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Review of Employer Collective Measures: Empirical Review

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Review of Employer Collective Measures: Empirical Review

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Foreword

Launched on 1st April 2008, the UK Commission for Employment and Skills is a key recommendation in Lord Leitch's 2006 review of skills *Prosperity for All in the Global Economy: World Class Skills*. The UK Commission aims to raise UK prosperity and opportunity by improving employment and skills. Its ambition is to benefit individuals, employers, government and society by providing independent advice to the highest levels of the UK Government and Devolved Administrations on how improved employment and skills systems can help the UK become a world class leader in productivity, in employment and in having a fair and inclusive society.

Research and policy analysis plays a fundamental role in the work of the UK Commission and is central to its advisory function. In fulfilling this role, the Research and Policy Directorate of the UK Commission is charged with delivering a number of the core activities of the UK Commission and has a crucial role to play in:

- Assessing progress towards making the UK a world-class leader in employment and skills by 2020.
- Advising Ministers on the strategies and policies needed to increase employment, skills and productivity.
- Examining how employment and skills services can be improved to increase employment retention and progression, skills and productivities.
- Promoting employer investment in people and the better use of skills.

This report is one of a suite of outputs of the Review of Employer Collective Measures study. The study reviews the effectiveness of levers to increase employer investment in skills on a collective basis, such as levies and tax incentives, in order to provide advice to Ministers on which collective levers might be most effective to introduce or expand.

In undertaking the study we have conducted extensive reviews of the existing literature and reviewed relevant UK and international policies to inform our advice and recommendations. We have worked with a consortium of leading experts in the field and drawn on wider panels of experts, in the UK and internationally, to inform our analysis and advice.

This report is the second in the series reporting on the Collective Measures study and synthesises the evidence with regard to the extent of employer provided training in the UK and the facilitators and barriers to that training. It is one of the three main literature reviews which have informed our recommendations.

The final report presents the conclusions to the study. This and the other reports in the Collective Measures study are also published as Evidence Reports in our series and are available in the publications pages of the website at www.ukces.org.uk.

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Executive Summary

Purpose of the study

The aim of the Review of Employer Collective Measures (Collective Measures) study is to identify credible research from across the four countries of the UK, and other applicable international evidence, to shed light on how the level, nature and quality of training may be improved.

The Collective Measures study comprises several separate reviews. The Conceptual Review outlines the economic theory relating to sub-optimal investments in training, and the Policy Review looks at the evaluative evidence in relation to those measures which might increase the take-up of training. The reviews are intended to advise which policy levers might most effectively increase employer investment, direct or indirect, in training.

This report, the Empirical Review, sits between the Conceptual and Policy Reviews. It provides evidence of: (i) the extent of employers' investments in training; (ii) the factors which persuade employers to train; and (iii) the barriers to training faced by employers.

The Incidence of Employer Training Activity

There is a large statistical resource – comprised of various employer surveys - stretching back to the early 1990s which measures the extent of employer provided training in each of the four nations, the UK as a whole, and internationally. This resource provides a rich stock of evidence about training volumes and expenditure, and the reasons why employers do not train.

Over time in the UK the volume of training has been rising with an increasing percentage of employers engaging in some form of training. The most recent survey evidence for 2007 suggests that 65 per cent of employers had provided training to employees over the last 12 months. Comparative international surveys indicate that UK employers engage in training more than their European counterparts though the training they provide is often of shorter duration.

The definition of training used in surveys has become increasingly sophisticated with the inclusion of informal training which, for many organisations especially small and medium sized organisations (SMEs), is an important means of delivering learning.

Where the statistical resource (mentioned above) is less strong is in relation to: (a) the lack of longitudinal data which will allow measurement of the extent to which employers are recurrent trainers. Cross-sectional data gives no clue as to whether training is a one-off or regular activity in the workplace; and (b) measures of training quality. Training quality is a nebulous concept but international comparisons seem to point towards qualitative differences between national training systems.

The Facilitators of Training

Employers will engage in training because it satisfies a need within the business. That need may arise because of factors internal to the firm (*i.e.* where the employer's decision is largely determined by factors over which they have direct control) and those which are external (*i.e.* largely imposed by the external environment over which the employer has limited or no influence).

The evidence suggests that the following internal factors facilitate training:

- the **strategic choices** made by employers about their product market strategies and the mix of technology, organisation, and skill they choose to adopt. In general, higher specification, higher value product market strategies result in a higher demand for skills and training;
- bundling together appropriate **mixes of product market and human resource strategies**. The ability to realise a product market strategy is dependent upon employers investing in training their workforce, but this needs to go hand-in-hand with a range of other human resource practices which motivates employees and values their contribution;
- a perception that there are **benefits to the business** from training. There is a wide body of evidence which suggests that employer provided training benefits the business but the extent of the gains to the business vary from being negligible, to small, to very large indeed. Overall, however, the evidence points to employer provided training benefiting the employer which provided the training, but the extent to which this information influences employer decisions is not generally available in the evidence;
- the **normative values about training** held by employers influences their training decisions. Some employers value the contribution of all types of human capital development to their business even where it is not of direct relevance to their business;

- **workforce planning** where employers need to engage in succession planning and manage labour turnover. The evidence suggests, for instance, that training tends to reduce labour turnover;
- where employers choose to report their investment in workforce development through, for example, **human capital accounting,** this may have an impact on training levels. For now there is no information available about the extent to which this occurs in practice.

The evidence suggests that the following external factors facilitate training:

- conditions in the **external product and labour markets** affect the decision to train. Where there is excess demand in the external labour market, employers are pushed towards training, but excess supply in the external labour market does not necessarily negate the need for training because some employers prefer to train their own employees;
- **social partnership and other institutional factors** act to facilitate training through engendering a joint commitment to skills and training by both sides of industry. It also drives up the demand for training where the union wage premium needs to drive up productivity levels for it to be sustainable. The impact of other institutions which have a role in providing information, advice, and guidance in relation to training on the employer's propensity to train is much more difficult to gauge;
- **funding, subsidies and other incentives** have the capacity to increase engagement in training by employers, sometimes amongst harder-to-reach employers, but there are often high levels of deadweight attached to such initiatives;
- **inter-firm collaboration**, where employers group together to engage in training, has scope to increase training levels by employers. There is a diverse range of collaborative ventures including regional and sectoral clusters, supply chain relationships, and establishing joint venture training companies or co-operatives. The role of information, advice, and guidance within networks of firms can be instrumental in increasing training by employers;
- **regulation and standards,** such as a statutory requirement to be qualified in a given occupation creates a demand for training. Similarly the adoption of standards – where the employer regards these as beneficial - also creates a demand for training to ensure that standards are obtained and maintained. There is, however, not much evidence about the extent to which standards, other than Investors in People (IiP), drive up training levels.

Barriers to Training

Employers cite a lack of demand for training because all of their staff are fully trained or proficient as the principal reason why they do not provide training. The Conceptual Review challenges this view on two grounds: (i) there are a number of barriers which might deter employers otherwise amenable to providing training to their employees from actually doing so; and (ii) the product market strategies employers choose leads to a level of skill demand which has the potential to be raised should a more appropriate product market strategy be selected.

The Conceptual Review identified a number of barriers to training taking place. The Empirical Review examined the evidence about the extent to which each barrier existed in practice and found the following:

- the more highly **skilled and qualified managers** are the more likely they are to develop higher value-added strategies and this in turn supports the further development of staff through training. Where managers are relatively poorly qualified they are unlikely to be employed in workplaces with high value-added product market strategies;
- there is evidence that many employers fail to recognise the need to develop a skill or human resource strategy to support their current and future **product market position**, this is especially so amongst firms with lower-value added strategies;
- some **managers have limited time** to devote to anything other than the immediate demands placed on them, hence a more strategic approach to training may be squeezed out;
- **management's social skills** and social capital can limit the development of business opportunities, but there is no evidence which has looked specifically at the social capital of managers in relation to the level of training in the establishments where they work;
- the **influence of staff** on training is often cited as a reason for not training by employers, but this finding needs to be treated with some caution. Often the context in which training is introduced and the means to introduce it explains much about employee reactions to it;
- there appears to be considerable uncertainty about the nature and quality of training available, and the value of training to the employer which may indicate that **imperfect information** acts as a barrier to training;

- it is difficult to be sure about the extent to which **capital market imperfections** inhibits training by employers. Cost is clearly signalled as a constraint on training, but there is no data which highlights the role of capital markets limiting provision;
- in relation to **short-termism** there is little information available in relation to training. Evidence suggests that short-termism within enterprises may be self-imposed and does not necessarily reflect the behaviour or expectations of the capital markets. Hence employers may be internally constraining their investments in all kinds of activity;
- evidence from abroad suggests that the **complexity of the vocational education and training (VET) system** can inhibit employers' propensity to engage in training;
- there is strong evidence in all survey data and persistent over time that small firms train less. The factors underlying the reasons why small firms train less, other than the fact they have fewer people to train, are often to do with their preference for informal methods of learning which are not always captured by surveys of employers.

There are also sectoral level barriers which inhibit training. As noted throughout this report the incidence of employer provided training, and the reporting of barriers to training, varies by industrial sector.

There are also national level effects to consider. Their evidence suggests that the institutional frameworks in place within countries such as Germany and the Netherlands establish a relatively high skill equilibrium where company product market strategies, the role of collective bargaining in maintaining wage levels, and a relatively strong VET infrastructure reinforce one another to create a virtuous circle.

Much of the benefit companies derive from the VET system in countries such as Germany relates to the relatively high standard of initial vocational education and training. The commitment to lifelong learning by employers in some European countries is a more recent development.

In relation to the German system the evidence suggests that it can foster adaptability to market conditions within industries, but the system may be a little less flexible in managing wider changes in the structure of the economy. The dual system, for example, has been criticised for not serving the more knowledge-based service sector as well as it serves the manufacturing one.

In Conclusion

The evidence indicates that employer provided training brings about improvements in organisational performance.

Levels of training vary across the economy by size of workplace and industrial sector, and to a lesser extent by region and nation.

For training to have an impact on business performance it needs to be part of a wider set of human resource practices.

There is evidence that employers would like to invest more in training but face barriers in doing so. The characteristics of these employers vary according to their size, location, and industrial sector.

There is also evidence that should employers seek to improve their level of performance they will be faced with a skill requirement and, thereby, a training need.

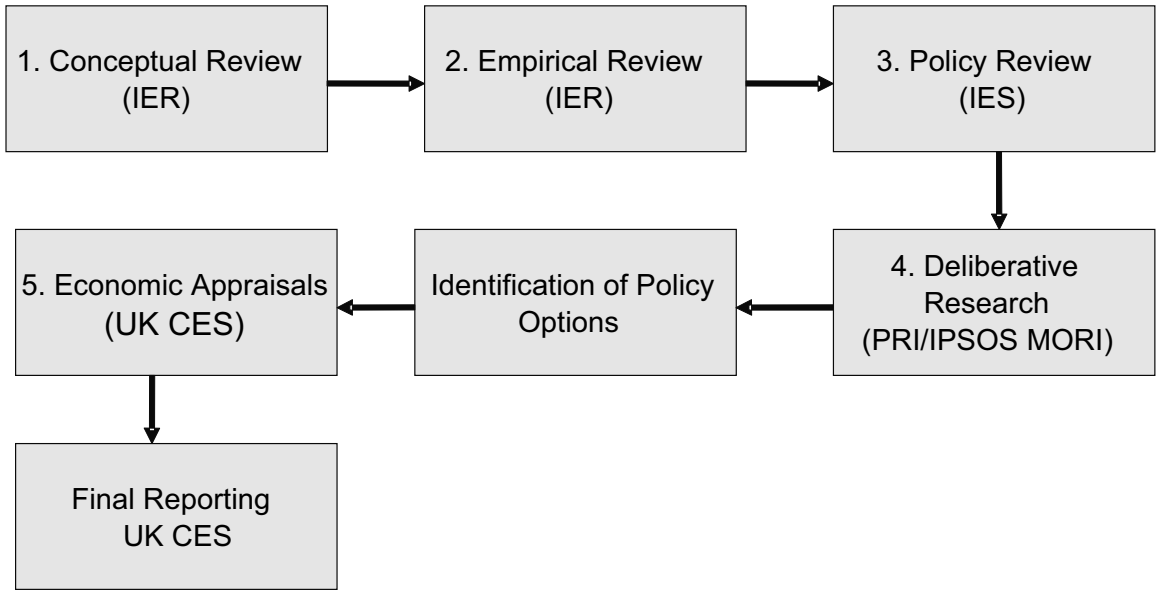
1. Introduction to the Empirical Evidence Review

1.1 Aims of the Study

This study is concerned with the extent to which employers sufficiently invest in skills, the benefits they derive from the training they provide or fund, and the barriers they face if they wish to increase their investments. More specifically, the study is concerned with collective measures; those measures designed to raise employer investments in skills which are applicable to employers in general or to specific sectors of the economy and which involve some form of collective or joint action by employers.

Identifying the most appropriate measures to increase employer investments in skills and training is a complex, multi-faceted task including extensive literature reviews; discussions with key stakeholders and initial economic appraisals of recommended policies as shown in Figure 1.1:

Figure 1.1 Collective Measures Study



The literature reviews cover:

i. **Conceptual Review** – a theoretical treatment on the provision of training by employers;

ii. **Empirical Review** – outlining the evidence on the extent to which employers train, the returns they obtain from it, and the barriers they face to providing more training;

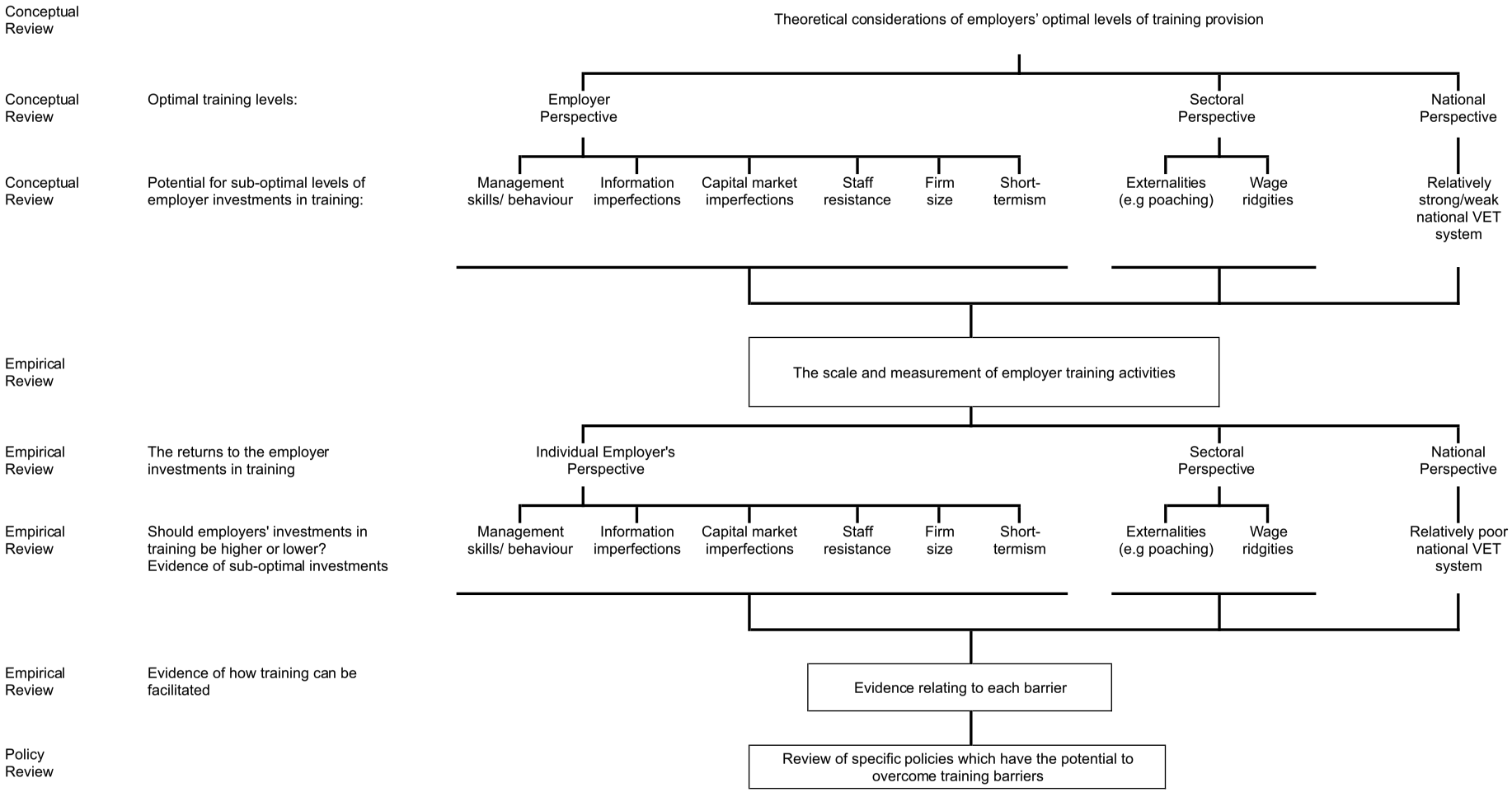
iii. **Policy Review** – the efficacy of policies that promote employer provision of skills.

