with other businesses, intermediaries, knowledge-based institutions<sup>37</sup> and Government. This product seeks to improve knowledge exchange and linkages across business supply chains and lead to more collaborative innovation activity, whether funded privately or with public sector support. Networks should also help inform Government policy with the aim of reducing barriers to innovation, and help national and sub-national providers of business support for innovation identify emerging priority areas.

The rationale for the support of networks is typically focused on informational and coordination failures. Businesses and organisations often lack awareness of the opportunities and benefits available to them from communicating their own ideas and learning from others. Over a half of businesses surveyed, reported being active members of networks, although for small firms engagement is considerably lower (33 per cent).<sup>38</sup> Businesses that are not engaged in networks report that they do not see the benefit from doing so and perceive it to be too costly and time consuming.<sup>39</sup>

Knowledge Transfer Networks (KTNs), and their predecessors, the Faraday partnerships, were set up to address this form of market failure and were established in specific fields of technology or business application. They bring

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<sup>36</sup> Intermediaries are defined as organisations and institutions who deliver networking activities on behalf of funding bodies, including Trade Organisations, Professional Institutions and Knowledge Transfer Networks.

<sup>37</sup> This term includes UK Public or Private Research Organisations, R&D Organisations, Research and Technology Organisations, Higher Education and Further Education Institutions.

<sup>38</sup> York Consulting (2006) The Impact of Networks on the Learning and Skills Development of Businesses. See: <http://www.berr.gov.uk/files/file18706.pdf>

<sup>39</sup> DTI (2006) "The impact of networks on the learning and skills development of businesses",.

together businesses, universities, R&D institutes, financial organisations and other intermediaries to provide a range of activities to facilitate the transfer of technology and promote innovation. KTNs have a strong focus on technology and innovation. The establishment of the network helps to address informational failure limiting incentives for innovation.

KTN participants in the programme generally felt that it was effective in promoting knowledge transfer. An interim evaluation of the Faraday partnerships in 2003<sup>40</sup> showed that they had stimulated some increased innovation activity and partnership building, particularly amongst smaller firms, but most thought that the volume of innovation activity had not increased. Instead the main impacts were found on the effectiveness and nature of innovation activity. Firms said that effectiveness increased, although a minority believed it was strictly due to Faraday involvement.

### 5.2.2 Knowledge Transfer Partnerships (KTP)

KTP provides grants to promote and enable knowledge development and exchange through the better use by business of knowledge, technology and skills that reside within institutions in the UK Knowledge Base. Knowledge transfer partnerships specifically support business from all sectors and knowledge base institutions in England by funding specific costs relating to the:

- The placement of a recently qualified person at NVQ level 4 (e.g. graduate or NVQ equivalent) from a knowledge base institution working in a business with company staff to embed both technical and business skills and expertise of value to the business via a strategic project.
- The exchange of staff between businesses and knowledge base institutions.

Effective innovation involves knowledge, technology, skills and adaptability to implement it, which is not always embodied in equipment or codified in an easily transferable form. People embody the skills and often the real know-how to effect innovative change in businesses. Knowledge developed or improved in academic institutions (knowledge base) may need extensive or intensive adaptation to particular business applications. A qualified person with a direct link to the academic source is the ideal transfer agent. Supporting the mobility of these qualified individuals helps reduce the extent of informational failures not only amongst firms, but also within Higher Education Institutions (HEIs).

KTPs have a sound rationale based on the difficulty firms face exploiting technological developments outside their area and the barriers to communication that exist between firms and HEIs. Support helps overcome coordination barriers that prevent the mobility and exchange of skilled

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<sup>40</sup> PACEC (2003) "Evaluation of the Impact of the Faraday Partnerships. Final report"

individuals between the knowledge base and business to work on mutually beneficial projects.

According to an evaluation in 2002 of its predecessor scheme, the Teaching Company Scheme (TCS)<sup>41</sup>, TCS proved to be a successful knowledge transfer instrument. Some of the transferred knowledge was at the leading edge with 12 per cent of knowledge base partners attaining 5 or 5\* rankings in the Research Assessment Exercise. Over 80 per cent of companies believed that knowledge transferred during the course of the placement was either new to the firm or represented a considerable advance on their existing base. Academics also believe that involvement in TCS makes a significant contribution to their research. The scheme generates economic benefits, and while not all HEIs give involvement high priority, there is evidence of unsatisfied demand for projects.

### 5.2.3 Innovation Vouchers

This product supplies vouchers as part of a 'pilot scheme' to promote and enable an individual business to build its innovation capabilities and buy support from a knowledge base institution to explore potential opportunities for future collaborative innovation activity. The product is aimed at supporting business-driven small innovation projects that can benefit from an increasing flow of knowledge between businesses and knowledge base institutions. The projects are likely to include the development or testing of a technology, product or service as part of wider innovation within the business.

SMEs and knowledge base institutions that meet the following conditions are the direct beneficiaries from this product:

- SMEs from all sectors in England that have the willingness and potential to collaborate on developing innovative products, processes or services.
- Knowledge-based institutions in England who are willing to engage in an innovation project with the primary purpose of assisting businesses to exploit knowledge through new products, services and processes.

By supporting the acquisition of knowledge necessary for innovation, innovation vouchers have the potential to narrow the gap between private and social returns to innovation by reducing the private costs of business innovation. Furthermore, the vouchers may help remove information barriers about the relevance and usefulness of knowledge produced and held within knowledge-based organisations.

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<sup>41</sup> SQW Limited (2002) "Evaluation of TCS. Final report to the Small Business Service." <http://www.berr.gov.uk/files/file22004.pdf>. Like other BERR/DIUS support products, KTPs have also been subject to frequent monitoring analysis as part of various rounds of the Business Support Monitoring Survey.

This product is a novelty to the current portfolio of nationally specified business support products for innovation. It reflects the changing nature of innovation in the portfolio of innovation business support. It thus extends coverage to non-technological disciplines and focuses on facilitating the sourcing of knowledge from the science and research base, in recognition of the fact that a lot of innovation now rests on the ability to source and exploit knowledge produced by external sources. The product thus intends to demonstrate the advantages of procuring external knowledge to prevent mutually beneficial collaborations being missed.

Recognising the increasing importance of non technological innovation, vouchers will support broader forms of innovation on an experimental basis. These include areas where business engage with knowledge-based institutions in disciplines such as the arts, the media, and the social sciences in addition to the traditional engineering, physical and life sciences by sectors including the creative and service sectors.

The agreed pilot design structure of this product is justified by the relatively limited evidence for business support of this nature. As noted in the "Innovation Nation" White Paper, a number of voucher schemes are in operation both regionally and internationally. For example, in 2004 the Dutch Ministry of Economic Affairs introduced a similar innovation voucher which has been recently evaluated. Additionality, allowing for time effects, was estimated to be in the order of 80 per cent. The vouchers tend to be used by more innovative SMEs. It also tends to be the less innovative SMEs that apply for vouchers and ultimately fail to redeem them. The evaluation does not demonstrate that entrepreneurs who have used a voucher then go on to issue repeat assignments without a voucher, although entrepreneurs do express a willingness to remain in contact with the knowledge institution. The Dutch voucher has prompted many knowledge institutions to adopt a more active approach to SMEs. This additional behavioural effect suggests that the demand-driven approach of innovation vouchers will complement the incentives directly provided by Government to the research base through HEIF and related mechanisms.<sup>42</sup> Going forward, monitoring should inform whether the rationale for vouchers is valid.

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<sup>42</sup> The Higher Education Innovation Fund provides HEIs with incentives to engage with the business community through a number of so called 3<sup>rd</sup> stream activities such as contract and collaborative R&D, IP licensing, consultancy, training and several others.

## 5.2.4 Collaborative Research & Development

Collaborative R&D helps business work together and with the knowledge base exploit new ideas. The product provides grants to businesses and knowledge-based institutions to undertake collaborative, pre-competitive but commercially-driven research and development of enabling technologies and large-scale demonstrator projects for innovative products, processes or services.