This study – the Empirical Review – provides a bridge between Projects i and iii by providing a review of the evidence relating to the employer's rationale for investing in skills (or not doing so), the extent of any investment, and the returns that accrue from any such investments, as outlined in Figure 1.2. In particular, the empirical evidence review is concerned with:

- how investment in skills is measured (and whether traditional measures pick up sufficient of the training effort);
- factors motivating an employer to invest in skills;
- barriers to employer investment in skills;
- what the existing measures of training investment suggest about the extent and nature of employer investment in skills; and
- the benefits from investing in skills.

The study provides pointers to where skills investments may be sub-optimal and the barriers that need to be addressed if investments in skills are to be raised. There are a number of ways this can be tackled. First by using the statistical data to reveal the incidence of relatively high or low levels of training activity by employers against some international, national or sectoral benchmark, and secondly by looking at the barriers to training taking place, since this may indicate where the market is operating in a sub-optimal manner. In doing so, the study also assesses whether the research evidence, and the measures of training and skills development available, provide the information needed to assess whether training and skills investments are sufficient or optimal.

Figure 1.2 Structure of the Collective Measures Study



1.2 Method

The study is based on a review of the literature across those social science disciplines which offer some empirical insights about the training decision, influences on that decision, and the returns to training. A number of search terms were identified and literature identified (Annex A reproduces the list of search terms).

In general, the aim has been to identify academic papers and research reports which address:

- the extent of skills and training investments across the UK;
- the barriers and facilitators to employers engaging in training; and
- the extent of private returns to the individual employer.

As well as drawing upon analytical papers relating to the above, survey evidence has also been collated to show the incidence and extent of employers investments in skills and training in the UK and Europe, with comparisons of change over time, by country, and by economic sector.

Information available on training expenditure and participation in training available has been drawn from a number of sources: large-scale surveys such as the Skills for Business Network (SfBN) Surveys of Employers; the (National) Employers Skills Surveys carried out periodically in each of the four nations of the UK; and the European Union's Continuing Vocational Training Survey (which provides a detailed assessment of employer's training costs for the UK in comparison to other EU states).

In order to obtain greater insights into the operation of the vocational education and training (VET) systems in selected countries – the facilitators and barriers to training taking place – country studies were commissioned for Australia, Germany, Ireland, and the Netherlands. These countries were selected because they exhibit different approaches to the provision of VET according to the extent to which there is a degree of co-determination between social partners. The Netherlands and Germany are examples of more collective approaches – though the respective systems are different – Ireland is an example of a country which has increasingly moved to a more collective approach, and Australia, though sharing many features in common with the UK VET system, has its own distinct characteristics. The reports for these countries have been drawn upon in the main body of this report.

Understanding how investments generate returns requires an understanding of how skills are deployed in the workplace. This is subject to a separate investigation by the UK Commission for Employment and Skills and, for this reason, is not considered in detail here.

1.3 Overarching Framework

The overarching framework for the Empirical Review is supplied by the Conceptual Review. The Conceptual Review, drawing upon human capital theory, defines the optimal training level as the point where the marginal costs of an extra unit of training are equal to the marginal benefits. The Conceptual Review, however, is quick to point out that in practice the assumptions in human capital theory about, for example, perfect competition tend to break down (Stevens, 1994). The Conceptual Review points to a range of labour market, capital market, and information barriers which potentially result in sub-optimal levels of training being provided by employers. The overarching framework for Empirical Review is to measure the extent of employer investments in training, identify the factors which influence the employer's decision to invest, and assess the extent to which the barriers identified in the Conceptual Review result in training investments being lower than they might be otherwise.

1.4 Structure of the Report

Chapter 2 provides a summary of the available statistics about the extent and incidence of employer provided training. Chapter 3 assesses the reasons why employers provide training whilst Chapter 4 considers the barriers to training. Chapter 5 provides a conclusion and considers whether, and where, there is evidence of over or under investment in skills.

2. The Extent and Incidence of Employer Provided Skills

2.1 Introduction

Before providing evidence on the factors which facilitate or impede employers' provision of training to their employees, a brief summary is provided of the extent and incidence of employer training in the UK. The summary gives an indication of the extent to which statistical sources allow conclusions to be drawn about optimal or sub-optimal levels of training.

Since the Training in Britain Inquiry, commissioned by the then Manpower Services Commission in the late 1980s, information has been periodically collected through sample surveys of employers about: (a) employers' recruitment difficulties (to obtain a complementary indicator of skill imbalances to those provided by measures of occupational wage dispersion and relative wage growth); and (b) the extent of employer engagement in training (such as the number of training days delivered, expenditure on training, *etc.*). As the list below indicates, data is available stretching back to the beginning of the 1990s about employers' training behaviour and the extent of their investment in skills. The principal sources of survey data relating to employer training behaviour are:

- the **Continuing Vocational Training Survey (CVTS)** conducted in each Member State of the European Union on behalf of Eurostat. The study has been conducted on three occasions: 1995, 1999, and 2005;
- **Skill Needs in Britain** (SNIB), a sample survey of employers in the UK, conducted by the then Department of Employment / Department for Education and Employment, periodically between 1992 and 1998. SNIB collected information about employers' recruitment difficulties and training behaviour. The information collected by SNIB was continued in the Learning and Training at Work surveys and the (National) Employers Skill Surveys;
- **Learning and Training at Work** (LTW), a sample survey of employers in England, carried out in 1999, 2001, and 2002. A further survey, entitled Workforce Training in England, which was conducted in the 2006, collected much of the same information as LTW;
- **(National) Employers Skills Surveys** collect information about employers' recruitment and training activities. The survey was first conducted in England in

1999 and repeated in 2001, 2003, 2004, 2005, and 2007. A similar survey was conducted each year in Scotland from 2003 onwards, in Wales in 2002 and 2005, and in Northern Ireland in 2002 and 2005. While the national surveys have similar aims they are not directly comparable across all training indicators;

- the **Skills for Business Network (SfBN) Survey of Employers**, which was conducted on behalf of the SSDA / UK Commission in 2002, 2003, 2005 and 2007, provides information about the incidence of training for the UK and the extent of employer engagement with Sector Skills Councils (SSCs);
- **CIPD Learning and Development Survey**, conducted annually since 2002, provides information about the incidence of training and training costs but has a small sample size;
- **ESRC / ACAS / PSI Workplace Industrial / Employment Relations Surveys** also collect information about employer training behaviour in the context of a wider set of employment issues. The surveys were conducted in 1980, 1984, 1998, and 2004;
- there are other surveys which address the role and deployment of skills in the workplace. The **ESRC / SKOPE Skills at Work Employer Perspectives Survey** conducted in 2002, provides companion information to that collected from individuals in the Skills at Work survey series, and **Work and Enterprise Business Survey 2005** provides data on the deployment of skills in the workplace.

It should also be noted that until the mid 2000s in England, the local Learning and Skills Councils and their predecessors, the Training and Enterprise Councils, also periodically conducted employer surveys within their areas, but these varied both in terms of their sampling methods and questionnaire design, thereby making comparisons between areas near impossible, even though the surveys had common purposes: to assess the extent of skill imbalance recorded by employers and gauge the extent of employer engagement in training.

Given the variety of evidence available on employer behaviour there is a need to classify the range of indicators available. To this end Eurostat has developed a typology – outlined in Table 2.1 – which classifies indicators according to whether they relate to:

- training or skill inputs;
- measures of the process by which inputs are turned into outputs;
- outputs; and
- outcomes.

For each type of indicator it is possible to identify those which are available, or potentially available, from employers and which allow salient comparisons to be made (see Table 2.1). As will be seen, there are a number of data sets available which allow comparisons to drawn:

- between countries;
- over time; and
- between the characteristics of employers (*e.g*. by size and sector).

The most important data sources are indicated in the final column of Table 2.1.

The following sections address what each type of indicator in Table 2.1 says about levels of training, except ‘outcomes’ which is covered in a later chapter.

Table 2.1 Eurostat Classification of Training and Skills Indicators

Type of indicator	Eurostat Description	Employer based indicators	Data sources
Input indicators	Input statistics concentrate on the real resources involved in education: the people that undertake education and training on the one hand, and aspects such as expenditure on the other	Employer expenditure on training Training plans / budgets	CVTS National Employer Skill Surveys (England only) CIPD Learning and Development Survey Learning and Training at Work (selected years) SfBN Survey of Employers
Process indicators	Process statistics and indicators in VET refer to the way in which the learning took place. In combination with the input, output and outcome indicators, they can help to indicate the efficiency of policies or programmes	Duration of training activities Participants in training activities	CVTS LTW CIPD Employer Skill Surveys for all four nations but comparisons are not straightforward SfBN Survey of Employers
Output indicators	Output statistics and indicators capture the direct and more immediate results of education, and include learner completion, graduation or drop-outs from the system	Employer provided training leading to a qualification	Employer Skill Surveys for England 1999 – 2007 / Scotland / Northern Ireland CIPD LTW SfBN Surveys of Employers
Outcome indicators	Outcome indicators of VET and lifelong learning are the ultimate or eventual effects of undertaking education and training. They include returns to education, for example increased earnings, employment, contribution to productivity, improved health, and other non-monetary outcomes	Returns obtained from employer provided skills: private and social	Some information in surveys about employer's self-reporting of benefits obtained (*e.g.* Employer Perspectives Survey, and Work and Enterprise Survey). Also *ad hoc* analyses indicate private and, to a lesser extent, social returns.

Source: Eurostat / various sources

2.2 Training Expenditure and Training Plans (Input Indicators)

Data on training expenditure and training plans are provided from a number of sources from both an international and national perspective. A training plan may signify a systematic approach to the provision of training. In general, UK employers compare favourably to other European countries on this indicator because they are more likely than employers in any other EU-27 country to have a training plan. In 2005, 47 per cent of employers in the UK had a training plan compared to 34 per cent in the EU-27. Data from the SfBN Survey of Employers for 2007 reveals that 48 per cent of establishments in the UK had a training plan (up from 39 per cent in 2003) and 36 per cent had a specific budget for training expenditure (Shury *et al.*, 2008). Larger employers were more likely to have a plan (90 per cent with 250 or more employees) than smaller ones (24 per cent with 2 to 4 employees). It tends to be in the public sector that training plans are more in evidence.

Numerous measures are available from CVTS to indicate the extent of employer expenditure, including:

- cost of continuing vocational training (CVT) courses as percentage of total labour costs;
- cost of CVT
    - attributed to direct training costs; and
    - the labour costs of participants;
- cost of CVT course *per* participant;
- cost of CVT course *per* training hour;
- cost of CVT training *per* employee.

There are accuracy and reliability issues relating to the collection of training cost data from employers through sample surveys. Some evidence indicates that surveys tend to under-report costs, but so long as the estimates provided by CVTS for each country show the same degree of bias, cross-national comparisons are possible.

To illustrate the difference in training expenditure across Europe, the overall costs as percentage of total labour costs has been used. In 2005, the UK's training costs accounted for 1.3 per cent of labour costs, which is below the EU average of 1.6 per cent (see Table 2.2). In the UK a relatively high share of training costs are accounted for by direct training costs. Based on purchasing power standards, UK employers spend €1,068 *per* training

participant compared to an EU-27 average of €1,385, and €1,637 in Germany and €1,898 in France. Overall, the data indicates that UK employers spend relatively less than employers in general across Europe.[1]

Table 2.2 Expenditure on Training as Percentage of Total Labour Costs

Country	Total costs	Direct costs	Labour costs of participants
EU27	1.6	0.7	0.7
EU25	1.6	0.7	0.7
Belgium	1.6	0.5	1.0
Bulgaria	1.1	0.7	0.4
Czech Republic	1.9	0.9	1.0
Denmark	2.7	1.2	1.0
Germany	1.3	0.7	0.7
Estonia	1.6	1.1	0.5
Greece	0.6	0.3	0.3
Spain	1.2	0.5	0.6
France	2.3	0.8	0.9
Italy	1.2	0.4	0.6
Cyprus	1.3	0.6	0.5
Latvia	0.8	0.5	0.4
Lithuania	1.2	0.7	0.5
Luxembourg	2.0	1.0	1.2
Hungary	2.6	0.9	0.6
Malta	1.8	1.2	0.8
Netherlands	2.0	1.2	1.0
Austria	1.4	0.8	0.6
Poland	1.3	0.7	0.6
Portugal	1.1	0.5	0.6
Romania	1.1	0.7	0.4
Slovenia	2.0	1.1	1.0
Slovakia	1.8	1.0	1.0
Finland	1.5	0.8	0.7
Sweden	2.1	0.9	1.2
UK	1.3	0.9	0.3
Norway	1.3	0.6	0.7

Source: Eurostat / CVTS 3
Note: Based on provisional data available from Eurostat during 2008 and may differ from data eventually published .

More detailed data on training expenditure for the UK is available from the CIPD Survey of Learning and Development and the UK component of the CVTS. The CIPD survey is based on a relatively small sample[2] hence the estimates of training expenditure need to be treated with some caution. The evidence shows that average training expenditure *per* employee is £300 but this is lower in larger workplaces despite the delivery of more training days.[3] In establishments with 5000 or more employees the average cost of training *per* employee was £108 compared to £375 in those with 250 or fewer employees, despite the fact that the

1 It is possible to make comparisons over time using CVTS but a comparison of the UK data over time suggests that there may be problems in making these comparisons.
2 It is not clear how the estimates of *per capita* training expenditure are derived.
3 Table C.1 in Annex C provides more data.

former delivered 6.1 days of training *per* employee compared to 5.3 in the latter. This suggests that there are economies of scale for the larger employers.

CVTS uses a detailed method to derive estimates of training expenditure and requests respondents to provide information about expenditure relating to:

- fees to external training organisations;
- travel and subsistence payments;
- salaries of staff involved in providing training;
- the cost of premises and equipment; and
- contributions and receipts from collective funding arrangements, where available.

All data relates to continuing vocational education and training, so exclude the costs of any initial training. On average, workplaces spent an average of £34,000 on training, £710 *per* participant, and £290 *per* employee in 2007.[4] The latter estimate is close to that provided by the CIPD survey. The public administration sector incurs relatively high costs at £1,160 *per* participant in training (£320 *per* employee) with the transport and communications sector recording the lowest training costs (£470 *per* participant in training and £140 *per* employee). As with the CIPD survey there are differences by size of establishment with the larger establishments recording lower *per capita* costs: £670 *per* training participant in establishments with 500 or more employees compared with £860 in those with 1-49 employees (note though, the different definitions of 'small' and 'large' applied here).

There is no data available for individual nations of the UK except for England in 2007 (from NESS 2007). It is worth considering the data for England in detail because, following the NESS2003, piloting was conducted to identify the most accurate, efficient and reliable means to collect training expenditure through surveys (Hogarth *et al.,* 2005). The data also distinguishes between on-the-job and off-the-job training, and provides an overall estimate of employer expenditure in the labour market in England. Estimates derived from NESS2007 suggest that employers' training expenditure is around £39bn each year (2007 prices). This is based on spending around £1,800 *per* employee, or £2,500 *per* employee in receipt of training (see Table 2.3). This suggests that around 2 per cent of GDP is spent on training compared to around 18 per cent on fixed capital investments.[5] The comparison puts into

[4] Table C.2 in Annex C provides more data

[5] This will slightly under-estimate the relationship between the level of investment in skills and GDP because it is based on training expenditure in England and the GDP of the UK. This is based on training expenditure of £39bn and GDP of £1,401bn in 2007 (Blue Book 2008, Table 1.1.)

perspective the contribution that each type of expenditure might be expected to contribute to improvements in organisational performance.

The estimates of *per capita* training are greater than those reported by either the CIPD or CVTS, but the findings are consistent with both these surveys in showing, for example, smaller employers incurring greater costs *per* trainee.[6]

Table 2.3 Training Expenditure

	All trainers 2005	All trainers 2007	% increase	All off-the-job trainers 2007	All on-the-job trainers 2007
Unweighted base	7,059	7,190		5,031	5,785
Weighted base	896,639	974,091		683,616	791,703
Total training expenditure	33,331m	£38,648m	16%	£18,358m	£20,290m
Per capita training expenditure (total workforce)	£1,500	£1,725	12%		
Per capita training expenditure (training employers' workforce)	£1,800	£1,975	11%	£1,150	£1,175
Per trainee training expenditure	£2,550	£2,775	9%	£2,300	£1,750

Source: NESS 2007
Base: All employers

NESS2007 also allows training cost estimates to be disaggregated by the Sector Skill Council (SSC)[7] which represents the employer.[8] Of interest are those SSC sectors which reveal relatively high expenditure *per* trainee. These are:

- Lantra;
- Construction Skills;
- People 1st;
- Energy and Utility Skills;
- SummitSkills;
- Asset Skills.

6 Table C.3 in Annex C provides more data
7 A description of the sectors covered by SSC is provided in Annex D
8 Table C.4 in Annex C provides more data

There are also SSCs where expenditure *per* trainee is relatively low:

- Skillfast-UK;
- GoSkills;
- Skills for Logistics;
- Improve.

It should be noted that the ordering of SSC sectors with relatively high or low investments in skills has remained stable between 2005 and 2007.

Overall the data reveal differences between employer expenditure levels, but there are patterns discernible across the various sources:

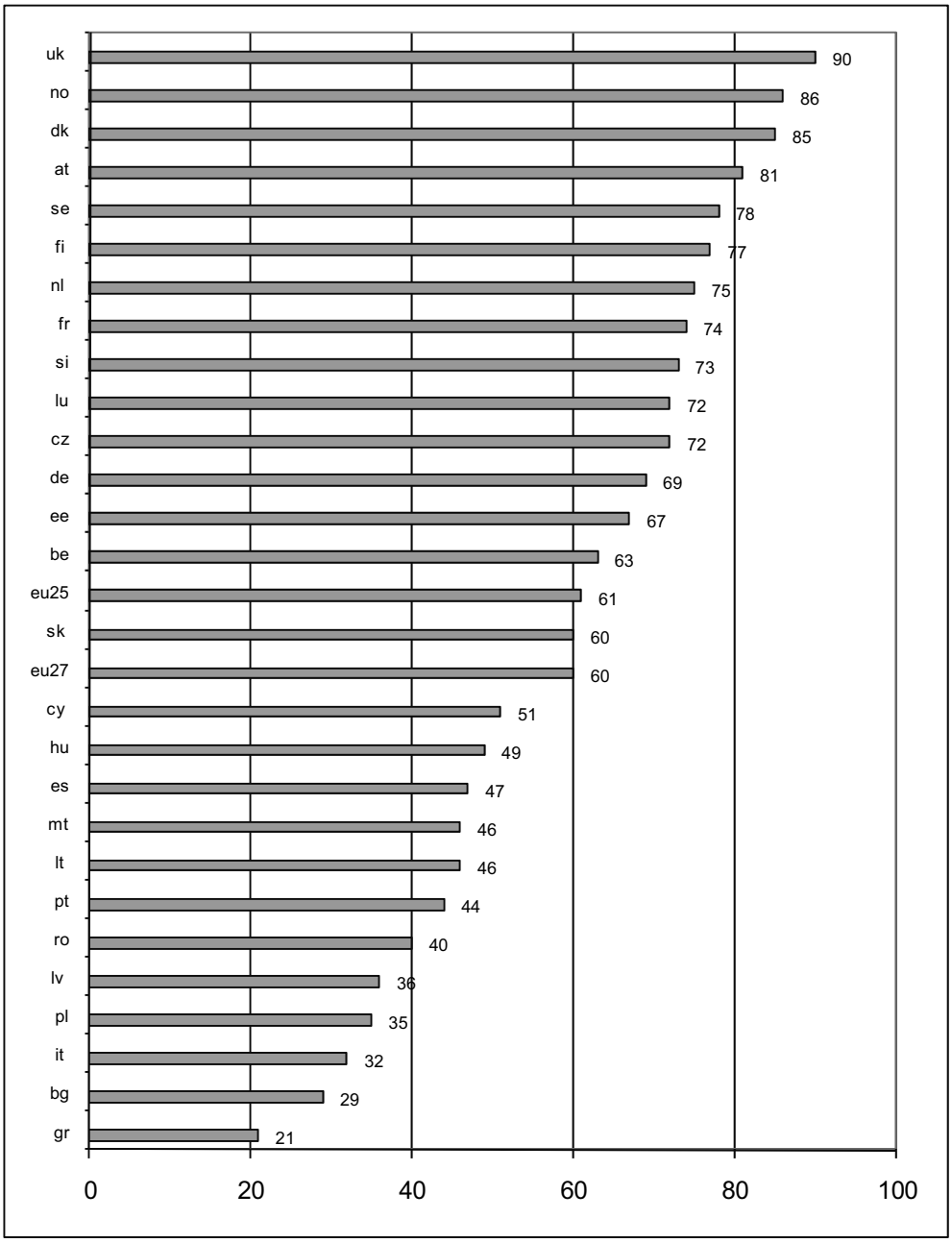
- relatively expensive *per capita* training costs incurred by smaller employers;
- higher levels of expenditure *per capita* in the public sector;
- relatively high levels of expenditure amongst employers represented by particular SSCs (*e.g.* People 1st, Construction Skills, *etc.*).

If levels of expenditure are taken as an indicator of the quality of training – if one accepts that the price of training reflects its quality once economies of scale have been factored out – then there is evidence that there are sectors of the economy where the level of investment is either relatively high or low and that the difference between the two in many cases is not insubstantial.

2.3 Participation in Training (Process Indicators)

Figure 2.1 shows the percentage of employers which had provided some vocational education and training to their employees over the previous twelve months in 2005 (the latest year for which comparable data is currently available).

Figure 2.1 Participation in Training (% establishments training)



Source: Eurostat / CVTS 3 Based on comparative statistics with common base for percentages.
Note: See Annex B for country codes

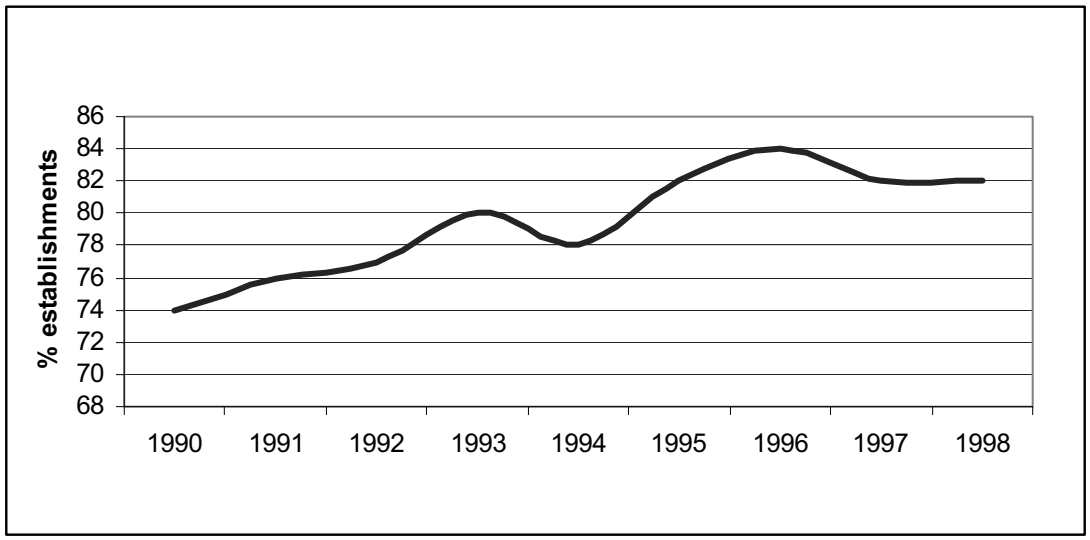
The data reveal that it is member states in the north-west of the EU which have the highest incidences of training – the older, more affluent states. The UK records the highest incidence at 90 per cent of establishments providing training.[9] The data also shows that the percentage of UK employees in the workplace, 33 per cent, who received training is the same as the EU average. The Czech Republic is the highest on this measure at 59 per cent and Greece is the lowest at 14 per cent of employees.[10]

The other principal process measure available on a European basis is the duration of training provided by employers to their employees.[11] The duration of seven hours *per* employee in receipt of training over the last 12 months in the UK is relatively low compared to either the EU average or the more affluent north western member states. Employees in France, for example, receive nearly twice the duration of training as in the UK. If a composite measure is produced, (which is the product of the percentage of employers providing training of any kind, the percentage of employees in receipt of training, and the average number of hours of training received), then the UK has a position that is close to the mean across the EU as a whole. In other words, the effect of UK employers being more likely to train but to provide training of shorter duration tends to result in each measure cancelling the other out such that the country ends up close to the European mean on the composite measure.

Historically, Skills Needs in Britain (SNIB) provided estimates of the incidence of training by employers. Since that survey was terminated in 1998/99 skill surveys have been conducted on a national basis and more infrequently such that it is difficult to provide a time-series of incidence. Based on the SNIB series it is possible to show how the incidence of off-the-job training increased over the 1990s in Great Britain in establishments with 25 or more employees (see Figure 2.2) which shows an increase from 74 per cent providing training in 1990, rising to 82 per cent in 1998. Data from the Workplace Employment Relations Surveys show that, overall, the percentage of workplaces providing off-the-job training to experienced employees rose from 73 per cent in 1998 to 84 per cent in 2004 in Great Britain. The increase was even greater in the private sector where the increase was from 67 per cent in 1998 to 82 per cent in 2004.

9 This includes formal and non-formal training as defined by Cedefop.
10 Based on provisional data from CVTS3
11 Based on provisional data from CVTS3

Figure 2.2 Employer Participation in Training in Great Britain in the 1990s



Source: SNIB, 1990-98; Base: Establishments with 25 or more employees
Note: A slightly different definition of training was used in the 1990 survey

A more up to date picture of training activity in the UK is provided by the SfBN Employer Surveys. Table 2.4 shows how the incidence of (any) training varies by each nation in the UK over time in workplaces with two or more employees. In 2003, Scotland recorded the highest incidence of training (72 per cent of employers providing training) but by 2007 this has converged to the UK average of 65 per cent. Northern Ireland records the lowest incidence of training over the whole period.[12]

Table 2.4 Incidence of Training in the UK and the Four Nations

	2003	2004	2005	2007
UK	66	68	69	65
England	66	68	66	65
Scotland	72	67	69	65
Wales	63	72	66	69
Northern Ireland	57	77	58	59

Source: SfBN Employer Surveys, 2003, 2004, 2005, 2007

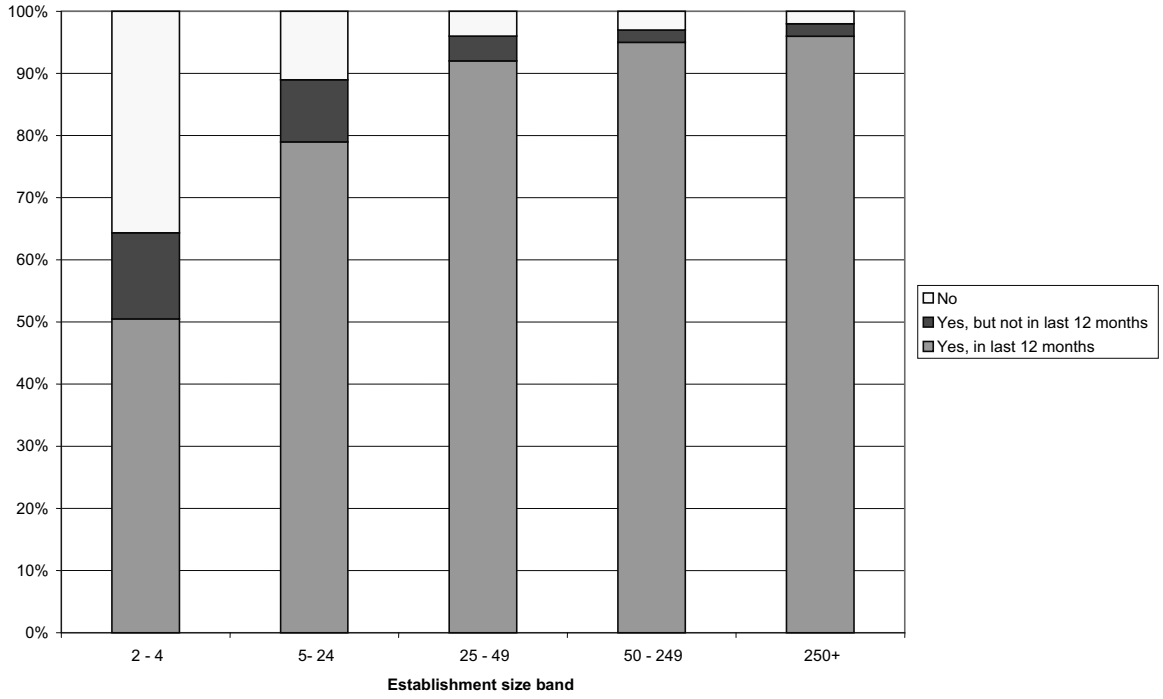
Data for the UK as a whole, drawn from the SfBN Employer Survey for 2007, shows that it is the larger employers which are more likely to engage in training: 97 per cent of employers with 250 or more employees engage in training, compared with 81 per cent amongst those with 5 to 24 employees and 55 per cent amongst those with 2 to 4 employees (as shown in

12 By compiling data from the national employer skills surveys it is also possible to obtain a picture of the extent to which on-the-job and off-the-job training is provided (see Table C.5 in Annex C).

Figure 2.3). These percentages have not changed much over the 2003 to 2007 period. Interestingly, when asked if training had been provided at some point in the past, between an additional ten and 14 per cent of the smallest establishments report that they had provided training, but still leaving some establishments which had never provided training to their staff.

It is also useful to consider whether single site establishments are more or less likely to train than those which are part of a larger organisation. Overall, 55 per cent of establishments which are not part of a larger organisation engaged in training in the last 12 months compared to 76 per cent of private sector establishments which are part of a larger organisation (but with no HQ function). Similarly, 30 per cent of single site establishments had never trained compared to 14 per cent of those which are part of a larger organisation (SfBN survey 2007, unpublished analysis).

Figure 2.3: Employer provided training, UK, 2007.



Source: SfBN Employers Survey 2007

The SfBN Employer Survey for 2007 also shows the extent to which employers participate in training according to their representative SSC in the UK.[13] The data shows that employers in sectors predominantly within the voluntary / public sectors are most likely to provide training, followed by those in financial and business services. Overall, the data reveals

[13] Figure C.1 in Annex C provides more data

substantial differences by SSC sectors, with the SSC sector providing the highest incidence of training (Skills for Care and Development) being twice as likely to provide training compared to the SSC sector with the lowest incidence (Skillfast UK). Whilst variation between SSC sectors and industrial sectors in general is likely to be explained in part by size of establishment, the magnitude of the differences are such that this is unlikely to explain all of the variation in the data.