The following types of innovation projects are eligible for support under this product: basic<sup>43</sup> and applied<sup>44</sup> research; in-depth experimental development<sup>45</sup> and large-scale collaborative demonstrator projects that promote the potential of key technologies.

Priority in the allocation of support will be given to projects where there is the potential to access significant new markets in technologies or applications of national or regional importance as defined nationally by organisations such as the Technology Strategy Board, the Energy Technologies Institute and the Carbon Trust on behalf of Government Departments, or regionally within the RDA Regional Economic Strategies.

This product is aimed at measures to increase knowledge exchange, business spend on R&D and encourage technological diffusion between businesses and knowledge-based institutions through collaborative R&D activities. Collaborative R&D has a strong rationale, as it is designed to overcome barriers to communication and coordination between business and HEIs by fostering collaborative research. Through the financial support provided, it also targets the market failure caused by the divergence between private and social returns to R&D. Support for research collaborations help exploit synergies and achieve strategic coherence in areas where it is not in a country's economic interest to replicate research efforts, particularly in areas subject to long-term uncertainty and, as in the case of low-carbon technology, innovation can help address societal challenges such as global warming.

The evidence collected from the strategic review of LINK,<sup>46</sup> the predecessor scheme to the nationally specified Collaborative R&D scheme currently run by the TSB, indicates that the scheme generates research broadly comparable in

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<sup>43</sup> This is experimental or theoretical work undertaken to acquire new knowledge without a particular application or use in view, from which innovations may follow.

<sup>44</sup> Original investigation undertaken to acquire new knowledge directed primarily towards a specific practical aim or objective, such as a prototype of a novel or innovative product.

<sup>45</sup> Systematic work, drawing on existing knowledge, directed to producing new or significantly improved materials, products, devices or processes..

<sup>46</sup> Independent Review Panel, (2002) "Strategic Review of LINK Collaborative Research". . Collaborative R&D also subsumed components of sector specific schemes such as Civil Aerospace Research and Technology Demonstration (CARAD), see: <http://www.berr.gov.uk/files/file46284.pdf> )

terms of quality to research funded by the Research Councils.<sup>47</sup> In addition to this, the LINK review concluded that there had been substantial commercial benefits that enabled more business relevant long-term research, providing a benefit:cost ratio of up to 3.8 to 1 and increased profit between £250 million and £500m million. The estimated benefits were derived from 300 cases and took into account: (a) The time delay between when benefits accrued and when the expenditure was incurred; (b) that some of the outputs would have occurred anyway without LINK; (c) that some of the turnover generated by LINK is achieved at the expense of firms that have not benefited from the programme.<sup>48</sup>

Further evidence is available from a more recent review of DTI's technology programme portfolio of collaborative R&D projects.<sup>49</sup> This concluded that:

- It appears that the net present value of returns from successful projects is well above the investment cost.
- Additionality appears to be high, which would not be expected if the projects were likely to produce very high private returns on average.
- Significant scope for spillovers exists, although quantification is not yet possible. The commercialisation of project outputs and the design of a broad consortium have been found to enhance spillovers potential.

## 5.2.5 Grant for Research and Development

The Grant for R&D provides finance for business to develop and exploit new ideas. Grants will be available to a business to undertake pre-competitive R&D of enabling technologies for commercially driven, innovative products, processes or services. The following elements may be funded as part of this product:

- Research, which comprises planned research or critical investigation resulting in new scientific or technical knowledge that will subsequently be used to develop a new product or process, as well as work to explore the technical feasibility and commercial potential of a new technology, product or process.<sup>50</sup>

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<sup>47</sup> Technopolis/SPRU (2002) "Strategic Review of the LINK scheme. Report of the consultants advising the LINK Strategic Review panel".

<sup>48</sup> Estimates of time lags, additionality and displacement were derived from participant responses to a survey.

<sup>49</sup> Technopolis Limited and SPRU (2005) "Review of Projects Selected for Funding under the DTI Technology Programme". [http://www.technopolis-group.com/resources/downloads/reports/571\\_TP\\_Final\\_051115.pdf](http://www.technopolis-group.com/resources/downloads/reports/571_TP_Final_051115.pdf). Unlike LINK, Collaborate R&D also funds business-to-business collaborations.

<sup>50</sup> This includes (a) assessment of commercial viability through market research, market testing and competitor analysis; (b) initial feasibility studies, basic prototyping, specialist testing and or demonstration to provide basic proof of technical feasibility, IP protection, investigation of production and assembly options, (c) detailed planning to take the project to commercialisation, including an assessment of costs, timescales and funding needs, (e) Pre-clinical research studies for healthcare technologies and medicines including target

- Development of a pre-production prototype of a technologically innovative product, service or industrial process, including small demonstrators, IP protection, trials and testing (including clinical), market testing, marketing strategies, identifying routes to market, product design work and Phase 0 pre-clinical studies for medicines.
- Use of third parties, such as knowledge partners, consultants, sub-contractors and patent agents to undertake the above activities.

Pre-start and start-up SMEs from all sectors in England except defence are the intended beneficiaries of Grant for R&D support. In addition, when undertaking R&D work in low carbon technologies eligibility extends to large businesses. This product is aimed at measures to increase business involvement in a range of R&D activities where high risk and uncertainty around the expected technical and commercial results are seen as a barrier. When specifically applied to the low carbon technologies sector this product also aims to:

- Help deliver climate goals, notably reduced carbon emissions.
- Accelerate commercialisation of low carbon technologies through support of low carbon Research and Development

The Grant for R&D principally aims to address market failures by reducing the private cost to the innovator from undertaking socially desirable innovation projects, contributing to internalising the benefits from innovation, particularly in the more uncertain area of low carbon technology. By funding the use of third parties to undertake some of the R&D activities, this product also has the potential to address some of the information failures that prevent firms from engaging external sources of knowledge and developing the required capabilities to absorb that type of information.

This product relates to current schemes, such as the nationally specified Grant for R&D and grants provided by the Carbon Trust for applied research, as well as various regional proof of concept and pathfinder support schemes. The evidence collected from the evaluation of Grant for R&D and its predecessor schemes, Smart and SPUR, suggests there is a robust economic rationale for this product and that it can also meet the conditions for cost-effective business support.<sup>51</sup> Grant for R&D places a strong emphasis on SMEs that would otherwise find it difficult to raise relatively small sums due to the high costs of due-diligence. Survey evidence indicates a large degree of additionality and a net positive economic impact after accounting for deadweight and displacement. The majority of smart firms also report an improvement in the skills base and R&D capability.

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identification and validation.

<sup>51</sup> PACEC (2001) "DTI Evaluation Report Series No. 3: Evaluation of Smart (including SPUR) 2001: Final report and appendices". <http://www.berr.gov.uk/files/file22000.pdf>

# 6. Encouraging Competition and Global Market Access

Strong competition drives productivity through the efficient allocation of resources, the development and adoption of innovation, encouraging entrepreneurship, and investment in human and physical capital<sup>52</sup>. A competition regime that fosters strong and flexible enterprises will not only allow business to compete domestically but will assist them in competing internationally. Global competition has a number of benefits. First, it increases the productivity of UK firms by exposing them to foreign advances in technology and innovation. Second, it encourages firms to invest in technology and innovation to remain internationally competitive. Third, it allows the UK to focus on areas of its comparative advantage.

The Government primarily influences competition through legislation, which empowers regulatory bodies like the Office for Fair Trading and Competition Commission. Publicly provided business support complements this regulatory role, by helping firms address barriers that prevent them from increasing their scale and competing in international markets.

This chapter describes the institutional, market and coordination failures that can prevent UK firms from becoming more competitive and productive. A large body of theoretical and empirical literature exists which demonstrates a positive relationship between exporting and productivity<sup>53</sup>. Evidence shows that exporters tend to have higher than average productivity so when they expand their share in UK output average UK productivity rises<sup>54</sup>. Firms can also benefit from spillovers that occur as a result of collaborating with other firms. Such benefits can occur from firms locating in close proximity, sharing premises or facilities or participating in collaborative networks. Local coordination failures can prevent firms from realising these benefits. These failures are also described below.