The type of training provided is related to the employee's occupational group, with people in higher level occupations being more likely to have been provided with off-the-job training by their employer. In particular, employers appear to favour professional, associate professional, personal service, and sales staff for off-the-job training, and sales staff for on-the-job training (NESS 2007).[14]

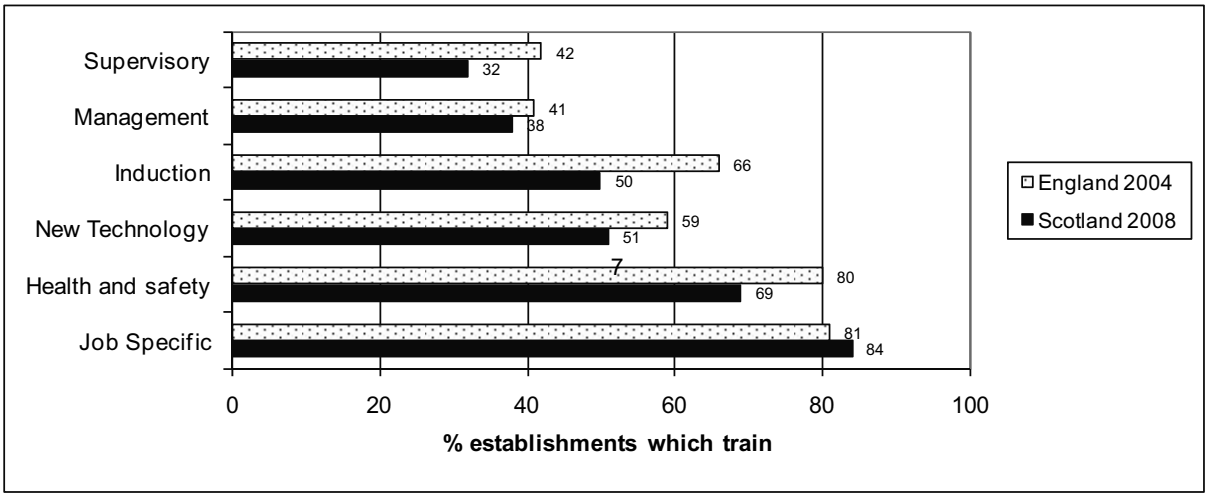
2.4 The Content of Training Provided (Output Indicators)

Relatively little information is available about the content of training with information available for Scotland (in 2006) and England (2004) but, where it is reported, it suggests that much employer training is job specific, health and safety related, or organisation specific (*i.e.* induction training) (see Figure 2.4). Other evidence suggests that it is training in ICT that tends to boost employer productivity but the survey evidence obtained from Scotland and England suggests that this is undertaken by relatively few employers (around 1 to 2 per cent providing training report IT as comprising its content) – though this may under-estimate the true extent of IT training[15] (see Mason, 2005).

[14] Table C.6 in Annex C provides more data

[15] The surveys distinguish between training related to IT and that which is related to new technologies respectively. In Figure 2.4 more than 50 per cent of employers which trained did so in relation to new technologies. Given the pervasiveness of IT, it is likely that training in new technologies may well incorporate some IT training. If so, the answers specifically in relation to IT will result in an under-estimate of the amount of IT training actually carried out.

Figure 2.4 The Content of Training Provided by Employers



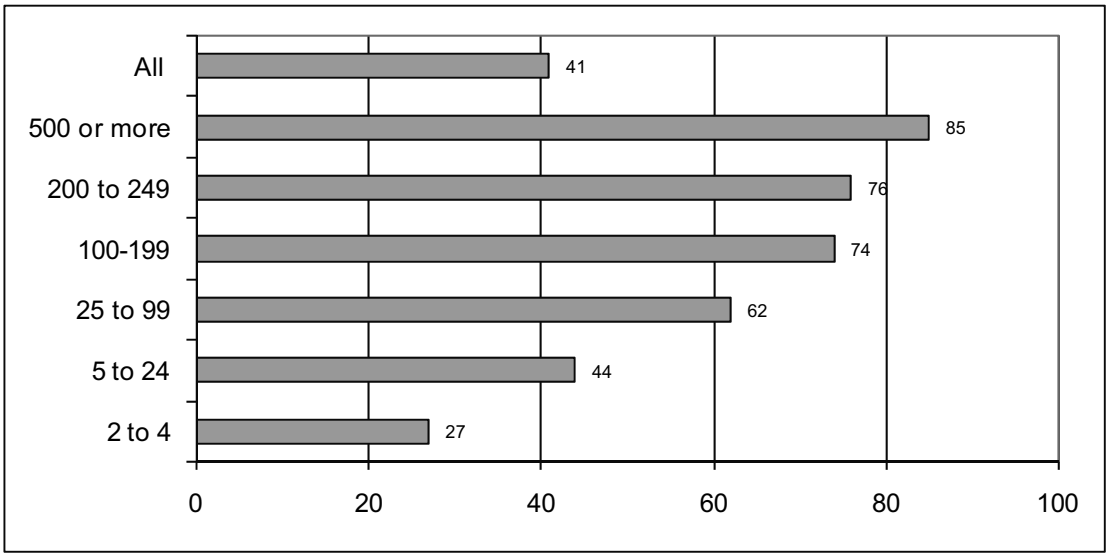
Source: National Skills Surveys for Scotland (2006) and England (2004)
Base: All employers that train

The SfBN Employer Survey 2007 reveals that over half (52 per cent) of employers which trained had trained in vocational qualifications (VQs), and a third of these employers (32 per cent) reported that all of their training had been in VQs. This corresponds to 34 per cent of all employers training towards VQs, and 21 per cent training only towards VQs. The importance of this lies in the fact that the Leitch targets are largely set with reference to formal qualifications and with reform to VQs designed to make them more relevant and attractive to employers. There is sometimes a statutory element to the provision of VQs with 19 per cent of employers who provided VQs reporting that they had done so because they were legally required to do so, and 27 per cent reporting that they had done so because at least some staff needed to be trained to meet statutory arrangements.

The Learning and Training at Work Surveys provide historical data for the late 1990s / early 2000s for England and these show that around half of employers providing training provided training leading to a formal qualification.[16] The Workplace Training Survey for England in 2006, which includes establishments with between two and four employees (whereas LTW is limited to workplaces with five or more employees), revealed that 41 per cent of employers provided training leading to a formal qualification. This is equivalent to 25 per cent of all employers. The incidence of training leading to a formal qualification is very much related to size of establishment, with smaller workplaces being much less likely to provide training leading to a formal qualification (see Figure 2.5).

[16] Table C.7 in Annex C provides more data

Figure 2.5 Incidence of Training Leading to a Formal Qualification by Size of Workplace



Source: Workplace Training Survey for England in 2006

The evidence suggests that where the employer provides training, around half do so to Level 2 (55 per cent) and a third to Level 3 (34 per cent) and Levels 4/5 (31 per cent) respectively.

The survey data relating to employer engagement in training relates largely, but not wholly, to formal training activities in the sense that an event takes place where the individual employee is expected to learn something. In practice, the definition of formal learning encompasses a wide range of activities such that the CVTS survey, for instance, contains information about attending seminars, engaging in job rotation, *etc.*[17] Nevertheless the emphasis is very much upon the location, duration, and subject matter. Increasingly, commentators have sought to widen the definition of what constitutes learning learn may take a number of guises (Felstead *et al.*, 2005; Stern and Sommerlad, 1999). There is general recognition that employees learn to do their job (better) through a range of activities, only some of which are formal learning or training events. This extends to include everyday work experience and interactions with colleagues and customers. If the question is asked, how do employees learn to do their job, then simply watching how someone else carries out that job is likely to be a major influence but unlikely to be reflected in formal training statistics. Yet it is clear that skills are readily learned in this manner though it needs to be recognised bad practice may also be learned too.

Empirically, Felstead *et al.* (2005) distinguish between

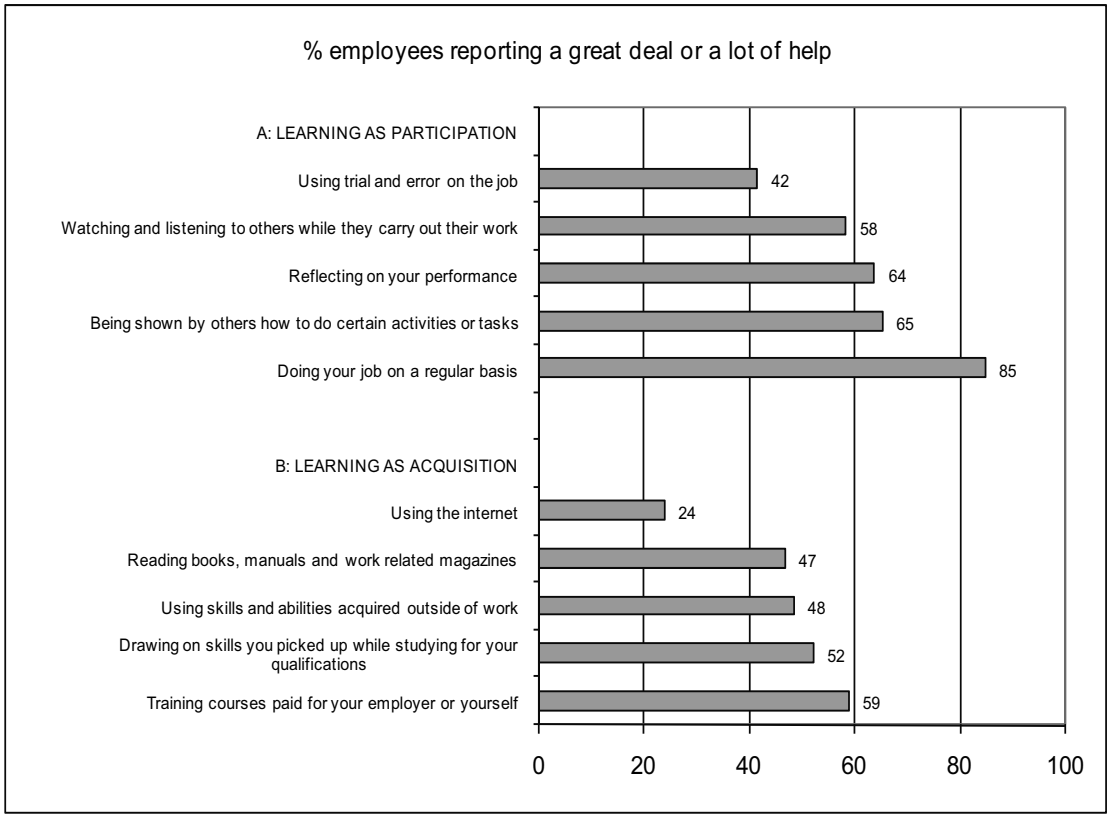
- learning as acquisition where there is a "a visible, identifiable outcome, often accompanied by certification or proof of attendance"; and

[17] Eurostat's typology of training is based on: formal; non-formal; and informal.

- learning as participation where "learners improve their work performance by carrying out daily work activities which entail interacting with people, tools, materials and ways of thinking as appropriate".

Using the above definition it is possible to gain an indication of the extent to which skills are obtained informally and the scale of this activity from the 2004 Learning at Work Survey (see Figure 2.6). The data is based on the percentage of employees reporting each form of learning taking place and illustrate the relative importance of more informal methods of learning in acquiring skills to carry out the current job. Evidence provided by Fuller *et al.*, (2003) suggests that informal learning can be an important source of skills development, but its success depends upon the organisation of the workplace and the extent to which this lends itself to informal learning. These issues are not covered very fully in any of the standard employer skills surveys.

Figure 2.6 The Incidence of Informal Learning



Source: Learning at Work Survey 2004 as reported in Felstead et al., 2005

The SfBN Survey of Employers provides one of the most comprehensive accounts of the extent of informal training practices (Shury *et al.,* 2008). It defines informal training practices with reference to:

- supervision structures to ensure employers are guided through their job role over time (provided by 78 per cent in workplaces in 2007);
- opportunities for staff to spend time learning through watching other staff members perform their role (provided in 83 per cent of workplaces);
- allowing staff to perform tasks which go beyond their strict job role and providing them with feedback on how they have done (provided in 80 per cent of workplaces).

The survey reveals that all these practices are common and have been increasing in incidence, especially so amongst smaller employers which to date have tended to report a lower incidence of these practices. While those employers which provide formal training are most likely to report the use of informal training practices (98 per cent report some informal learning), 80 per cent of those employers which do not provide formal training provided some informal training. Hence a failure to include informal learning within definitions of training activity results in the potential to under-report the proportion of employers engaged in training and the volume of learning delivered by employers to their employees. Whilst there is a need to recognise the importance of informal learning (or training) there is also a need to exercise a degree of caution in that it is more difficult to gauge the quality of this training in that it is not specifically designed to lead to the acquisition of a qualification or competence, both of which provide some indication of the degree to which a skill has been obtained.

2.5 Conclusion

The evidence presented in this chapter – which has looked at a variety of the indicators Eurostat defines as input, process, and output respectively (see Table 2.1) - reveals that there are pockets of relatively low investment in training (however defined) by EU member states, and by sectors and size of establishment within the UK. The key conclusions in relation to the extent of training in the UK are:

Data Sources and Measures:

- the available data sources are good at providing information about the volume of formal training but less so about the quality and content of formal training provision or of informal training practices;

- a rich time series of data is available from the early 1990s onwards which provides information about employers' participation in training;
- there is a shortage of longitudinal data to gauge the extent to which training by employers is recurrent and the extent to which they accumulate skills through training;
- reporting of the incidence of training could well do with looking at intra-group variation. It is known generally, for example, that smaller establishments are less likely to train or certain sectors are less likely to train, but it is not known how much variation there is within say, the smaller establishment category or why that might be the case;
- it is also important to note that the data resource does not always define 'training' consistently, there may be different definitions of 'sector' and different definitions of size bands, and, indeed, the sample frame of business included is not always consistent. This requires caution in the reading of the data.

Substantive Issues

- the incidence of training is relatively high by European standards. In fact, UK employers are more likely to train than employers in any other country in Europe;
- the duration of training in the UK is relatively short compared to other countries in northern Europe (*e.g.* France, Germany, *etc.*);
- there has been a long-run increase in the percentage of employers engaging in training;
- there are sectors in the UK where training investments *per* trainee are relatively high (*e.g.* those represented by Construction Skills, People 1st, Energy and Utility Skills, SummitSkills, and Asset Skills);
- there are also employers covered by specific SSCs where expenditure *per* trainee is relatively low (*e.g.* those sectors represented by Skillfast-UK, GoSkills, Skills for Logistics, Improve);
- the incidence of training is related to size of establishment (the extent to which this is simply a function of there being fewer people to train in smaller workplaces is considered in more detail in Chapter 4);
- the percentage of employers investing in training shows limited variation by either UK nation or the English regions, with the exception of Northern Ireland.

The evidence presented to date has not considered outcome indicators - those defined by Eurostat as relating to the returns obtained by employers from their investment in training (see Table 2.1). The next two chapters, which look at the facilitators and barriers to training respectively, review a variety of evidence germane to outcome indicators. The chapters also go some way to explaining why there are persistent pockets of lower investment in training. In Chapter 5, a more explicit treatment of under investment in training is provided.

3. The Facilitators of Employer Provided Training

3.1 Introduction

For the employer, training is an investment. Whereas employers may engage in some form of standard investment appraisal when considering fixed capital investments, this is often less so with respect to investments in human capital. In part this stems from the relative difficultly of gauging the pay-back from any human capital investment and from recognition by employers that the way in which training benefits their business is multifaceted, complex, and in some respects immeasurable. Nevertheless, employers are faced with the decision of whether or not to invest in training and, accordingly, will have some means of gauging whether such an investment is worthwhile. In practice, whatever investment technique or rule of thumb employers use to appraise any training investment, the choice they make will be determined by the needs of the particular workplace. But it also needs to be borne in mind that the employer's decision to train is not an unconstrained one. There are a number of factors which are largely beyond the individual employer's direct influence which may either compel or push the employer towards engagement in training, such as the state of skills supply in the external labour market (such that recruitment of fully trained workers is not an alternative to training) or the role of regulation (such as collective bargaining or statutory requirements for some employees to be qualified to a given level). The volume of employer training is thus dependent upon conditions in the occupational labour markets from which an employer might recruit, and the institutional arrangements which regulate training provision at either sectoral or national levels.

Employers will engage in training because it satisfies a need within the business. This need may be an immediate one or one that is expected to emerge in the future at some point (*e.g.* in relation to succession planning). The need may be tactical in that it meets a specific and current need in the production process, or more strategic in that it supports a process of future change in the workplace (Kitching and Blackburn, 2002). Determination of the employers needs for training will be a function of both factors internal to the workplace (*i.e.* where the employer's decision is largely determined by factors over which they have direct control), and those which are external (*i.e.* largely imposed by the external environment over which the employer has limited or no influence). These will include:

Internal Factors:

i. strategic choices about product market strategies, technical and organisational change, and any resulting skill needs;

ii. interlinking product market and human resource strategies;

iii. recognition that training is beneficial to the business;

iv. normative values about training, such as those which accrue from a long tradition of investing in human capital;

v. workforce planning such as a need to replace staff who are leaving (or being promoted), or who are expected to leave the business, for whatever reason;

vi. financial reporting and human capital accounting.

External factors:

vii. supply and demand conditions in the external product and labour markets;

viii. social partnership and collective agreements at firm, sector, or national levels;

ix. regulation such as statutory requirements (*e.g.* where there is a licence to practice requirement) and the use of standards;

x. the availability of funding or subsidies which may, for example, affect training decisions at the margin;

xi. skill requirements which emerge from supply-chain agreements, or other forms of inter-firm collaboration.

These drivers of training provision are not mutually exclusive and in some, mainly large employers, they may all have some bearing on the volume of training provided. It is assumed that an increase in the demand for skills in many instances will lead to an increase in the need for training, even if the nature of the training provided may be experiential (*i.e.* informal) rather than being provided through formal training courses.

3.2 Internal Factors Facilitating Training

Strategic Choices

It is widely conceded that employers' training decisions stem in part from the product market strategies they adopt (Hogarth and Wilson, 2002). High-value product market strategies, for instance, tend to be supported by highly skilled workforces who are, in turn, supported by various training and development initiatives (Bosworth *et al.*, 2001; Bosworth *et al.*, 2002; Bosworth and Wilson., 2005; Davis *et al.*, 2001). The ESRC / SKOPE Employers' Perspectives Survey from 2002 and the DTI Work and Enterprise Business Survey 2005 both reveal that workplaces which report more complex product specifications compared to

the average are more likely to have increased their skill levels suggesting that the demand for training may be relatively high. The product market strategy will also determine the scale and type of technical[18] and organisational change in the workplace which, in turn, will give rise to skill and training needs.

Early research on technical change adopted a determinist view about any resulting form of work organisation – *i.e.* technology *x* tended to give rise to work organisation of type *y* (*e.g.* Blauner, 1966). Research now demonstrates that employers have a degree of strategic choice about the organisation of work around a given technology which, in turn, will affect skill and training needs (Daniel and Hogarth, 1991). An employer may choose a relatively high skill mix supported by appropriate human resource development policies because this is thought to give them a competitive advantage, whereas another employer producing the same product may adopt a relatively low skill mix relying more upon, for example, managerial and supervisory staff to manage a relatively less skilled workforce. In part, of course, the choice of technology and work organisation may be determined by external product market conditions.[19] While technical change is skill-biased insofar as it raises the level of some skills and creates a demand for training, attention also needs to be given to how it affects the distribution of skills in the workplace (*i.e.* which workers are up-skilled or de-skilled, and how many are affected?).

Having decided upon the mix of technology, organisation and skills in the workplace, employers need to consider what type of training they are willing to fund. Human capital theory suggests that employers will pay for training that is non-transferable and not for that which generates benefits that are transferable to other employers (Becker, 1964). The employer will supply general training up to point where the marginal cost to the employer is equal to the price employees will pay in the form of reduced wages as trainees (Stevens, 2001; Bishop, 1996). The extent to which this actually takes place is questionable in part because employees are not as mobile as theory suggests, with numerous studies demonstrating that employers are willing to incur substantial costs in delivering general as well as employer-specific training (Hogarth and Hasluck, 2003). The returns to the employer from investing in general training are also greater than those from employer specific training (Barrett and O'Connell, 2001).

[18] Technology is also exogenously determined but the type of new technology introduced, its scale, and the work organisation introduced to make it operative will be determined internally.

[19] The choice of technology is also determined by the external market. The NIESR matched plants studies show that US manufacturers rely more upon automation because of the large domestic market provides the economies of scale to justify the investment in automation, whereas European producers with smaller markets rely more upon batch production methods. The skill needs of each type of technology differ: less skilled staff but more managers and supervisors in the US factories, more skilled workers on the production line in the European ones (Finegold and Mason, 1999).

The strategic choices employers make about their product market strategies and the value they attach to skills within that product market strategy is a potential facilitator of investments in training. The evidence suggests that the strategic choices employers make are not simply determined by factors external to the workplace, with employers having a degree of choice about the mix of product strategy, technology, organisation, and skills they employ.

Interlinking Product Market and Human Resource Strategies

Human resources represent capital to the extent they add value to a firm through transforming the firm's product but also through a number of less intangible ways such as problem solving, organising departments, *etc.* (Parnes, 1984). Human capital within firms will be accumulated through investments in hiring staff and by developing staff through training. Since employers will make the investment up to the point where the marginal cost is equal to the marginal return, the size of any investment is contingent upon what employers think employees can provide the firm (Snell and Dean, 1992). Human capital is only manifested in the jobs people undertake so the effectiveness with which the human capital inputs are marshalled will determine firm performance.

Human resource management falls into two camps: (i) the universalist one which suggests that investments in human resources – or bundles of human resource management issues – brings about improvements in organisational performance (*e.g.* Huselid, 1997); and (ii) the contingency approach which suggests the success of human resource strategies are contingent upon the product market strategy of the firm (Youndt *et al.*, 1996). Hence the effectiveness of human resource practices – such as training, increasing employee motivation – is dependent upon a relatively high value strategy. Davis *et al.* (2001) offers a variant of the contingency approach where different types of product market strategy may warrant differing approaches to human resource management and the development of skills.

The way in which management can facilitate training and human resource development within the workplace relates very much to the way in which human resource policies and business strategies are inter-related or bundled together (Hogarth and Wilson, 2002). Tamkin *et al.*, (2008) examine this using a composite index derived from the 4-A Model which includes measures of:

- **a**ccess: the extent to which employees are engaged and involved in an enterprise;
- **a**bility: the quality of the workforce;
- **a**ttitude: the motivation and job satisfaction of the workforce;
- **a**pplication: the opportunity for employees to deploy their skills and knowledge.

The evidence shows the index is positively related to measures of: gross profits *per* employee; operating profit *per* employee; increasing profit margins; sales growth; and obtaining sales from technical change.

In relation to the ability dimension which captures the employer's training activities, Tamkin *et al.* (2008) find that the index is associated with the characteristics of the workplace. In relation to the ability index they find that larger firms have higher than average scores, though there is not much difference between small and medium-sized firms. By industry, finance and real estate have scores well above the average and retail is a little above the average, whereas all other sectors are below average (agriculture, manufacturing, construction, and transport). It is, however, noted by the authors that it is the combination of all dimensions which affects organisational performance. This is consistent with other evidence which reveals that it is the bundle of human resource practices which improves performance (Macduffie, 1995; Cowling *et al.*, 2005). Cross-country comparisons show that the UK is less adept at bundling management development practices together, notably human resource and business strategies, than countries such as Germany (Mabey, 2006; Mabey and Ramierez, 2004).

The bundles of human resource practices which give rise to relatively good organisational performance tend to be grouped together conceptually as high performance work practices (HPWP) (see Kling, 1995). In general, the evidence points to the inclusion of training or staff development as being an integral part of HPWP (see Kling, 1995). The SfBN Survey of Employers 2007 suggests that around 30 per cent of workplaces in the UK have in place ten or more of the 16 practices which the study identified as being HPWP and this is related to size of establishment: 14 per cent of those with between 2 and 4 employees had 10 or more practices in place compared to 90 per cent of those 250 or more employees. The relationship between HPWP and investments and training is returned to in Chapter 5.

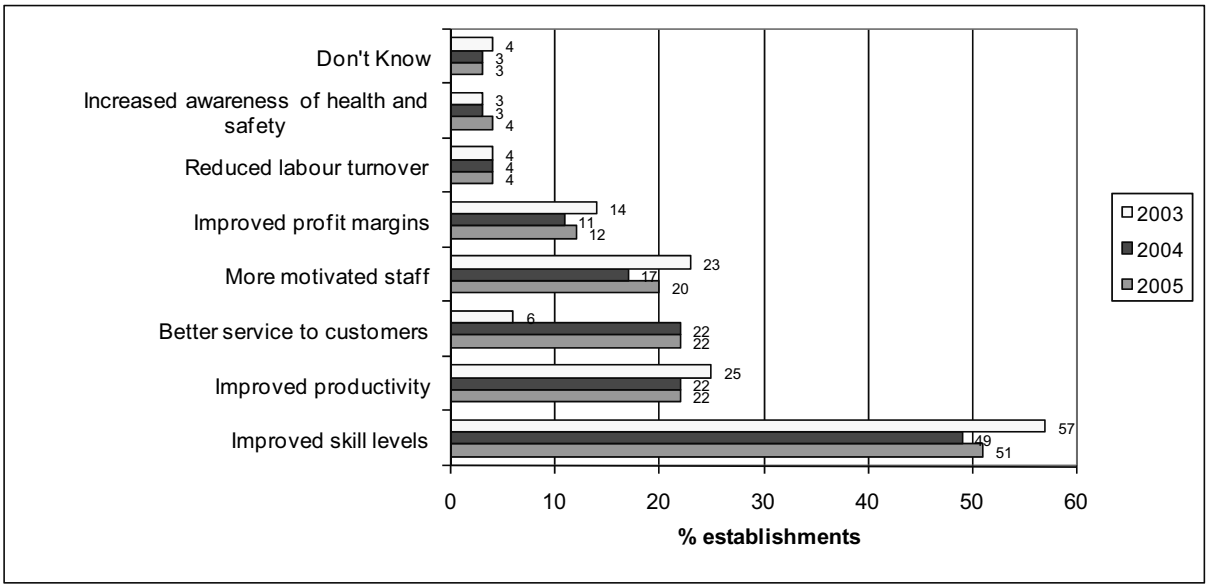
Recognition of Business Benefits

Table 2.1 in Chapter 2 identified the private returns to employer provided training as one of the key indicators used to measure training activities – this was classified as an outcome indicator. This section addresses the extent to which the private returns to employers, and the employer's perception of them, acts to facilitate the provision of training by employers.

Employers' investment decisions about training are often predicated on assumptions made about the financial benefit to their business. Recurrent trainers engage in training because the benefits of the activity are made manifest to the company. In general, where employers

engage in training they tend to report positive impacts from having done so. For example, the SfBN Surveys of Employers demonstrate that employers report benefits in terms of a direct impact on the bottom line, such as improved productivity and improved profit margins, and in terms of benefits that may be necessary to lead to bottom line benefits, such as improved skill levels, lower labour turnover, *etc.* (see Figure 3.1). Over time the results are stable, with improvements in skill levels being the most commonly cited benefit by around a half of employers providing training.

Figure 3.1 Benefits of Training Reported by Employers



Source: SfBN Surveys of Employers

The Workforce Training in England Survey asked specifically about the impact of training on employment levels, productivity, labour turnover, and profitability (see Table 3.1) (Winterbotham and Carter, 2007). The data reveal a broadly optimistic picture with training positively associated with all of the indicators except employment. What is not known, however, is whether a comparable population of employers which had not engaged in training also revealed improvements on these business indicators over the same period. Employers may think that benefits were the result of investing in the skills of their workforce but there is no way of knowing this without reference to some comparator group of employers which did not train. The economic literature provides some insights here.

Table 3.1 Perceived Impact of Training on Various Performance Measures

	Sales & Turnover	Staff Retention	Labour productivity	Profit margin on sales or services (private sector only)
	%	%	%	%
Large increase	16	15	21	12
Small increase	30	23	38	35
Any increase	**46**	**38**	**59**	**47**
No difference	43	56	35	40
Small decrease	1	2	2	2
Large decrease	*	*	*	1
Don't know	11	3	4	10
Base/Coverage: all employers with 5 or more employees providing any training over the previous 12 Note: * indicates a percentage of less than 0.5%				

Source: Workforce Training in England, 2006; Table 8.4, p.87

Whilst economists know much less about the returns to firms from investments in training compared with the returns to individuals from investments in education, there are several studies which shed some light on the subject. The data is limited though, with much of the empirical work on firm training focused on the benefit to workers in terms of higher wages (*e.g.* Bartel, 1994, Arulampalam, et al., 1997, Mincer, 1996, Frazis and Loewenstein, 2005), rather than the effect on firm performance. And the limited literature estimating the effects of training on productivity makes little mention of the costs of training (*e.g.* Bartel, 1991, 1994, 2000, Black and Lynch, 1998, Barret and O'Connell, 2001, Dearden et al., 2000), generally because of a lack of adequate data, and the results, therefore, do not offer estimates of rates of return to training.

In general the evidence shows that the impact of education and training on an individual's wage level is positive (*e.g.* Harmon and Walker, 2001; Vignoles, 2001), and that these wage increases result from increases in productivity (Chevalier, *et al.*, 2004). Research further shows that not all of the gain resulting from productivity improvements is absorbed by wage increases, so the investment in training is profitable for employers (Blundell *et al.*, 1999). Studies which assess the impact of education and training on wages are based on survey evidence from individual employees rather than being based on employer data. In this section evidence is considered from studies which use employer data to show the business benefits which result from employer training investments (see Table 3.2). Whether this evidence impacts on the employer decision to train is considered under 'Information Imperfections' in the next chapter, the remainder of this section considers the available evidence of the impact of skills on business performance. The studies show the relationship between training and a number of indicators of employer performance:

- financial indicators such as profitability or share price;
- workplace survival; and
- the productivity of employees.

Each of these is considered in turn. At the outset it is possible to say that the studies are beset by problems of causality, measurement – not least how training is measured – and, in several instances, the problem of endogeneity. In many of the studies the reader is never sure about the volume of training delivered, its duration and content, who in the workforce has been a recipient of it, and its cost. Only the work of Hasluck *et al.* (2008), which looks solely at employer provided apprenticeship training, has attempted to adequately deal with these issues in the UK. That said, taken as a whole the research evidence stacks up in favour of training being associated with improved organisational performance (however measured).

Identifying the **impact of training on profitability and share price** is beset with problems not least because the size of any investment in training is likely to be overshadowed by other factors which may affect the share price. Notwithstanding these reservations, Bassi *et al.*. (2002) linked data on the education and training investments of a number of US-based employers to publicly-reported financial performance data, focussing mainly on employers' stock market returns. The results revealed a significant, positive relationship between training investments and TSR (change in stock price plus dividends issued in a given year): an increase of one standard deviation in an employer's annual per-employee investment in education and training was associated with a 6 percentage point increase in the employer's TSR in the subsequent year. Similar results were found for most of the key measures of financial performance and valuation, including gross profit margin and return on assets. The authors conclude that including education and training variables improves forecasts of TSR (and other financial indicators) to the extent that potential investors should take into account information on the employers' training investments.

Table 3.2 Summary of Key Studies Examining the Relationship Between Training and Business Performance

Study	Assessment	Comments
Addison and Belfield (2008)	Impact of unions on training, wages, and productivity using WERS	Demonstrates that training is linked to bottom line performance
Almeida and Carneiro (2008)	Estimate of the rate of return from employer provided training – suggests rate of return of 8.6 per cent	Based on data for Portugal and is able to estimate the net costs of training (*i.e.* subtracts costs from employer expenditure)
Ananiadou *et al.* (2003)	Examination of the relationship between basic skills training and organisational performance	Basic skills provision improves performance in a number of ways including increasing customer satisfaction, reducing costs, *etc.*
Asplund (2004)	Literature review which looks at the relationship between training and labour turnover	Suggests that the evidence is mixed
Ballot *et al.* (2006)	Examines the extent to which employers and employees share the benefits of training in Sweden and France	Employers obtain about 60 to 70 per cent of the returns to their investment in training, the remainder benefits the employees
Barrett and O'Connell (2001)	Looks at the return to different types of training	Demonstrates that returns to the employer are higher for generic rather than job specific training
Bassi *et al.* (2002)	US study on the relationship between training and a firm's share price	A positive relationship found between training and share price
Bartel (1994)	US study looking at the link between formal training and employee value-added	Companies with lower than expected output levels more likely to introduce training and this improves productivity
Bishop (1991)	US study of impact on training on employees' productivity	Training associated with improvements in employee productivity in the first year of employment
Black and Lynch (1996a, b)	Link between training duration and content on productivity	Shows no relationship once unobserved heterogeneity is controlled for in the analysis
Blundell *et al.*, (1999)	A non-technical summary of the returns to the employer from training up to the end of the 1990s	Illustrates the relatively few studies which address the impact of training on organisational performance indicators
Brunello (2004)	Italian study which examined relationship between hours of training and productivity	A 10 per cent increase in hours of training increases productivity *per* head by 1.32 per cent
Brunello and Gamarotto (2006)	Looks at local spillovers and training in the UK	Labour turnover is higher in areas with relatively high levels of economic activity and this drives down the provision of employer provided training

Table 3.2 *(continued):* Summary of Key Studies Examining the Relationship Between Training and Business Performance

Study	Assessment	Comments
Collier *et al.* (2005, 2007)	Impact of training on firm profits and survival	A positive link is found between training and survival
Dearden *et al.* (1997)	Relationship between training and labour turnover	Employers who train are less likely to lose staff
Dearden *et al.* (2000)	Looks at impact of training on wages and productivity using panel data	Impact on productivity greater than wages – so the employer benefits from training
Fuller and Farringdon (1999)	Examination of the role of training in high performance work practices	Shows that high performance work practices do not emerge just because of training, but training plays its part
Green (1997)	Review of available studies on returns to employers	Shows training has a wide impact on productivity. Training has limited impact on labour turnover
Hillage *et al.* (2006)	Effect of raising Level 2 qualifications in the workforce	Generally positive outcomes for employers, including improvements in quality, productivity, *etc*
Hasluck *et al.* (2008)	Study of returns to employer investments in Apprenticeships	All of the investment is recouped within two years in most sectors
Ichniowski *et al.* (1997)	Demonstrates that the gains to the employer from investing in training are greater than the returns obtained by the employee in wages	
Kitching and Blackburn (2000)	Survey based evidence to determine relationship between training and employment growth, sales turnover, *etc.*	Inconclusive on relationship between training and business key performance indicators
Krueger and Rouse (1998)	Examination of the effects of training on labour turnover	Employees who participated in training are between 5 and 7.7 percentage points less likely to leave their employer
Maliranta and Asplund (2007)	Finnish study looking at relationship between training and productivity and profitability	Training organised in-house stimulates growth in productivity and profitability but only in combination with the introduction of new technologies.
NIESR matched plant studies	Case study analysis of the impact of skills and training in different institutional settings	Offer detailed insights but based on relatively few observations.
Tharenou *et al.* (2007)	Meta-analysis of 67 studies of the relationship between training and financial performance	Half the studies show a positive relationship between training and productivity, but training is weakly related to a firm's financial indicators

Related to the impact of training on profitability is the relationship between **training and workplace survival** (because profitable workplaces tend to survive). Collier *et al. (2005)* model the association between training, profitability, and establishment survival and find a significant link between training and the likelihood of medium-term commercial survival. Increased training of non-manual workers in large establishments is found to be associated with a greater chance of survival. The authors estimated that in the average establishment, increasing the proportion of non-manual workers receiving training by 10 percentage points would be associated with a 0.8 percentage point reduction in the risk of closure. Although it was not observed, they reason that the reduced rate of closure found in their data is likely to be underpinned by higher profits. The association is found to differ across occupational groups and sizes of establishment. In smaller establishments, increased training for craft and technical workers is associated with better chances of survival, while the opposite effect is found for professional workers. In a later study, Collier *et al.* (2007) found that there was a higher incidence of closure amongst those 'non-training' workplaces (1 in 4 closed) versus 'training' workplaces (1 in 9 closed). They conclude that human capital accumulation has a significant and positive effect on business performance and survival.