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<sup>52</sup> HMT (2005) "Globalisation and the UK: strength and opportunity to meet the economic challenge".

<sup>53</sup> Melitz, M. (2003) "The impact of Trade on intra-industry reallocations and aggregate industry productivity" *Econometrica* 71: 1695-1725; Bernard, A., Eaton, J., Jensen, J.B., Kortum, S. (2003) "Plants and Productivity in International Markets" *American Economic Review* 93: 1268 – 1290; Crespi, G., Criscuolo, C., Haskel, J. (2008) "Productivity, Exporting and the Learning-by-Exporting Hypothesis: Direct Evidence from UK Firms" [\*Canadian Journal of Economics/Revue canadienne d'économique, Vol. 41, Issue 2, pp. 619-638, May/mai 2008\*](#)

<sup>54</sup> Harris et al (2007) indicated that between 1996 and 2004 some 60 per cent of UK productivity growth was attributable to exporting firms. Harris, R and Li, Q. Cher (2007) "Firm Level Empirical Study of the Contribution of Exporting to UK Productivity Growth. Final Report to UK Trade and Investment".

Broadly speaking, the products aimed at such failures help contribute to meeting Government objectives through PSA 1: *Raise the productivity of the UK economy* and PSA 6: *Deliver the conditions for business success in the UK*.

## 6.1 Rationale

DTI Economics Paper No 18<sup>55</sup> reviewed theory and evidence on international trade and investment and set out three essential pillars of the rationale for support to help businesses take advantage of overseas opportunities:

- Potential benefits from increased trade and investment;
- Barriers, arising from market failure, which would prevent the private sector unaided from optimally exploiting these potential benefits; and
- Evidence that the Government can intervene cost effectively to address the problems identified.

Trade promotion as provided by Governments has been found to have a significant positive effect on exports. An econometric study of the effect of consulates on export promotion indicates that each additional consulate increases bilateral trade by 6-10 per cent<sup>56</sup>.

Participation in export markets reduces the probability of firm closure<sup>57</sup> and seems to improve the financial health of firms<sup>58</sup>. UKTI's Performance and Impact Monitoring Survey (PIMS) provides insights into the ways in which exporting can act on financial performance. Around a half of those interviewed said that their business had benefited from sustained economic growth or increasing demand in overseas countries.

There are a number of institutional barriers and market failures that prevent firms from accessing international markets and therefore the wider benefits disseminating into the economy. Such market failures manifest themselves in several ways:

### **Asymmetric information: demand side**

Firms may not be fully aware of the benefits of exporting. A lack of awareness of the potential benefits of investment in exporting capabilities can lead to sub-optimal international activity by firms, sub-optimal allocation of resources, inferior internationalisation strategies or the wrong choice of markets on which to focus effort.

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<sup>55</sup> See DTI, 2006

<sup>56</sup> Rose, A. (2007) The Foreign Service and Foreign Trade: Embassies as Export promotion *The World Economy*. 30 (1) 22-38.

<sup>57</sup> *Ibid*

<sup>58</sup> Greenaway, Guariglia and Kneller (2006) *“Financial Factors and Exporting Decisions”* University of Nottingham

Inexperienced exporters may underestimate the uncertain benefits of exporting and so when faced with the costs of entering export markets may decide not to take the risk. Even experienced exporters may be reluctant to venture into markets which are culturally distant, and where they may be unable to assess risks adequately. PIMS<sup>59</sup> survey evidence from users and non-users of UKTI services indicates that non-users are less likely to perceive benefits from exporting (see Table 2).

Table 2: Summary of perceived benefits of exporting for potentially eligible users and non-users of UK trade services (per cent).

Type of benefit	Percentage scoring 4 or 5 out of 5	
	UKTI Users (in per cent)	Non-UKTI ( in per cent)
Improved utilisation of existing capacity	57	30
A level of growth not otherwise possible	N/A	36
Only way to achieve our growth aims	60	N/A
Reduced dependence on single/small no of markets	68	28
Increased ability to compare with competition	N/A	28
Improvements to products/services	N/A	32
Exposure to new ideas	54	30

(Source: UKTI)

Firms may lack the knowledge and capabilities they need in order to export. Companies considering exporting, or entering new markets, may lack awareness of the knowledge and capabilities required to exploit overseas opportunities successfully. Exporters face considerable uncertainty regarding the characteristics and quality of goods and services on offer, and the trustworthiness of potential trading partners<sup>60</sup>. They might also over-estimate legal, regulatory or logistical barriers to access them.

Knowledge and capabilities about exporting vary by market and are not identical to those required for business development in the domestic market due to a number of reasons:

- Differences in culture, language, and social as well as institutional factors are relevant to achieving successful market entry and development strategies;
- Differences in the legal and regulatory framework, including factors affecting timing of payments and enforceability of contracts, and in the conventions and social factors surrounding its application on the ground. These factors can also give rise to risks which may not be transparent to a market outsider;

<sup>59</sup> UKTI (2008) "Performance and Impact Monitoring Survey (PIMS)"

<sup>60</sup> See DTI (2006) Economics Paper No 18 for a discussion and review of theory and evidence.

- Management challenges relating to logistical and practical aspects of operating in multiple countries, across distances and time zones.<sup>61</sup>

### **Asymmetric information: supply side**

Some of the knowledge and expertise needed for exporting is not readily codifiable. It would be difficult for a private sector provider to obtain in the absence of close links to the network of commercial sections in the UK's Embassies, Consulates, and High Commissions overseas.

Access to potential opportunities in export markets is dependent upon information flows through social networks. The need for an intermediary by firms to access such networks creates a principal-agent problem, which the Government is in a unique position to address. As a trusted intermediary, the Government can bridge access to a wide range of networks involving both the public and private sector that would otherwise be unavailable. This form of contact complements networks which firms have themselves developed.

### **Knowledge spillovers**

New findings<sup>62</sup> confirm that access to overseas markets is particularly vital for innovative and R&D intensive companies. They show that firms new to exporting on average experience a 34 per cent increase in total factor productivity in the year of entry<sup>63</sup>. Exporters have markedly higher R&D intensity than non-exporters, and 'born global' companies in turn spend significantly more on R&D per employee than other exporters.<sup>64</sup> There is some evidence that selling overseas in turn leads to increased investment in R&D<sup>65</sup>. R&D intensity is also higher in multinationals than in non-multinational exporters, although only in the firm's home country<sup>66</sup>. Moreover, the benefits from employees' knowledge of internationalisation and foreign markets spill over to firms through movement of staff. Thus, individual firms cannot be sure they will fully appropriate the benefits of investment in building up such expertise in their employees.

<sup>61</sup> Distance continues to be a significant factor in studies of the determinants of trade patterns. For very large domestic markets, such as the USA, the process of growing from local to national scale may well involve similar challenges, and may be one of the reasons 'learning by exporting' productivity effects are not generally found for the USA, while they are significant for the UK.

<sup>62</sup> Harris and Li (2007)

<sup>63</sup> This finding controls for the fact that high productivity firms tend to self-select into exporting.

<sup>64</sup> Harris and Li (2006b) and (2007b), Harris and Li (2007b) also find that absorptive capacity levels in 'born global' establishments are on average nearly 50 per cent higher than the levels for other exporters, and over 380 per cent higher when compared to establishments not exporting.

<sup>65</sup> Baldwin and Gu (2004). OMB Research (2007). Around 9 per cent of UKTI clients reported increased R&D as the direct result of trade services support, while 29 per cent reported increased innovation, for example to introduce or up-grade products or services, or increase investment in new product development. Baldwin and Gu (2004) find evidence of positive effects of international sales on R&D investment in Canada, with R&D 10 per cent higher after exporting, controlling for other factors such as size.