It is often easier to demonstrate a link between **training and employees' productivity** not least because that is often the purpose of the training so there is a direct link between inputs (training) and outputs (the individual employee's productive capability). In the most comprehensive review of the literature – now a little dated – Green (1997) reviewed 21 studies from Britain and abroad about the impact of training on productivity. While evidence tends to be lacking for the UK, the findings of most studies indicate that training has a positive impact on productivity, but the magnitude of the effect on productivity is found to vary substantially from very large to negligible. In many of the studies like is not being compared with like, and only in exceptional cases are the marginal impacts of particular investments in training precisely identified. In what Green considers to be one of the best studies with respect to its representativeness and standards of data collection, the overall effect of training on company productivity and turnover was found to be negligible.

The findings from Green's review are consistent with other econometric studies considered here in so far as the magnitude of the effect of training on productivity varies substantially and the scale and nature of the training being analysed is not always obvious. The findings may be summarised as follows:

- analyses which concentrate on earnings to capture the effect of training on productivity do not fully capture the gain in productivity (Deardon *et al.*, 2000);

- training improves productivity but studies reveal effects of differing magnitudes which vary across sectors (Brunello, 2004; Black and Lynch, 1996a) and the occupational group which has been trained (Collier, *et al.* 2007);
- employers, rather than trained employees, appropriate most of the gain from the training they provide – possibly around 65 to 75 per cent of the returns to training (Ballot, 2006);
- where cost data are included, it appears that the employer can recoup all of the training investment over a relatively short space of time (Hasluck, *et al.*, 2008);
- when endogeneity is controlled for, the impact of training tends to reduce (Black and Lynch 1996a,b; 2008; Deardon *et al.*, 2000; Bartel, 1994) or, in some instances, all but disappears (Addison and Belfield, 2008);
- the effect of training on productivity is mediated through the introduction of new goods and services and new working methods (Kitching and Blackburn, 2002), and is related to the accumulation of R&D within a firm (Ballot, 2006);
- employer provided training can provide returns in excess of those obtained from investments in physical capital. Based on Portugese data Almeida and Carneiro (2008) show a net return to the employer of 8.6 per cent which, the authors claim, is in excess of the return from investments in physical capital;
- employer provided training generates a higher rate of return to the employee than that which the employee self-finances, which suggests that employers are the better judge of economically valuable training (Booth and Bryan, 2002);
- the tentative evidence based upon the international comparative investigation of Bassanini, *et al.* (2005) is that employer provided training remains subject to diminishing returns, as the return appears to be higher amongst countries with lower levels of training;
- for training to have a continuing impact it needs to be renewed. The evidence suggests that the effects of employer provided training are longer lasting than that funded by the individual (Blundell, *et al.*, 1999);
- there are spillover effects where training can offset skill shortages and in so doing avoid falls in fixed capital and R&D investments, and can have positive spillover effects by helping to raise the skills of all employees in a sector (O'Mahoney, 2002).

In general the research literature on the benefits to be derived from employer provided training is piecemeal but tends to point in the general direction of training investments being

positively associated with productivity. What is less clear is the extent to which this impacts on employers' decisions to train. Much less is also known about the process by which training affects productivity though various econometric studies reveal that the nature of the relationship is complicated and linked to other factors, such as R&D capability. This is consistent with the high performance working practices literature which reveals the inter-relatedness between work organisation, human resource practice, and investment in workforce development (Kling, 1995; Bosworth, 2005).

Normative Values

The evidence base suggests that some employers have a strong belief – even if it cannot be quantified – that training benefits their business in a number of ways (*e.g.* lower labour turnover, reduced recruitment costs, increased profitability). Evidence has been identified where employers engage in an 'Education for All' type approach where employees are encouraged to participate in employer funded training so long as there is a potential benefit to the firm, such as learning as a foreign language (Lindley and Hogarth, 1992). Here there is a belief by the firm that there are a number of externalities from employees improving their skills even if it is not directly applicable to their current job. In the examples cited by Lindley and Hogarth, provision of this type of training was often a precursor to preparing people to engage in training which was directly applicable to their current job. The 'Education for All' approach is adopted by employers because they foresee business benefits accruing from this type of activity but the justification for the investment is set in broad terms.

Employers, mainly larger ones, often have a community or philanthropic mission whereby they either provide training as social good to the community in which they are located, such as providing employment and training opportunities to those on the margins of the labour market. The evidence base does not quantify this activity.

Workforce Planning

There are several aspects to workforce planning which may affect the decision to train:

- succession planning;
- replacing people who leave;
- a means of retaining people.

The evidence from studies of apprenticeship training reveal that employers invest in this form of training not only to meet skill needs over the short-term but also to develop a stock of

fully skilled employees from which the future cadre of supervisors and managers will be drawn (Hogarth *et al.*, 2005; Hasluck *et al.*, 2008). Employers report that by training their own stock of fully experienced workers they are better able to instil the value of the business in their workers which, in turn, tends to reduce levels of labour turnover. Training may also reduce labour turnover because the benefits from the training are shared with the employee, or the employee recognises that the investment signals a strengthening of the employee-employer bond. The impact of training on labour turnover can work in the opposite direction because trained employees may find more highly paid employment elsewhere upon completion of their training. But where employers invest in training they may be expected to protect that investment, such as putting in place a career structure, and this is supported by the evidence (Hasluck, *et al.*, 2008). From both British and American studies the general finding is that training has a comparatively small effect on labour turnover in comparison to other factors affecting turnover (Green, 1997), but in most cases the relationship between training and staff turnover was found to be negative (*i.e.*, training is associated with reduced employee turnover) (Brunello and De Paola, 2004; Krueger and Rouse, 1998 Dearden *et al.* 1997). Where people do leave this also has the impact of generating an increase in training. As the various national Employers Skills Surveys reveal, where employers provide training they are often engaged in the induction training of new recruits.

Organisational change can create a demand for training or re-training where employee's jobs are changed in some way, or they are redeployed in another part of the business. The evidence base has little to say on this subject.

Financial Reporting and Human Capital Accounting

The Kingsmill Report (HM Treasury, 2003) suggests that human capital accounting has the potential to raise the profile of training within firms. Other than the vignettes of good practice found in the report there is no evidence available about the extent to which reporting conventions relating to training activities facilitates training. The report does point to the increasing significance of intangible assets to employers and cite a European Commission study on how a failure to place an accurate value on these can result in firms facing higher costs of capital and increased share price volatility. The impact of accounting for human capital may be indirect insofar as it relaxes other constraints on firm growth and in so doing creates a demand for training. But this is highly speculative and further research in this area would be required.

3.3 External Factors Facilitating Training

The External Product and Labour Market Environment

The product market strategy adopted by an employer will be, at least in part, determined internally within the organisation, but once a product market strategy has been adopted then there are a number of skills and training implications which derive from having adopted a given position with respect to the product market. The level of competition in a product market, for instance, where UK employers are competing against countries which have the same or higher skill levels, appears to be positively related to the incidence of skill gaps (Green *et al.*, 2003).

The extent to which employers will engage in training is dependent upon conditions in the external labour market. Where there is a good supply of fully experienced workers there is little incentive for the employer to train and, conversely, where there is a limited supply employers have a greater incentive to train (although they may be deterred from doing so by the potential loss of trained employees to other employers). But as noted elsewhere throughout the report employers sometimes have reservations about relying upon the external labour market to meet their skill needs. Employers sometimes prefer to train their own employees because: (i) they are able to exert more influence over the content of training; (ii) the training process helps establish company values; (iii) former trainees are less likely to leave the employer which trained them; and (iv) there are costs attached to recruiting and inducting fully experienced workers (Hasluck *et al.*, 2008; Hogarth and Hasluck, 2003).

Social Partnership and other institutional arrangements

In the on-going debate about effective lifelong learning, social partnership is writ large. The EU Employment Task Force, for example, wants to strengthen the right to lifelong learning in the contractual relationship between employer and employee. The OECD analysis of social partnership in relation to training points to the following gains (OECD, 2004):

- social partners jointly define training curricula leading to recognised qualifications;
- employee participation shifts employer supply towards more general types of training that are transferable;
- partnership reduces asymmetric information on costs and benefits and can provide early warning mechanisms;

- where the social partners are engaged in running national or sectoral training initiatives it can result in reduced inter-firm differentials in training costs and makes poaching less attractive;
- partnership can overcome staff resistance to training.

Human capital theory suggests that unionised workplaces will train less because employers will only provide general training to the extent that it is offset by wage costs, but unionised wage negotiations prevents this happening (the union wage premium) (Becker, 1964). In practice, the opposite may occur because:

- the unions have an interest in promoting employment levels as well as wages and so may promote training in the workplace (*c.f.* Freeman and Medoff, 1980);
- employers may train to raise productivity to pay for higher union negotiated wages;
- the union wage premium lowers labour turnover so the employer can recoup the cost of any training;
- skilled workers are not paid the full value of their marginal productivity;
- direct union bargaining increases levels of training.

In some countries there is a relatively high degree of social partnership in the learning and skills system where it is embedded within collective bargaining. In countries such as Ireland the evidence suggests that there is a commitment by all sides to invest in training and skills in the National Partnership Agreement even if this is not spelt out in direct actions. In countries such as Germany collective bargaining appears to play a relatively minor role in the promotion of continuing vocational education but there may be more systemic effects whereby the union-wage premium is sustained through training, supporting the productivity of employees as part of the social contract (Vogler-Ludwig and Giernalczyk, 2009).

In the UK the effect of social partnership on training is not much in evidence. In part this stems from the low and declining level of union membership over a number of years,[20] and the limited coverage of collective bargaining, but even in workplaces where unions are recognised for bargaining purposes only 9 per cent of employers negotiated with the unions over training in collective bargaining with the unions, and 31 per cent consulted. Nevertheless the trade unions have been enthusiastic advocates of training (Munro and Rainbird, 2004), and qualitative research suggests that Union Learner Representatives have

[20] Union membership or density is not necessarily an indication of social partnership. France has lower union density than the UK but there are more institutions through which social partnership occur and influence policy.

increased the take-up of training (Warhurst *et al.*, 2006). In addition, unions themselves can act as training providers, thus further facilitating the take up of training. Econometric evidence, however, suggests that neither the presence of a union recognised for purposes of bargaining, nor the presence of a Union Learning Representative increases the take-up of training in the private sector in the UK (Hoque and Bacon, 2008a).

As well as social partnership in its formal sense of collective negotiation between unions, employers, and the State, there are a range of other institutions which affect the provision of training, such as the Sector Skills Councils, where the role of the social partners is in evidence to some degree. The extent to which these types of organisations, other things being equal, raise training volumes is difficult to gauge from the empirical evidence, but given the centrality of some of these organisations to the training system they cannot be viewed in any other way other than as facilitators of training. In the next chapter consideration is given to the extent to which national VET systems affect the demand for training.

Funding, Subsidies and Incentives

The availability of funding and subsidies has the potential to increase the amount of training undertaken by firms. In relation to training, subsidies to the employer may take the form of:

- an employee provided subsidy, where they are paid less than their marginal product to meet the costs of training;
- a direct wage subsidy to the employer to cover the costs of hiring trainees;
- an indirect subsidy where all or part of the training costs are met by the State.

The Policy Review looks in detail at the role of training subsidies so all it suffices to say here is that there is evidence which suggests training subsidies increase the volume of training undertaken, though there is often substantial deadweight attached to particular initiatives (*e.g.* Hillage *et al.*, 2006, Abramovsky *et al.*, 2005, Hasluck and Hogarth, 1995, IFF, 2008, Ofsted, 2008)

The obverse of subsidies is the use of taxes or levies. The efficacy and applicability of these policy levers are also addressed in the Policy Review.

Inter-Firm Co-operation, Supply Chain Relationships, Clustering and Networking

All firms exist within a network of business relationships which stem from their demand for, or supply of, intermediate goods and services, but for many organisations the breadth and depth of these networks has been increasing as a consequence of the inter-relation between:

- industrial specialisation where organisations concentrate on their core activities;
- the use of supply chains to provide a wider-range of goods and services where each link in the chain is a specialised provider of goods and services and thereby able to provide value-added;
- subcontracting of ancillary services, such as cleaning, formerly provided in- house;
- stronger bonds between firms which allow firms to drive down costs, year on year, and improve quality.

Information and communication technology has allowed close collaboration between firms, regardless of their proximity to one another, to allow, for example, the collaborative development of products or services. Accordingly, the conventional boundaries between organisations have been largely broken down. Inter-firm networks are not just concerned with the integration of production systems because, at least implicitly, there is the transmission of knowledge; often tacit knowledge about how systems or processes work, but more formal knowledge transmission too (Cooney and Long, 2008). Depending upon the nature of the relationship between firms there is the potential for new knowledge to be developed and for human capital to accumulate on a shared basis (Erickson and Jacoby, 2003; Lincoln *et al.*, 1998). It is apparent, therefore, that firms do share knowledge and, where capital equipment is being supplied, frequently provide training in the operation of that equipment as part of the sales package.

The potential effectiveness of supply-chain networks for generating knowledge has been highlighted by case study research in the aerospace industry (Brown *et al.*, 2004). Under the aegis of the lead employer in the supply-chain, a learning network was established to drive continuous improvement throughout the chain. This provided opportunities for collaborative learning which could then be transferred to individual companies. As the network developed there was a move away from a focus on learning within particular organisations to that of shared learning across the network because those involved were able to reflect collaboratively upon their experiences.

The role of procurement in the supply chain provides potential to provide a degree of leverage in persuading employers to improve skill and training levels through, for example, the use of learning and training clauses in procurement contracts (Binks, 2006). Evidence, albeit based on a small number of employer case studies, suggests that these can have positive impacts on skills and training, including:

- raising skill levels;
- reducing skill shortages;
- increasing levels of inter-organisational learning.

The types of spillover identified by Brown et al. (2004) and Binks (2006) are well documented in relation to R&D.

A number of studies are also beginning to reveal the extent to which area based initiatives can help develop an economy, often based around a cluster based approach reflecting upon the success of this strategy in revitalising the Massachusetts economy in the early 1980s. Whilst the policy focus upon increasing the emphasis upon networks and clusters is upon innovation, there is a skills and training dimension to this as well. In general, it is recognised that individual companies can benefit from the general pool of (relevant) R&D knowledge created by all companies. In addition, this literature makes it clear that "distance" is an issue, in the sense that firms that are, in some sense, closer to one another enjoy greater benefits from the common pool that they create (Griliches, 1992; Stoneman *et al.*, 1994). Clusters are normally viewed as "… geographically proximate groups of interconnected companies, suppliers, service provides, and associated institutions in a particular field, linked by commonalities and complementarities" (Porter and Ketels, 2003). While it may be possible to think of virtual clusters that are geographically dispersed, for example, on a sectoral basis, these are normally viewed more as networks – it is generally the spatial dimension that is used to define a cluster. According to Porter and Ketels, clusters generally influence competitiveness in three main ways, they: (i) increase the level of productivity at which constituent firms can operate (*i.e.* carrying lower levels of stock due to local suppliers, reduce downtime because of access to local service providers, *etc.*); (ii) increase the capacity for innovation and, thereby, productivity growth (*i.e.* the Boston Life Sciences Cluster includes "… world-class research universities, teaching hospitals, competing biotech companies, and cluster institutions that facilitate interaction among all these"; (iii) and enable new business formation, which further enhances innovation (*i.e.* via the presence of experienced researchers, access to specialized venture capital, legal services, *etc.*).

It is possible to consider clusters in the context of learning networks – possibly through supply chains – where employers can learn from one another and begin to share some of the costs of training. In many respects the reason why inter-firm co-operation and clustering takes place is to drive-up innovation and productivity levels within networks or clusters. In a sense there is a need for businesses within the network or cluster to keep up with other employers otherwise there is the risk that they will fail to maintain their position in the network, or if too many businesses fail to keep pace, the network itself will fail. In other words there is a form of peer pressure which can facilitate the provision of training as well as the network being able to reduce training costs. Skills development and training appears to be central to the operation of the more successful clusters – such as those in Massachusetts or Northern California – with education institutions acting as key players within networks.

Training networks where companies are not necessarily locked into supply-chain relationships exist at regional and sectoral levels where employers coalesce for the purposes of delivering either initial or continuing VET. These types of network are much in evidence in other countries. In Netherlands, for example, there are examples of co-operatives where employers group together to train apprentices, and examples of regional and sectoral level training companies, again formed by groups of employers which facilitate the provision of training to firms and raise the awareness of the benefits of training (Gelderblom and Collewet, 2009). Similarly Ireland has established its Skillsnet programme, and Australia has adopted a skills-ecosystem approach (Stanwick, 2009). There is little evaluation evidence about the extent to which these types of initiative facilitate training – this is considered in detail in the Policy Review – other than the research which shows that their value may lie in the way they are able to co-ordinate the activities of various parties (employers, the State, unions) at regional or sectoral levels and thereby raise human capital investments (Buchanan, 2006). The co-ordination role can be of substantial benefit where a barrier to the employer participating in training is the complexity of the VET system (Cully, 2005). The networks can provide a cost-effective means to the employer of navigating VET systems.

There are information networks to consider too. Employers are often members of networks which provide various forms of information, advice and guidance (IAG) about training and other human resource issues. The SfBN Employer Survey shows that 17 per cent of employers turn to professional and trade bodies for IAG in relation to training. These bodies can often be influential sources of advice, with organisations such as the CIPD and CBI generally recognising the benefits that training and human resource development can confer on a business. The role of IAG can also be important in the context of navigating a complex

VET system. This can be seen in the context of SMEs, for example, which may have little time available to understand how the VET system might work to their advantage. Dawe and Nguyen (2007) in their study of SMEs in Australia found that a recognised local facilitator – such as personal contact with another small business manager - was critical to engaging SMEs otherwise disinclined to train to do so.

Standards and Statutory Requirements

There is evidence that the application of standards – such as those related to R&D and innovation – has driven-up productivity in the post-war period (Temple, 2005). Implicit in the introduction of standards is that some form of learning takes place in taking up and applying the standard. Hence there is a potential spillover into training though the literature tends to make little or no mention of this. The principal standard in relation to human resource management is Investors in People (IiP) though there are others too. The evidence in relation to the effect of IiP on training levels, though mixed, indicates that accreditation is associated with increased levels of training. Evidence drawn from WERS1998 suggested that firms which already trained to relatively high levels at that time sought IiP accreditation for their existing activities rather than IiP driving up training levels (Rayton, 2007). By the time WERS2004 was conducted this was less in evidence with workplaces providing relatively low levels of training increasingly taking up the standard (Rayton, 2007). While this finding is open to interpretation, it may suggest that by 2004 the standard was being adopted by organisations which sought to improve their training activities. Other evidence suggests that there are differences in accreditation and its impact upon training levels by size of workplace (Hoque and Bacon, 2008). Between 1998 and 2004, the proportion of medium sized enterprises (50-249 employees) which were accredited increased but not for small ones (5-49 employees). The evidence from WERS2004 also points to IiP: (a) being associated with relatively high levels of training in large firms; (b) with relatively high levels of non-managerial staff being trained in medium sized workplaces; and (c) relatively high levels of managerial staff being trained in small workplaces. Hoque and Bacon (2008) air a cautionary note because even in IiP accredited workplaces there were many employees who had not been in receipt of training over the past 12 months.

The application of a standard, such as a licence to practice in a given occupation can potentially have an impact on initial vocational education and training – as the evidence for Germany indicates (Vogler–Ludwig and Giernalczyk, 2009) – but this appears to have less

impact on continuing vocational training.[21] Evidence from the UK shows that around a fifth of employers providing vocational qualifications did so because of a statutory requirement, and around a quarter did so partly because of a statutory requirement (Shury *et al.*, 2008).

Investors in People, for instance, improves human resource development practices which in turn including the commitment to training, which in turn improves organisational performance (Tamkin *et al.*, 2008).

Other factors

There are a range of other factors which may facilitate the provision of training but which it is difficult to locate research evidence, including:

- the ease with which training can be accessed (*e.g.* e-learning, distance learning) which may lower the cost barrier to training taking place; and
- the reputation of the learning and training system at local, regional, or national levels (which survey evidence reveals to be generally high amongst those employers which engage with it in the UK).

3.4 Conclusion

Employers will engage in training if they perceive a need for it, in other words that the skills and capabilities of their employees need to be supplemented in some way to meet a business goal. The evidence, albeit much of it either speculative (Finegold and Soskice, 1988) or based on employer case study information (*e.g.* Mason and van Ark 1994), suggests that the demand for skills and, by implication, the demand for training has been too low compared to competitor countries. In many respects facilitating the take up of training by employers needs to address *how* employers decide whether or not they require training. The evidence provided above lists a number of factors internal to the firm which will influence the decision to train (see Table 3.3). In addition, a number of external factors are presented which have the potential to facilitate the provision of training to higher levels insofar as they have the potential to raise the equilibrium level of training where they push employers to higher levels of learning, as some of the empirical evidence in relation to levels of inter-firm co-operation and clustering suggest.

[21] The NIESR's matched plant studies which looked at the role of foremen and supervisors did note that German foremen and supervisors did tend to be more qualified than their counterparts in the UK or USA, and that the German foreman tended to take the Meisterbrief qualification under their own initiative (Mason, 2000).

Table 3.3 Facilitators of Employer Provided Training: A Summary

Factors facilitating training	**Evidence**
Internal factors:	
Strategic choices	In the production of a given good or service employers have a degree of choice about the mix of technology, organisation and skills they employ. Technical change tends to be skill biased but may de-skill some workers
Inter-linking human resource and product market strategies	In order for training inputs to be turned into productive outputs for the firm there needs to be in place a human resource strategy which is capable of meeting the needs of the product market strategy. Training tends to be an important element of effective human resource strategies
Benefits to the business	The econometric evidence is variable but is generally supportive of the view that training improves productivity and that the employer benefits from this (*i.e.* all the gains are not appropriated by higher wages)
Normative values	Some employers value training in its own right because it generates a social good for the employer and for the locality and community in which the employer is located
Workforce planning	Econometric evidence shows that training reduces labour turnover. Other evidence shows that through the signals it conveys to the workforce it increases the bond between employee and employer
Reporting and human capital accounting	No information available about the extent to which employers training decisions are influenced by the way they report on their training activities in annual accounts
External factors:	
External product and labour market	Excess demand in the external labour market pushes employers towards training, but excess supply in the external labour market does not necessarily negate the need for training because some employers prefer to train their own employees
Social partnership and other Institutional Arrangements	Acts to facilitate training through engendering a joint commitment to skills and training by both sides of industry. It also drives up the demand for training where the union wage premium needs to drive up productivity levels to be sustainable over the long-run There are a range of institutional forums where the social partners are engaged in promoting training. There is little evidence about the effectiveness of these organisations in, other things being equal, raising training levels due to the methodological problems of doing so
Funding or subsidies	Evaluative evidence suggests that, in general, the demand for training is increased but deadweight is encountered and can be high
Inter-firm collaboration	Where employers choose to be involved there is potential for these to create momentum in relation to innovation and productivity improvements, which creates an increased demand for training. They also have a role in lowering the cost of training (by clubbing together to provide training), and are a source of information, advice, and guidance on training matters which can facilitate training
Regulation and standards	A statutory requirement to be qualified in a given occupation creates a demand for training. Similarly the adoption of standards – where the employer regards these as beneficial - also creates a demand for training to ensure that standards are obtained and maintained

4. Barriers to Employer Participation and Engagement in the Learning and Skills System

4.1 Introduction

The previous chapters have revealed the extent of employers' participation in training and the factors which facilitate it. This chapter provides a review of the evidence relating to why employers do not engage in training and skills development. In principle, by identifying the barriers to participation in training an input is provided to the Policy Review which is looking at the specific measures which might increase employer investments in human capital (see Figure 1.1 in Chapter 1 to see the link between the Empirical and Policy Reviews). In practice, not all of the potential barriers to training have been extensively tested in the empirical literature. In keeping with the Conceptual Review, where evidence can be found, it is provided at the levels of the individual employer, sector, and national economy wherever possible.

4.2 Barriers Faced by the Individual Employer

The barriers potentially faced by employers to providing training were comprehensively identified in the Conceptual Review and are listed below in Box 4.1. Each of these barriers is considered in turn together with additional barriers, notably a lack of demand for skills, identified in this Review. Implicit in the Conceptual Review is that a failure to train does not necessarily stem from a lack of employer demand; in other words, there are a range of barriers which if circumnavigated by the employer would lead to an increase in the demand for training. The discussion begins with a general view of the barriers to training, before moving on to the lack of demand and then a consideration of the empirical evidence around the barriers identified in the Conceptual Review.

Box 4.1 Barriers to Training Identified in the Conceptual Review

Management Time as a Barrier

Firm management is itself a barrier, because of the limited time and resources that key personnel can devote to training. According to this concept the growth of the firm is determined by the capacity of existing managers to train new staff, whilst being able to maintain the current output of the firm. This is a particularly restrictive constraint where the skills required in order to expand are firm-specific and cannot be learnt outside the firm.

Management Skills and Management Strategy

There may simply be a lack of management skills, which results in a failure to invest optimally in training (which may be recognised by peer groups or, in retrospect, by the managers themselves). Related to this, managers with particular qualifications or background may impose a goal on an organisation which is inappropriate. Whether that goal is the most appropriate one may also only be recognised by peer groups or, in retrospect, by the managers themselves.

Managements' Social Skills and Social Capital

Social skills enhance the entrepreneur's ability to interact effectively with venture capitalists, potential partners, employees, customers, *etc.* Social capital refers to the sum of all resources potentially available to individuals because of their relationships with others. A lack of social skills and capital in dealing with funding institutions is sometimes misinterpreted as failure of the capital market, when, in fact it is an entrepreneurial failure (a lack of social skills and social capital).

Managements' Views about the Contribution of Training

Employer may fail to see a link between training and their long-term business strategy.

Influence of Staff on Training

Achieving the optimal training outcome may be difficult where staff have negative attitudes to training for a variety of reasons (*e.g.* staff feel threatened, a fear of failing to learn new skills). There is also the problem of staff turnover, with the firm undertaking investment in staff who subsequently leave, taking their newly acquired skills with them – a problem accentuated by poaching.

Imperfect Information

Employers may lack sufficient, reliable information about the quality and content of learning opportunities which are available.

Capital Market Imperfections

Capital market imperfections can form a barrier to funding training. Firms operating in price sensitive, low margin markets, may find it particularly difficult to find the resources needed for investment in training. This problem may be accentuated by lack of information available to financial markets about the costs and benefits of training.

Other Institutional Imperfections

The failure of current accounting rules do not allow proper measurement of company investments, such as in training which are seen simply as a cost which lowers cash-flow.

The continued uncertainty about the relevance and value of different types of qualifications, particularly at the lower level, as well as disagreement about who should provide basic skills, such as literacy and numeracy.

Short Termism

If the stock market is short-termist this may lead employers to discount the future more heavily (*i.e.* attach less importance to financial flows which are further in the future), and will be more risk averse with respect to any investments.

Small Firm Issues

Small firms are a microcosm in which a wide variety of such barriers are bought together – management skills and time, access to funding for training, lack of information, costs of accounting, higher risk and higher discount rates, *etc.*

The SfBN Surveys of Employers ask about specific barriers which prevent employers providing any or more training to their employees (see Table 4.1). The main reasons relate to disruption to work patterns, cost, impacts on wage demands, knowledge and availability of provision, and worries about staff being 'poached' by other employers. The data shows that over time there has been an increase in the percentage of employers citing the principal barriers to training as an explanation for not providing any or more training (Shury *et al.*, 2008). But this finding needs to be viewed in the context of an increase in the intensity of training over the same period which suggests that as training increases, some employers may be reaching a saturation point where the cost of providing more training outweighs the benefit (*i.e.* diminishing returns).

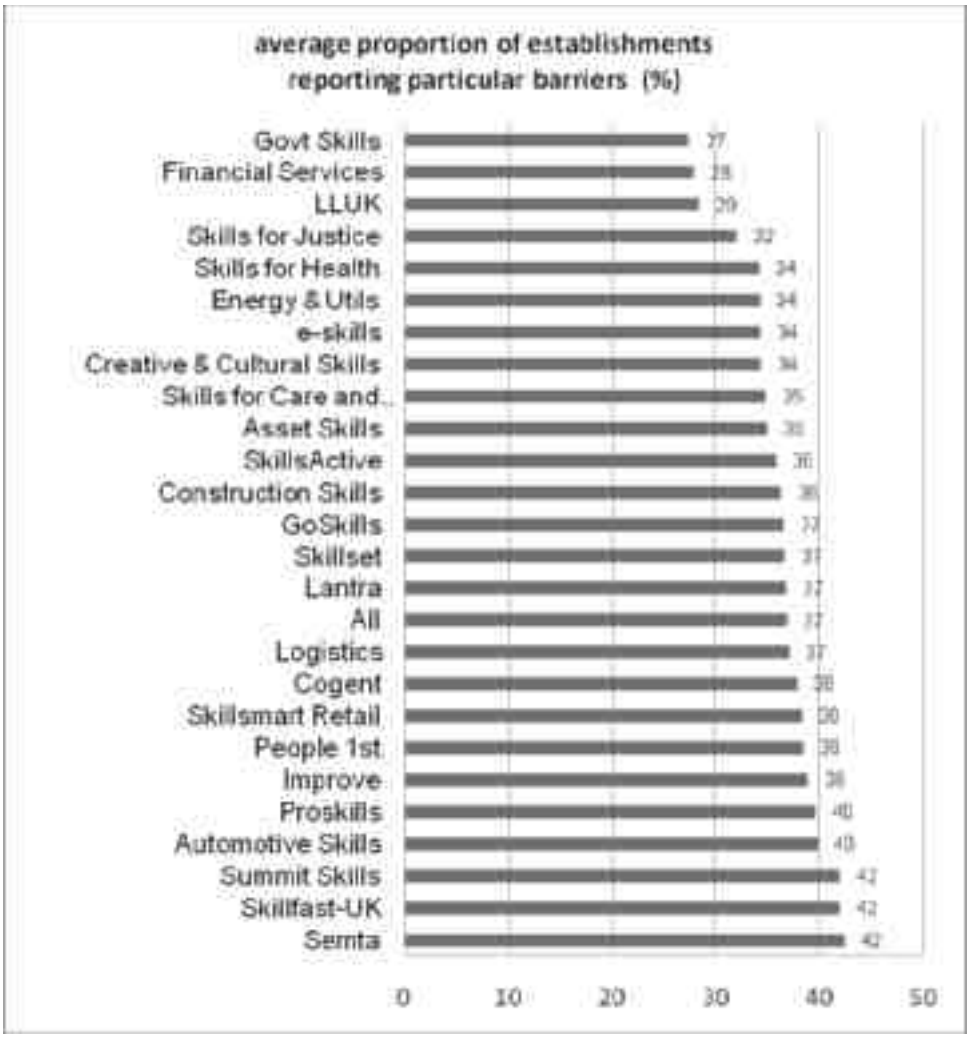
Table 4.1 Barriers to Delivering (further) Training by Employers in the UK (% of establishments)

	2007	2003	% point change 2003-2007
Disruption to work patterns	62	48	14
Financial Cost	56	44	12
Lack of knowledge about provision available	46	31	15
Concern that trained staff will be poached	41	28	13
Lack of suitable training provision	38	27	11
Reluctance of staff	37	27	10
Concern that new skills will lead to higher wage demands	31	25	6
Previous training less beneficial than hoped	24	n/a	n/a
Formal training not the best way to deliver skills	23	n/a	n/a
Training not delivered in past	10	n/a	n/a

Source: SfBN Surveys 2003-07
Base: All establishments

To provide an indication of the extent to which the various barriers listed in Table 4.1 affect employers of different types, Figure 4.1 shows the average percentage of employers by SSC sector reporting a barrier to training. SSCs representing the public / community sectors generally reveal a lower barrier score, otherwise there is not much variation between sectors representing mainly private sector activities.