<sup>66</sup> Harris and Li (2006b), DTI (2005), Griffiths et al (2004)

Around half of businesses using UKTI services, and 40 per cent of non-users report movements of staff, often bringing with them expertise in doing business overseas and business contacts<sup>67</sup>. Given employee churn, it would not be clear to firms whether they would recover the value of any investment in market knowledge for its employees. In such conditions, firms would be expected to under-invest in foreign market knowledge. The extent to which fear of not fully appropriating these benefits is an active deterrent to investment in capability building is not clear. Nevertheless, this evidence does make clear that movement of staff is a significant mechanism for knowledge transfer and spillover benefits to other firms.

Spillovers also occur through exporting by the process of learning from overseas buyers<sup>68</sup>. Firms which report more learning from buyers than from other sources are more likely to experience increases in labour productivity two years later.

### **Business collaboration**

Information asymmetries can inhibit collaborations between businesses. Firms may not collaborate with potential competitors because they are uncertain about the costs and benefits of sharing information. Indeed, they may even be unaware of the possibilities of collaboration. Moreover, not knowing the value of the information to the other parties makes agreement more difficult and costly, thereby leading to a breakdown in negotiations and a lack of collaboration.

Yet collaboration can yield positive spillover effects from innovation and assimilation of skills or tacit knowledge. A DTI<sup>69</sup> study showed that firms report a number of benefits from belonging to collaborative networks, including increased competitiveness, quality of goods/ services and efficient working practices. However, only 56 per cent of businesses (and a third of SMEs) reported being active members of networks. Those who did not network perceived it to be too costly and time consuming and were unaware of the benefit from doing so.

Anecdotal evidence and the existence of successful clusters also give an indication of the potential benefits from business collaboration. Specialist networks can play an important role in improving the performance of businesses and stimulating the formation of clusters. An example is the networks of specialist knowledge that have helped the development of small software firms in Scotland<sup>70</sup>.

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<sup>67</sup> OMB research (2007)

<sup>68</sup> Crespi, G., Criscuolo, C., Haskel, J. (2008) Productivity, Exporting and the Learning-by-Exporting Hypothesis: Direct Evidence from UK Firms. *Canadian Journal of Economics/Revue canadienne d'économique*, Vol. 41, Issue 2, pp. 619-638, May/mai 2008

<sup>69</sup> DTI (2006) "The impact of networks on the learning and skills development of businesses".

<sup>70</sup> Collinson (2000) "Knowledge networks for innovation in small Scottish software firms"

## 6.2 Business Support Products

Three of the products in the BSSP portfolio support global market access. These are:

- Accessing International Markets
- Developing Your International Trade Potential
- Export Credit Insurance.

### 6.2.1 Accessing International Markets

The accessing International Markets product involves three strands of support, namely: OMIS, Market Visit Support, and Trade Show Access Programme (TAP).

The Overseas Market Introduction Service (OMIS) allows businesses to commission bespoke research, receive face-to-face advice, contacts and other forms of assistance from Trade Officers in overseas posts. As such, OMIS addresses the asymmetry of information on the supply side by exploiting the Government's role as a trusted intermediary, bridging access to a wide range of networks involving both public and private sector players. Hence current UKTI policy involves charging for OMIS services. OMIS is available for any company with an active UK address and is a chargeable service as it seeks to recoup Trade Officers' time based on a schedule of price bands for hours worked.

The other two products, Market Visit Support and Trade Show Access Programme (TAP), are subsidised because they address information asymmetries on the demand side. Support is provided to businesses with limited or no experience of exporting or entering new export markets. Experience of participation gives firms a basis for assessing the value of exporting.

Market Visit Support provides guidance and financial support to assist SMEs visit overseas markets as part of their trade development process. By focusing on SMEs that are new to export or high growth markets, support targets companies likely to be unaware of the rewards or logistics of exporting i.e. the scheme is targeted at information asymmetries that might prevent firms from exporting.

Trade Show Access Programme provides eligible businesses with a maximum of three grants towards the costs of exhibiting at overseas exhibitions as part of their long-term export strategy. The scheme is aimed at building export capability to exploit spillovers that occur as a result. Financial support is available under TAP for:

- SMEs which are inexperienced exporters and/or innovation intensive

- young companies; or
- The cost of events, which are one of a defined set of priority fast growing markets, and the company is new to that market.

A recent evaluation of TAP was carried out for UKTI by London Economics using survey evidence and econometrics. It found that around a third of firms would not have attended a particular trade fair in the absence of TAP support (with the proportion higher amongst smaller firms and newer exhibitors). This level of additionality supports a rationale for TAP based on the market failure argument; i.e. that firms fail to attend trade fairs even though they would benefit from doing so.

## 6.2.2 Developing Your International Trade Potential

The focus of the Developing Your International Trade Potential product is on sources of market failure which affect the demand for international trade services, in particular those which cause sub-optimal effective demand for, and investment in, capability building. Thus, this product seeks to encourage firms to invest more in developing internationalisation capabilities by providing subsidised advice. Firms do not necessarily recognise the benefits of exporting or the knowledge that is required to do so. Public sector intervention is justified by the wider benefits from the dissemination of knowledge about exporting that are not necessarily internalised by companies, and hence warrant some subsidised public support to ensure these accrue to the wider business community and the UK economy.

The product provides two strands of support:

- Provision of information and advice on beginning to export or seeking to do business in new overseas markets. The product is available to UK registered companies of all sizes and incorporates a number of schemes: Passport to Export, Export Marketing Research Scheme and Export Communications Review Scheme, High Growth Market Advisers.
- Matched funding for agreed export capability development projects for SMEs who are either 'new to export', or innovative and between 1 and 5 years old.

The matched funding schemes are targeted at UK registered SMEs that are considering exporting or entering new overseas markets and are either:

- Innovative and R&D intensive, as such firms are most likely to generate the positive spillovers outlined in the above rationale, or;
- Have limited overseas experience, as such firms are arguably most likely to be affected by the aforementioned information failures.

### 6.2.3 Export Credit Insurance

With respect to the export of capital and semi-capital goods, the Export Credit Insurance product covers the provision of: insurance to UK exporters; guarantees for bank loans to facilitate the provision of finance to buyers of goods and services from UK companies and; political risk insurance to UK investors in overseas markets. This product is currently provided by the Export Credits Guarantee Department (ECGD).

ECGD's risk management policies are designed to meet certain policy and financial objectives; in particular to ensure that the premiums which ECGD charges match the risks and cover its costs and as far as possible make a net contribution to the Exchequer, so that ECGD does not under-price or distort, the commercial market<sup>71</sup>.

This role is in line with the requirements of the WTO that ECGD and other Export Credit Agencies (ECAs) conduct operations on a basis that export credits are not granted at below market rates.

NERA conducted reviews in 2000 and 2003<sup>72</sup> of the rationale and evidence for ECGD's provision and found scope for several market failure arguments. As a public sector body underwritten by the Exchequer, it has greater risk bearing ability than private sector operators, and is therefore able to spread its exposure to large scale risks that the private sector might not take on due to threat of bankruptcy in the event of a default. Generally, higher administrative costs and moral hazard problems would argue against the public provision of insurance for risks borne by the private sector. The specific nature of the risks covered by ECGD (lumpy, low frequency, long duration and interdependent) would, however, tend to offset these problems.

### 6.2.4 Business Collaboration Networks

The Business Collaboration Networks product will fund intermediaries to establish and operate business collaboration networks. The intermediaries will facilitate access to a range of collaborative support activities.

The purpose of this product is to encourage collaboration between businesses operating in key regional sectors and markets, so businesses are able to come together to exploit opportunities that stimulate and accelerate economic growth. Businesses will be able to participate in collaborations to address opportunities which they would be unable to do without support. The funding provided to the intermediaries to establish and operate the network will vary depending on the size, potential benefit and scope of the activities provided by the network. Interventions will be provided to collaborations where:

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<sup>71</sup> ECGD's mission and objectives also require ECGD to ensure that its facilities, are in broad terms, complementary to those in the private sector.

<sup>72</sup> For a more detailed discussion of the rationale and evidence for ECGD see NERA (2000) and NERA (2003).

- The focus is on priority sectors highlighted in the relevant regional economic strategy;
- Market failure and difficulty in achieving collaboration is identified at the project level;
- Collaboration is necessary to develop and commercialise a business proposition that is outside the scope of supported activities elsewhere (e.g. under the 'Innovation Collaboration' product);
- The business case demonstrates the absence of subsidy to participating large companies; and,
- Such networks will not support anti-competitive behaviour but will encourage co-operation between businesses.

Business collaboration networks are most likely to be managed and organised at the regional and local levels and therefore will primarily be funded by Regional Development Agencies and Local Authorities.

### 6.2.5 Business Premises

Funding will also be provided to intermediaries to establish and operate cost-effective, managed workspaces and business parks in priority localities where such facilities are not provided by the private sector. The Business Premises product could be provided as a part of a local or regional economic strategy to regenerate a deprived area. In this case the locality and types of business it would provide services to would be particularly unattractive to the private sector if located in such areas.

Managed workspace and business parks focus mainly on providing property solutions to selected businesses that have the potential to grow into locally significant employers. They may also offer space to develop for businesses that have started in knowledge-based or more specialist shared support environments (e.g. incubators). Businesses that could benefit from shared business support environments will need to meet some of the following criteria:

- Be willing and able to collaborate with related businesses
- Demonstrate the need for access to such facilities in order to start or grow their business
- Have the potential to be significant local employers,
- Be in a priority sector or area as set out in the relevant regional or local economic strategy.
- Show that it will be able to benefit from collaboration in a shared business support environment

The Business Premises product will be provided at a regional or local level if the market will not provide this facility due to a market failure or there is an equity rationale for this type of business support intervention. Business

premises provide a supportive environment so that sustainable businesses can develop. This helps the local economy in which they are located grow.

## 6.2.6 Business Growth: Specialist Facilities and Environments

A related product is Business Growth: Specialist Facilities and Environments. This provides funding to intermediaries to establish and operate cost-effective, supportive shared premises. These include a range of specialist facilities such as access to specialist knowledge, equipment and technologies. The exact range of specialist facilities available to businesses will depend on the purpose of the specialist shared environment; the complexity of the services to be offered and local business needs.

Business Growth: Specialist Facilities and Environments will work in partnership with Business Link to offer integrated access to the full range of private and public business support. Businesses benefiting from the product will typically be either tenants or customers accessing specialist equipment or knowledge. Eligible businesses will be those that display entrepreneurial and growth potential and match the purpose and entry criteria of the facility.

# 7. Reducing Inequalities

This chapter describes the economic conditions and evidence that prevent certain disadvantaged groups of individuals from participating in the UK economy equally with other groups. Market failures can manifest themselves particularly strongly in disadvantaged groups of individuals and the unequal distribution of income and unemployment that results may create significant social costs for the UK. Such social costs provide the justification in the Green Book for interventions on equity grounds. There are four business support products to which this justification particularly applies.

The products contribute to high level Government objectives by contributing to PSA 21: *Build more cohesive, empowered and active communities*; and PSA 7: *Improve the economic performance of all English regions and reduce the gap in economic growth rates between regions*. The products also indirectly contribute to PSA 6: *Deliver the conditions for business success in the UK*.

## 7.1 Rationale

The rationale in this chapter falls into two categories:

- Enterprise support and advice to disadvantaged individuals, and;
- Financial support to firms and intermediaries located in deprived areas.

### **Enterprise support and advice to disadvantaged individuals.**

Levels of enterprise are significantly and persistently lower than average amongst certain disadvantaged groups, including some ethnic minority groups, those women facing barriers to participation, the disabled, and residents of deprived areas. This is because these groups face informational and institutional barriers to entrepreneurship<sup>73</sup> in addition to factors which may prevent business creation for the general population. This lack of enterprise is a contributing factor to inter-generational cycles of deprivation in some communities.

The information and institutional barriers that prevent disadvantaged individuals from attempting to start a business manifest themselves differently for particular groups<sup>74</sup>. Some ethnic minority groups may not know where to seek the necessary information about how to start a business. For example they may not have the social networks or family history to provide such information. Such information failures prevent some groups with an interest in starting a business from doing so. Some women and ethnic minority groups,

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<sup>73</sup> DTI (2004) "A government action plan for small business: The evidence base"

<sup>74</sup> National Employment Panel (NEP) (2005) 'Enterprising people enterprising places: Measures to increase ethnic minority employment and business growth'. Available from: <http://www.nationalemploymentpanel.gov.uk/publications/nep/2005/epeppdf/fullreport.pdf>

for example, overestimate the risks of starting a business. Lower levels of educational attainment in deprived areas and social exclusion compound information failures and can add to uncertainty and reduce the ability of entrepreneurs to assess the risks of starting a new venture. Such lower levels of educational attainment may arise, in part, from Government failure in the past to provide enterprise education to some groups.

For some groups in the population the transition from interest in starting up to running a business is made more difficult because of wider social and structural issues. The evaluation of the Phoenix Fund concluded that basic information about income, education, household assets, language and transport were all relevant to how business support services were provided. The issues may become more entrenched without suitable intervention.

The market will not of itself eliminate these barriers because they are expensive to overcome and offer a poor return on investment. In addition, individuals in deprived areas are less likely to be able to afford business support from the private sector; therefore publicly subsidised business support for this group is less likely to lead to a deadweight loss (where businesses use a public subsidy for a service they would have purchased from the market without Government intervention).

In addition to inequality these barriers have a cost in terms of enterprise (see Enterprise and Business Creation). The level of entrepreneurial activity in the UK is modest in comparison to some Western economies, and the gap is particularly pronounced with respect to female participation. The economic costs of this enterprise gap could be significant, as it has been estimated that business churn accounts for 20-40 per cent of productivity growth<sup>75</sup>. Research<sup>76</sup> also shows that only a small percentage of people thinking about starting a business go on to do so. If these disparities were overcome, as well as increasing the overall rate of business creation, then entrepreneurial levels could match those of our best competitors.

### **Financial support to businesses in deprived areas**

Neo-classical economics argues that movements in capital and labour mobility in a perfect market environment should prevent regional differentials in income and unemployment from emerging. However, regional income and unemployment differentials persist in the UK, and empirical evidence is inconsistent with the workings of the standard neo-classical model<sup>77</sup>. There is evidence of market imperfections which impact particularly upon people from

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<sup>75</sup> Scarpetta, S., Hemmings, P., Tressel, T. and J. Woo (2002) "OECD Working paper No. 329. The Role of Policy and Institutions for Productivity and Firm Dynamics Evidence from Micro and Industry Data". Paris, OECD.

<sup>76</sup> DTI (2004) "A government action plan for small business: The evidence base

<sup>77</sup> Green, Owen, Champion, Goddard and Coombes (1986), "What contribution can Labour Migration make to reducing unemployment".

disadvantaged groups and communities<sup>78</sup>, such as information failures, lender viability and perceived associated risks. In deprived areas, market failures and the effects of market failures may combine and exacerbate to build more severe barriers to enterprise than in other areas.<sup>79</sup> More modern analytical approaches that consider economic geography in an environment of imperfect competition show how these factors can result in a sub-optimal outcome for society as a whole.

Several market failures inhibit labour and capital mobility in the UK. Evidence suggests there are regional variations in labour mobility and it is the young, more skilled and more enterprising who are the most likely to move<sup>80</sup>. Various factors (agglomeration, industrial heritage, high unit wage costs and low skills) mean that the expected returns to investment are lower in assisted areas, preventing firms from locating there. Together, these failures create an imbalance whereby prosperous areas have significant social costs from congestion and the assisted areas are in danger of falling further into decline.

### **Access to finance**

Entrepreneurs in deprived areas face difficulties accessing finance for a number of reasons such as the reluctance of the private sector to invest in projects which they consider to be risky. Evidence shows that residents in deprived areas are twice as likely to have no personal bank account; less likely to be able to produce business accounts; more likely to be on lower incomes; and less likely to own their own home or hold significant financial assets which can be invested or offered as collateral<sup>81</sup>. They consequently experience greater difficulty in securing financial support to start and grow their business.

## **7.2 Business Support Products**

By targeting disadvantaged groups and the barriers they face, some of the business support products in the BSSP portfolio seek to address the under-representation of disadvantaged groups in business creation and minimise the social costs from the concentration of regional deprivation. These products tackle various problems at different stages in the life of a business and include:

- Intensive Start-Up Support
- Small Loans for Business
- Grants for Business Investment

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<sup>78</sup> GHK (2004) "An Evaluation of Phoenix Fund Support for Community Development Finance Institutions".

<sup>79</sup> Greater London Authority (GLA) Economics (2006) "Rationale for Public Sector Intervention in the Economy".

<sup>80</sup> Performance and Innovation Unit (2002) *Geographic Mobility*; Champion et al (1998) *The Determinants of Migration Flows in England*, University of Newcastle; Champion et al (1998); McCormick (1997) "Regional Unemployment and Labour Mobility in the UK", European Economic Review 41

<sup>81</sup> Bank of England (2002) "Finance for Small Firms - A Ninth Report". London, Bank of England.

- Enterprise Coaching.

### 7.2.1 Intensive Start-Up Support (ISUS)

Intensive Start-Up Support provides personalised mentoring and advice which may include one-to-one support. The additional support is intended to overcome specific barriers that disadvantaged communities face. The target groups for this product are individuals with the potential to start their own business in England who come from groups that are under-represented in enterprise.

The support will be tailored to the under-represented groups and delivered in a way that overcomes any particular circumstances which would otherwise make it difficult to access provision. For example, to support business creation among more disadvantaged communities and under-represented groups, the support will be delivered using appropriate outlets, e.g. children's centres, and community centres to address the specific needs of particular groups.

### 7.2.2 Small Loans for Business

The product provides funding of up to £50,000 to entrepreneurs from disadvantaged groups or communities for viable business propositions where the business is unable to secure all their finance needs from mainstream sources.

Under the Small Loans for Business product a loan will be targeted at groups that would be susceptible to market failures preventing access to finance, e.g. because of a lack of credit record or lack of existing collateral. Loans will be provided to firms:

- With less than 250 employees and a turn-over of up to €50 million or a balance sheet of up to €43 million (EU definition of a small or medium sized company);
- For the sole purpose of business creation, development or expansion, thereby excluding the provision of loans to clear existing debts or existing loans from the lender (as a mechanism for managing bad debt on the part of the lender);
- Targeted at women, under represented black and minority ethnic groups identified in the SR2004 PSA10 and businesses operating in the 15 per cent most deprived wards in England according to IMD 2000 (as per the "Intensive Start-Up Support" product).

Organisations delivering such finance are often termed Community Development Finance Institutions (CDFIs). The Enterprise Strategy (March 2008) identified CDFIs as the main instrument to support disadvantaged entrepreneurs who are unable to access finance from commercial lenders. The Community Development Finance Association reports that CDFI activity has

created and sustained 33,000 jobs and levered an extra £330 million of finance into businesses and households in deprived areas over the past ten years.

In 2004 there was an evaluation of Phoenix Fund support to Community Development Fund Institutions<sup>82</sup>. The evidence indicated that because of the timeliness of the intervention, and the latent demand for loan finance in disadvantaged communities as revealed by previous research, the programme had a major and positive impact on the role and performance of the CDFI sector. It also found that CDFI loan finance activity had been effective in terms of achieving the policy goals which institutions individually and collectively had addressed.

### 7.2.3 Grant for Business Investment (GBI)

Grant for Business Investment (GBI) provides a capital grant to businesses of all sizes in the Assisted Areas.<sup>83</sup> It is designed to support sustainable investment or job creation projects that help business to expand, rationalise, modernise or diversify. Typically, a grant is offered to support the acquisition of key assets, such as buildings, plant and machinery and to support the creation of new jobs or to safeguard existing ones.

GBI is also open to SMEs<sup>84</sup> operating outside the Assisted Areas in areas designated as Tier 3 regions by the RDAs. This support reflects both the key role SMEs play in job creation and generating economic activity and the inherent difficulties they face in the market place.

Successful applicants for GBI will fulfill a number of other criteria to ensure compliance with state aids regulations and value for money. To comply with EU state aids regulations:

- Support has to have an incentive effect, e.g. enabling the recipient to carry out activities which would not have been carried out in the absence of the aid or would not have been carried out in the assisted area concerned;
- Larger projects must create or safeguard skilled employment.

To ensure the largest possible benefits for the funds expended:

- The project should contribute positive benefits to both the regional and national economy through direct impact or wider benefits<sup>85</sup>;

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<sup>82</sup> GHK 2004 "An Evaluation of Phoenix Fund Support for Community Development Finance Institutions".

<sup>83</sup> A Deprived area is taken to mean an Assisted Areas as defined by the EU and a Tier 3 area defined by the RDAs.

<sup>84</sup> This support to SMEs reflects both their key role in job creation and generating economic activity and the inherent difficulties they face in the market place.

<sup>85</sup> Net wider benefits are those parts of the business activity for which the company receives no payment or bears no cost, but which have an impact (positive or negative) on other companies or individuals.

- The investment project must deliver an improvement in productivity, based on gross value added per full-time equivalent (FTE) employee measured against the sector and national averages.

An in-depth evaluation of GBI's predecessor schemes, Selective Finance for Investment (SFIE) and Regional Selective Assistance (RSA)<sup>86</sup>, was published in March 2008. The evaluation concluded that:

- The RSA scheme is "positively and significantly associated with the creation of employment in the recipient plants"
- In the early years of the SFIE schemes there were clear business benefits in terms of productivity and sales growth
- Levels of deadweight associated with the scheme are very low and additionality was reported in 21 per cent of cases.

## 7.2.4 Enterprise Coaching

Enterprise Coaching targets individuals in deprived areas or from under-represented communities. It provides them with hands-on help to develop their confidence, skills and success in accessing mainstream business support or other suitable progression routes into economic activity. Enterprise Coaching is a one-to-one service for those with the interest and potential to develop a career in enterprise, be it through self-employment or starting a small business.

Coaching stimulates interest and take-up by members of communities and groups who otherwise tend not to get involved in enterprise, or who present a need to enterprise support bodies. It is centred on the individual needs of the client. The relationship will vary from individual to individual, involving possibly counselling and coaching, to help identify the potential and prospects of the client progressing into enterprise.

The product will be funded locally and available to:

- Residents of deprived areas; defined here as communities within which at least half the population live in Lower Super Output Areas that fall within the 15 per cent most deprived nationally, or in areas classified as deprived in regional or local plans that have been agreed with Government office; or
- People from groups who are under-represented in enterprise: at national, regional or local level, based upon sex, race, disability or other relevant characteristic; or
- Individuals who are economically inactive, regardless of place of residence or socio-demographic characteristics.

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<sup>86</sup> <http://www.berr.gov.uk/files/file45548.pdf>

## 8. Climate Change and the Environment

The natural environment comprises many different resources including: biodiversity (species, habitats); landscapes; water; soil; and air. These resources provide a range of goods and services from which people benefit including pollution regulation, flood and erosion control, waste decomposition and disposal, clean air, water and food for basic survival, carbon sequestration; and the resources needed for a strong economy. The natural environment also provides substantial amenity, cultural and recreational value. Numerous contingent valuation studies confirm the high value the public attach to the UK's environmental assets.<sup>87</sup> Yet the quality of the environment is under threat, and business is a contributing factor to this. For example, nearly a third of CO2 emissions generated by business are due to inefficient practices. Business creates about one-fifth of the waste generated in the UK each year (see below).

Addressing the challenge of climate change and protecting the environment are important priorities for the Government, together with the drive for a low carbon, resource efficient economy. This is based around two key PSAs. First, by reducing CO2 emissions, which is incorporated in PSA 27: *lead the global effort to avoid dangerous climate change*. Second, through protecting the natural environment, which is encompassed in PSA 28: *secure a healthy natural environment for today and the future*.

To meet these PSA outcomes, the Government uses a variety of levers and incentives to tackle market failures that impact on climate change and environmental objectives. These include market mechanisms (such as the EU Emissions Trading Scheme), regulations (often implementing EU Directives such as the Water Framework, Soil Framework and Nitrates Directives), incentives and funding (e.g. low carbon research and development grants, capital grant schemes and cross-compliance conditions attached to receipt of the Single Farm Payment), voluntary initiatives (e.g. the Voluntary Initiative on Pesticides) and information and education. (e.g. the Carbon Trust's work with business and the public sector to identify carbon emissions and find ways of reducing them).<sup>88</sup> The Government also provides a number of business support products within the BSSP portfolio designed to tackle market failures affecting the environment.

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<sup>87</sup> For example see Eftec (2005) "Economic Valuation of Environmental Impacts in the Severely Disadvantaged Areas", report for Defra.

<sup>88</sup> For discussion see: [http://www.hmtreasury.gov.uk/d/pbr\\_csr07\\_psa28.pdf](http://www.hmtreasury.gov.uk/d/pbr_csr07_psa28.pdf)

## 8.1 Rationale

A variety of market failures mean that economic activity, in the absence of Government intervention, is likely to have an adverse impact on delivery of climate change objectives and the natural environment. For example, there has been a substantive loss of habitats and landscapes as a result of increasing and intensifying agricultural production; and 97 per cent of agriculturally unimproved low-lying grassland in England and Wales was lost between 1932 and 1984.<sup>89 90</sup>

There is strong support for Government intervention on the environment. Evidence shows that the public wishes to protect and enhance the farmland environment and are willing to pay for policy intervention. In addition, the Stern Review noted that Government intervention was required to accelerate the move to a low carbon economy and reduce carbon emissions. The transition to a low carbon and more resource efficient economy will require a significant transformation in products, processes and organizations<sup>91</sup>. But it will also create new market opportunities for low carbon and energy efficient products and processes that can benefit new and existing businesses in the UK.

There are three key market failures, which provide the rationale for Government intervention, namely: externalities; environmental public goods; and, information failures.

### Externalities

The production or consumption of goods and services may impose external costs or benefits on society in the form of environmental externalities. Externalities occur when decisions made by individuals or businesses impose costs or benefits on the rest of society, which are not taken into account by the people making those decisions. Businesses often only take into account their 'private' costs and benefits; i.e. those that affect them and their business. They may not even be aware that their actions have implications on society.

Both negative and positive externalities are generated as a by-product of business outputs. For example, farmers may engage in practices which release

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<sup>89</sup> Since 1970 farmland birds have declined by 55 per cent indicating a significant decline in biodiversity, although more recently the declines appear to have stabilised, measured through a series of indicators for the England Biodiversity Strategy:  
<http://www.defra.gov.uk/wildlife-countryside/biodiversity/biostrat/indicators/pdf/200805a1a.pdf>

<sup>90</sup> The agricultural sector also impacts on climate change, water quality, air quality and soil, with total negative impacts estimated at around £2.6bn per annum Jacobs (2008) and Eftec (2004) "Environmental accounts for Agriculture". also provides indicative estimates of the positive externalities from agriculture for landscape amenity of £488m per year for the UK (£124m England & Wales) and for habitats and species of approx £500m per year. See at: <https://statistics.defra.gov.uk/esg/reports/envacc/jacobreport.asp>

<sup>91</sup> DIUS (2008) "Manufacturing: New Challenges, New Opportunities"

more pollution into rivers than would be the case if they appreciated the full implications of their activities and the cost such activities imposed reflected society's value of clean water – a negative externality. Other examples of negative externalities include the production of CO<sub>2</sub> emissions, and waste, with the industrial and commercial sectors currently producing around 67 million tonnes of waste a year.<sup>92</sup>

On the other hand, businesses can also generate positive environmental externalities. For example, a landowner who plants forests for the purpose of producing wood may provide society with additional positive benefits, such as reducing soil erosion. One study estimated that agriculture provides additional benefits worth £0.9 billion annually<sup>93</sup>.

### **Environmental public goods**

Many goods and services provided by the environment, such as clean air, possess the characteristics of a public good – nobody can be excluded from enjoying the benefits, and one person's consumption does not generally restrict someone else's consumption. Because of these characteristics, the market for environmental services, and the delivery of climate change objectives, are particularly vulnerable to "free-riders" – land managers and businesses are unable to charge people for the provision of these public goods so people enjoy the benefits without paying for them (property rights are not well defined). Land managers have little incentive to invest in these public goods (since they cannot reclaim the costs of doing so through traditional market mechanisms) and therefore provide these goods at a sub-optimal level from society's perspective. The decline in biodiversity is a good illustration of under-provision of a public good.

Government intervention is therefore required to ensure that environmental public goods are provided at an optimal level. Similarly, coordinated Government action is required to mitigate changes to the climate, caused by global warming. The Stern Review found the global costs of inaction (5-20 per cent of GDP) far outweigh the costs of coordinated international action on climate change. Government intervention is therefore required to 'internalise' these externalities, so that the social costs and benefits are taken into account in decision making by businesses, and goods and services are provided at a socially optimal level.<sup>94</sup>

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<sup>92</sup> See the link:

<http://www.defra.gov.uk/environment/statistics/globalatmos/gagccukem.htm#methane>

<sup>93</sup> Environment Agency (2002), *Agriculture and Natural Resources: Benefits, Costs and Potential Solutions*.

<sup>94</sup> For instance, the EU Emissions Trading Scheme internalises the externality of CO<sub>2</sub> emissions associated with certain types of energy use (including electricity) and the UK Landfill Tax internalises externalities associated with waste.

## Information failures

The existence of information failures may mean that businesses are unable to identify potential efficiency gains, which would translate into cost savings and better environmental performance. Many businesses face the challenge of reducing their negative impact on the environment without adversely affecting the viability of their business. However, the complexity of environmental components coupled with inadequate information may result in sub-optimal social outcomes.

Moreover, even where the information is understood, inertia may still persist – cited in the Stern Review as a key reason for requiring further interventions to complement those aimed at addressing externalities. For instance, businesses may perceive the effort associated with realising resource efficiency savings to be far greater than it really is, leading to lower than optimal take-up of resource efficiency opportunities. Thus, Government support to businesses in the form of advice or funding may be required.

## 8.2 Business Support Products

Three products in the BSSP portfolio primarily address environmental issues. These products are:

- Environmental Land Management Funding
- Environmental Land Management Advice
- Improving Your Resource Efficiency.

### 8.2.1 Environmental Land Management Funding (ELMF)

The ELMF product provides targeted compensation for land managers (on the basis of income forgone) for maintaining or enhancing the natural environment.<sup>95</sup> It is targeted at addressing information failures and the production of externalities. Management practices chosen by rural land managers impact both positively and negatively on the ability of the natural environment to deliver services. Good land management practices can also reduce the production of negative externalities, such as water pollution as noted earlier.

On the other hand, the product also encourages the production of positive externalities. For example, traditional farming practices are an efficient and effective tool for conserving semi-natural habitats and farmland wildlife, while sensitive woodland management has helped stabilise woodland bird populations. Indeed, evidence shows that the public wishes to protect and

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<sup>95</sup> Activities are delivered through the Rural Development Programme for England (RDPE).

enhance the farmland environment and are willing to pay for policy intervention<sup>96</sup>.

Assessing the effectiveness of this product is challenging as environmental outcomes are difficult to measure and apportion. However, a number of evaluations have been conducted to assess the effectiveness of projects in providing economic benefits. A study into the future of support in the uplands suggested that an uplands strand of the Entry Level Scheme (part of Environmental Stewardship) could deliver in the region of £127 million of environmental benefits per year for a cost of £27 million.<sup>97</sup> An economic evaluation of forestry policy in England found that the planting of new forests could lead to:

- Landscape benefits of £1-£2.5 million for every £300,000-£800,000 spent;
- Biodiversity benefits of around £29,000 for every £3,000-£8,000 spent;
- And, recreation benefits of £5,500 for every £950 spent<sup>98</sup>.

## 8.2.2 Environment Land Management Advice

The Environment Land Management Advice product offers advice to land management businesses. It is delivered by Natural England and the Forestry Commission. The objective of the product is to encourage environmentally sustainable land management. The product currently comprises the following services:

- Organic Conversion Information Service
- Environmentally Sustainable Land Management programme (formerly known as the Farm Demonstration programme)
- Environmental Stewardship advice programme (formerly known as the Conservation Advice programme)

The product is designed to address information failures faced by land managers in relation to the provision of environmental public goods, and the production of positive and negative environmental externalities, by providing advice directly to land management businesses. Land managers are supported to deliver environmental public goods and services, which generate positive

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<sup>96</sup> Jacobs (2008) Eftec (2004) provided indicative estimates of the positive externalities from UK agriculture of around £1.2bn per year, mostly from biodiversity, landscape and habitats. However, these figures are based on incomplete information: positive impacts on society are expected to be significantly higher.

<sup>97</sup> Eftec, (2006) "Economic Valuation of Environmental Impacts in the Severely Disadvantage Areas". see at: <https://statistics.defra.gov.uk/esg/reports/disareas/> Note that this figure referred to a hypothetical scheme, which although similar in nature to Environmental Stewardship, is not directly comparable.

<sup>98</sup> All benefits are expressed as present values, using a 3.5 per cent discount rate, and should be considered indicative of potential benefits, as they are highly dependent on location, context, etc. Economic Analysis of Forestry Policy in England, <https://statistics.defra.gov.uk/esg/evaluation/forestry/default.asp>

externalities and minimise negative externalities associated with agriculture and forestry in the best way. This ensures that Government maximises the value for money of the schemes under the ELMF product.

English Nature (now Natural England) and the Environment Agency investigated the relationship between good environmental management and economic performance in the agriculture sector<sup>99</sup> and identified significant cost savings (of around 14 per cent in the crops sector, for example) relating to changes in natural resource management practices. They also found that the most significant barrier to take up of these opportunities was a lack of awareness that these opportunities exist. Moreover, evaluations of the Environmental Stewardship Advice Programme showed that half of event attendees who had taken environmental action subsequent to event attendance attributed this completely or mostly to the event. Two-thirds of farms felt they were able to change their farm or their farming methods as a result of the event.

### 8.2.3 Improving Your Resource Efficiency

The Improving Your Resource Efficiency product provides various forms of assistance (initial or specialist support) on resource efficiency in business production processes, in products and services and in embedding resource efficient practices into the business culture. Initial support is available to all businesses and sectors in England to help reduce their environmental impact. Support is mainly in the form of advice via websites, publications, guides and case studies. However, SMEs in England are also eligible for interest-free loans on energy efficiency of between £5,000 and £100,000. Support is also available for those in the recycling or reprocessing business, mostly for SMEs. Specialist support is targeted at businesses with the potential to reduce significantly their costs and environmental impact, for example operators with energy bills in excess of £50,000.

The product aims to tackle information failures and other barriers to behavioural change, which result in poor energy efficiency by providing advice to businesses on resource efficiency. Improvements in resource efficiency can yield cost savings for business. It is estimated that implementing low or no-cost measures for the energy, waste and water sectors would enable cost savings of around £6.4bn per annum. In addition, efficiency savings reduce the disposal of waste and the negative externalities associated with this.

The product has two key elements to ensure public funding has maximum impact. First, the product is targeted at audiences with significant potential for reduced energy consumption, resource use and waste generation, such as construction, manufacturing and retail sectors. Second, it attempts to embed

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<sup>99</sup> English Nature and EA (2005) "Assessment of 'Win Win' Case Studies of Resource Management in Agriculture".

resource-efficient practices into the business culture, to ensure these are sustained.

Research found that over three-quarters of UK employees wanted to help their employer cut CO<sub>2</sub> emissions. However, although many employees were aware of climate change, and some of the changes to reduce carbon, more work was needed to get them to make those changes. Evidence showed that the benefits of engaging employees were high. For example, of the 556 SMEs who took part in the first phase of a recycling trial Waste and Resources Action Plan (WRAP), around half experienced increased employee morale, while over a third improved their reputation within the local community.

The evaluation of the Business Resource Efficiency and Waste (BREW) programme has led to cost savings for business of approximately £4 for every £1 spent. The associated environmental savings in 2006-07 included 1.76 million tonnes of CO<sub>2</sub> equivalent, reduced use of virgin raw materials by 3.67 million tonnes, 1.62 million tonnes waste diverted from landfill plus a reduction of 146,000 tonnes in hazardous wastes.<sup>100</sup>

## 8.2.4 Low Carbon Energy Demonstration

The Low Carbon Energy Demonstration product provides support in the form of capital grants, loans or revenue funding to a business to develop technology-based products (including components), process, or service innovations, to assist with the more expensive longer-term costs of:

- Demonstrating at scale in a commercial or industrial setting.
- Testing design and construction processes and estimating construction and operating costs.
- Early adoption of new technologies that promote the use of low-carbon energy technologies and the better use of energy.

The product targets information asymmetries and the production of negative externalities generated by carbon-based products. Key to this is to encourage or foster the development and implementation of technologies which lower the production of carbon-based products. However, businesses may be unable to adopt low carbon-based technologies within the timeframe highlighted by the Stern Report due to cost constraints, or a lack of awareness of available technologies, due to information failures. The product tackles barriers to the adoption of these technologies by subsidising firms to develop them and by demonstrating these technologies to others.

Since the product is relatively new, there is limited evaluation evidence. However, the Stern Review<sup>101</sup> estimated that a 20 year international programme

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<sup>100</sup> The link to the evaluation for the 2006/7 programme can be found at:  
<http://www.defra.gov.uk/environment/business/support/pdf/0607-metrics-results-paper.pdf>

<sup>101</sup> Stern Review (2006) HMT, Part IV, Chapter 26

to develop low carbon technology, which would produce around 1-2 gigawatts (GW) of electricity per year would require investment of about \$6-10 billion per year. This would generate positive externalities of around \$80 billion per year, per gigatonne of carbon abatement, or around \$85 per tonne of CO<sub>2</sub> abated.<sup>102</sup>

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<sup>102</sup> The Stern Review (2006) notes that this could fall to \$45 per tonne in 20 years time and \$25 per tonne or less by 2050 as costs fall.

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# Annex A

## Definition of Business Support Captured by BSSP:

**Any publicly funded activity that benefits a business or a person considering creating a business such as through grant, loan, subsidy, advice or service.**

This includes

1. Publicly funded activity such as a grant, loan, subsidy or service with a **specific purpose** of assisting a business or a person considering creating a business<sup>103</sup> with any aspect of the management of the business; AND/OR with a purpose of improving national, regional or local economic growth. (e.g. Grant for R&D (BERR), Manufacturing Advisory Service, Train to Gain)
2. Publicly funded activity whether grant, loan, subsidy or service whose **primary purpose** is environmental, cultural or social , but which has the **incidental** but material effect of improving national, regional or local economic growth (e.g. Envirowise).

Plus, where a mixture of private and public sector funds is used for business support then those public funds if separable fall within BSSP scope.

The definition excludes

- Publicly funded guidance or other service to help business comply with **regulatory or other requirements placed upon them by government** e.g. Departmental or Local Authority regulatory guidance.
- Support funded by the private sector, the 'Third Sector'<sup>104</sup>, any support related to taxation, and the National Lottery. However, where the voluntary and community sector secures public funds to deliver services contained within the definition above, these should be included within the scope of BSSP.

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<sup>103</sup> This includes support given to potential entrepreneurs, or individuals with the potential to become self-employed or start up a micro-business e.g. New Deal test-trading programmes

<sup>104</sup>For example, charities and charitable trusts and foundations ( such as, The Prince's Trust and The Gatsby Foundation).