Figure 4.1 Barriers to Training by Sector, 2007



Source: SfBN Survey of Employers 2007

There are also differences in the reporting of barriers according to size of establishment. Most barriers are more likely to be reported by establishments employing the fewest number of people, with the exception of the influence of staff on training and the proportion disappointed with the results of previous training (Shury *et al.,* 2008). Additionally, all barriers are more likely to be reported by those private sector establishments which are not part of a larger organisation, with such establishments reporting an average of 4.0 barriers each compared to 3.4 barriers amongst those private sector establishments which are part of a larger organisation (SfBN survey 2007, unpublished analysis).

The Lack of Demand for Training by Individual Employers

Chapter 2 revealed that 33 per cent of employers had not delivered training to their employees over the last 12 months, and it is known that this varies by region, SSC sector, and size of establishment. The principal explanation for this is a lack of demand because

the workforce is fully proficient. For instance, two thirds of employers (64 per cent) in England which had provided no training to their workforce over the past 12 months reported that it was because their workforce was fully proficient (IFF, 2007). Similarly, where employers cease training this tends, at first glance, to be a result of a lack of demand, possibly due to the sufficient accumulation of skills in the workforce resulting from previous training, rather than because, say, their views about the value of training have changed. Research which addressed why some employers no longer continued to take on apprentices reported that that the principal reason was a lack of demand rather than any change in their views about the benefits to be derived from apprenticeship training (Ipsos MORI, 2008). There is the possibility, especially for smaller employers, that there is a point at which all employees are, for a period of time, fully proficient at their current job due to the combination of the recruitment and training practices which employers have pursued over the recent past.

Chapter 2 referred to the extent to which there was over-supply of skills based on surveys which ask employees if they use the skills they possess in their day-to-day jobs. If employers have a surplus of skills at their disposal which are of potential use in the production system this will, other things being equal, lower their demand for training. One has to be wary of the estimates of over-supply and its potential to affect training decisions since employees may be making a comparison based on their current activity in the workplace rather than one which they may be required to fulfil in the (near) future. Moreover it is difficult to gauge the extent to which employers actually regard their staff as having a surplus of skills which might be of potential use to the workplace. An employer's view of the workforce's skills need not necessarily concur with those of the employees.

When statements are made about the percentage of employers which had not trained over the previous twelve months this refers to formal training, but when informal activities are taken into account the percentage of employers not providing training falls away, suggesting a greater demand for training than formal measures alone would suggest. For instance, the CVTS estimate of employers providing in the UK – around 90 per cent – is based on formal and informal training provision. Similarly, the SfBN Survey of Employers reveals that around four in five employers provided opportunities for their staff to engage in informal learning in 2007. If the measure of employer participation includes both formal and informal training the potential target group of employers to be persuaded of the merits of training to their business is relatively small and, accordingly, constitutes a hard-to-reach group. This ignores the duration and quality of training provided by employers. Chapter 2, for example, revealed that the duration of training provided by employers in the UK is relatively short, and the various national Employers Skill Surveys reveal that there are substantial numbers of

employees even within firms which train who have not received training over the previous 12 months.

Management as a Barrier

The Conceptual Review identified a number of ways in which management can act to constrain the provision of training in the workplace:

i. where management lack skills;

ii. a failure by management to recognise the link between skills and product market strategy;

iii. due to a lack of management resource; and

iv. where management lack social capital.

This is not just related to the volume of training but also to the capacity of management to make the right training decisions (however that might be defined).

Management Skills and Capability

There have been long-standing concerns about the quality of UK management; that in some way or another it has been deficient compared to its counterparts in competitor countries and has failed, in aggregate, to sufficiently improve economic performance (*e.g.* Blackaby, 1975). More recent analyses confirms this as a constant still affecting the UK economy today (Barry *et al.*, 1997; Tamkin *et al.*, 2006).

The role of management is critical in establishing the skill and training needs of the workplace. They set the product market strategy, and decide upon the mix of organisation, technology, and skills. There is scope for management to make both the wrong product market strategy and the wrong decisions about investments in skills. Recent data suggests a central role played by management and management competences in determining organisational performance. This relates very much to the product market choices made by companies (Bosworth, 2005). In general, lower quality managers are more likely to select risk-averse strategies with a narrower set of objectives (such as those focused on cost-cutting rather than capturing higher quality, higher value-added markets). This places a focus on leadership (moving into unchartered waters) as opposed to management (within known constraints). It is the case that more skilled and innovative managers seem to make better informed product market strategies. Porter and Ketels' view is that, in aggregate, UK has made the wrong, or sub-optimal decisions about product market strategy because too

many companies under invest in capital assets and innovation, and position themselves on low input cost rather than high value added product trajectories (Porter and Ketels, 2003).

Much of the debate in relation to management and skills – as Porter and Ketels (2003) suggest - is about the ability of management to foster a high value, high skill product market strategy. Davis *et al.*, (2001) takes a slightly different tack in recognising that workplaces operating in lower value segments of the market are often profitable businesses. The task for management is to recognise the segment of the market in which they operate and put in place the product market and human resource strategies which will allow the position in the market to be sustained. The evidence suggests that employers, especially those in the lower value-added segment of the market often did not have the product market strategy in place to meet the demands of their product market position and gave scant regard to the training and skill needs of their workforce (Wilson and Hogarth, 2003; WMRO, 2007). This relates to the concept of latent skill gaps which arise where employers fail to acknowledge a demand for training even though their product market trajectory is inexorably leading them to a situation where they will need to change their position in the market, if they are to survive, and acquire the skills fitting to that new position (Bosworth, *et al.*, 2001).

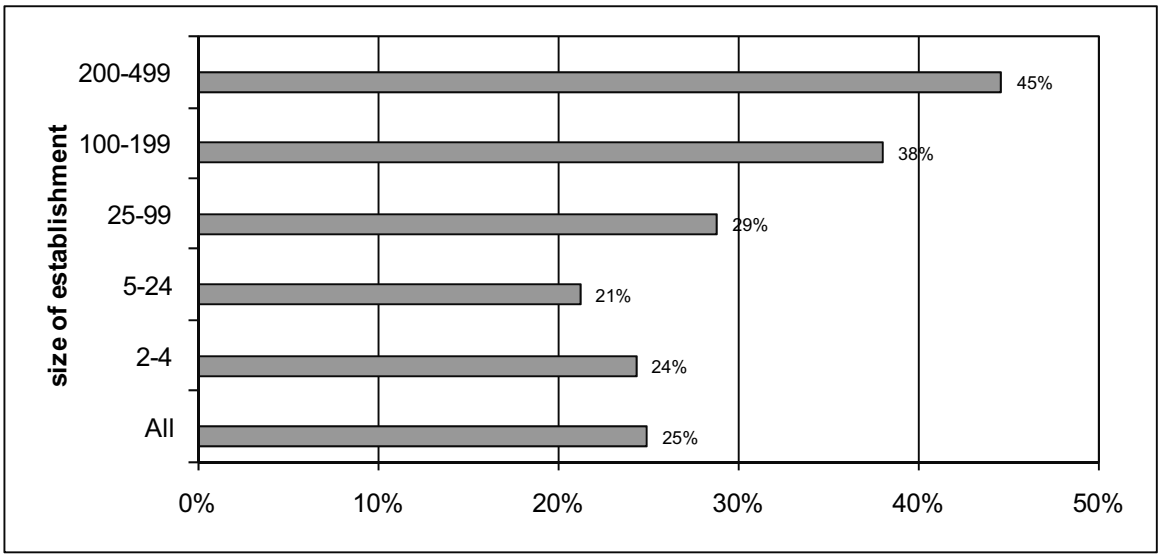
Managerial skill gaps give an indication of the extent to which management lack full proficiency in their jobs. Over time the incidence of skill gaps has been in decline in England but there remain differences in the extent to which they arise (NESS 2007). Figures 4.2 to 4.4 show the percentage of workplaces where management are regarded as lacking full proficiency by SSC sector, region, and size of establishment respectively. The data reveals that:

- the larger the establishment the more likely they are to report managerial skill gaps (see Figure 4.2);
- a relatively high percentage of employers in the public sector report managerial skill gaps (see Figure 4.3);
- limited regional variation except for relatively high incidences in London and the East Midlands (see Figure 4.4).

Whilst 4 per cent of all managers are reported as lacking full proficiency in England, this figure, in a similar survey in Scotland, is 6 per cent (Future Skills Scotland 2008) and 10 per cent in Wales, albeit from a survey conducted in 2005 (Future Skills Wales 2006).[22]

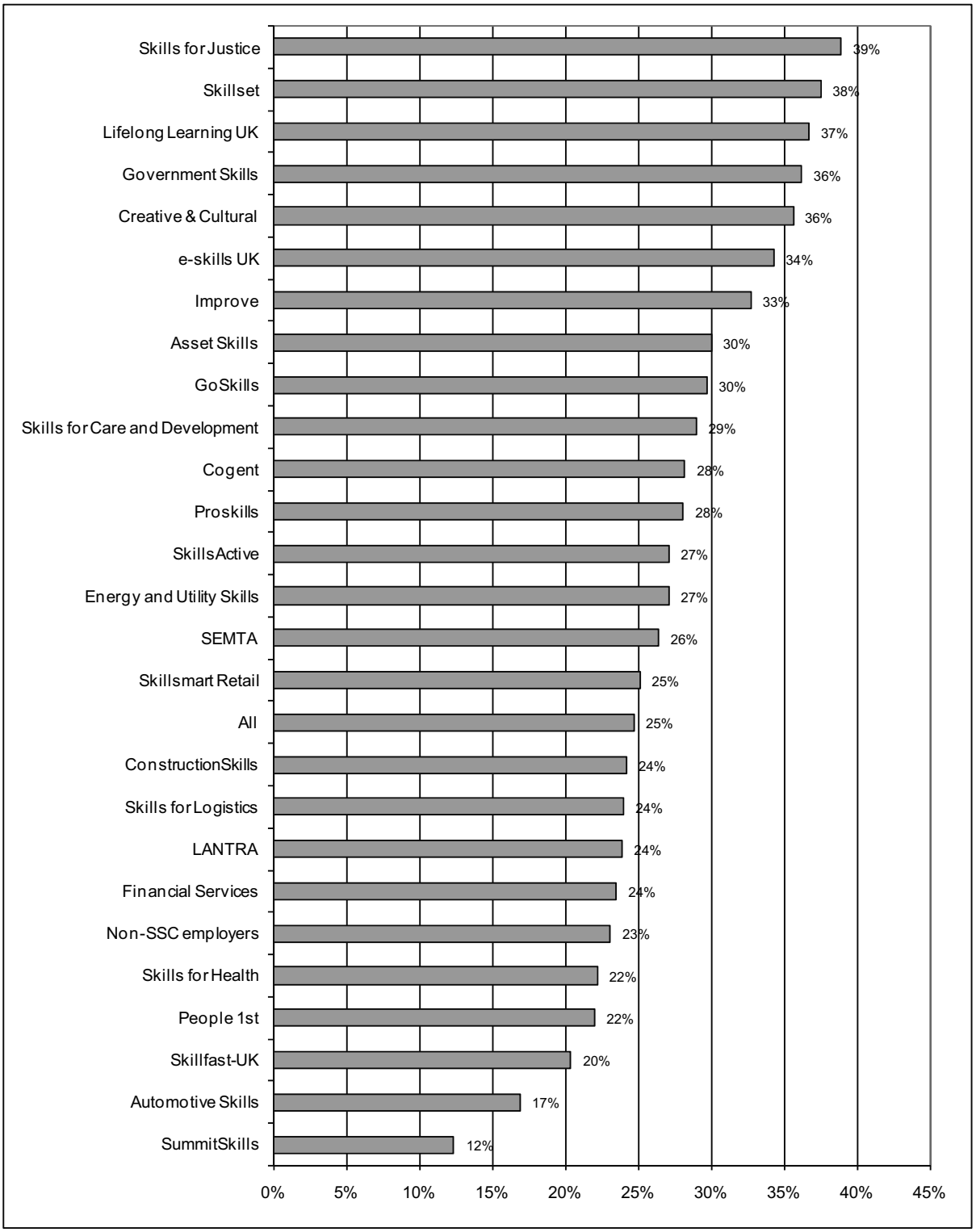
[22] The figure is not reported in the 2005 Skills Monitoring Survey report in Northern Ireland (Dept for Employment and Learning 2007)

Figure 4.2 Incidence of Skill Gaps Amongst Managers by Size of Establishment (% establishments)



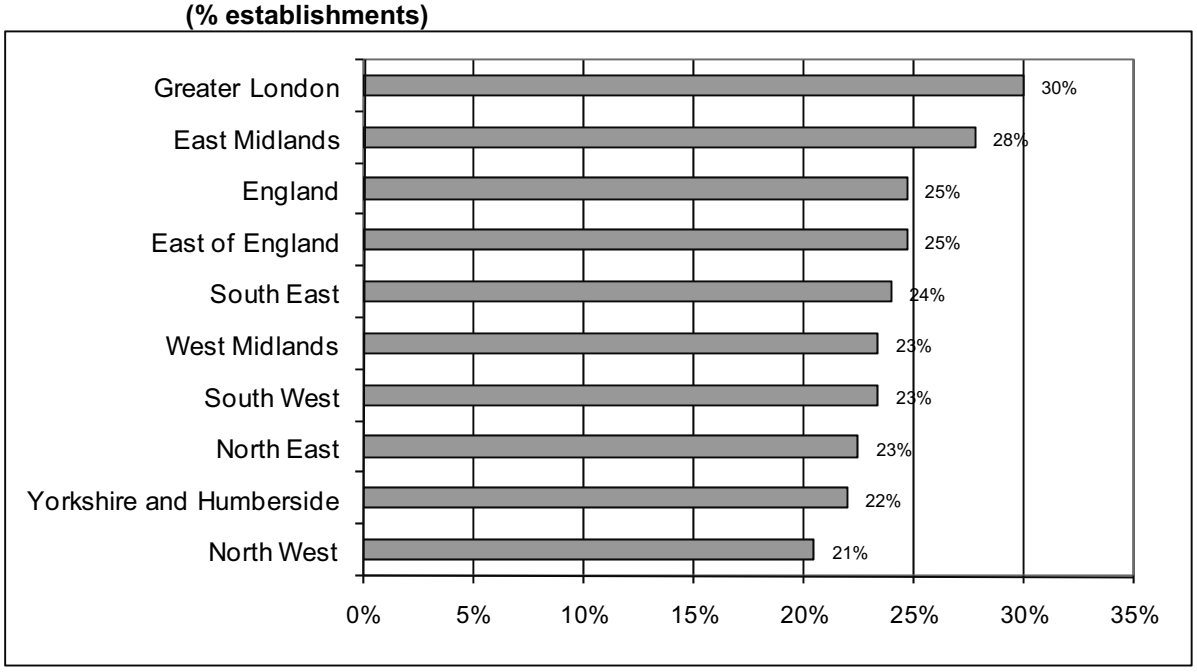
Source: NESS 2007
Base: All establishments

Figure 4.3 Incidence of Skill Gaps Amongst Managers by SSC Sector (% establishments)



Source: NESS 2007
Base: All establishments
Note: See Annex D for a description of SSC sectors

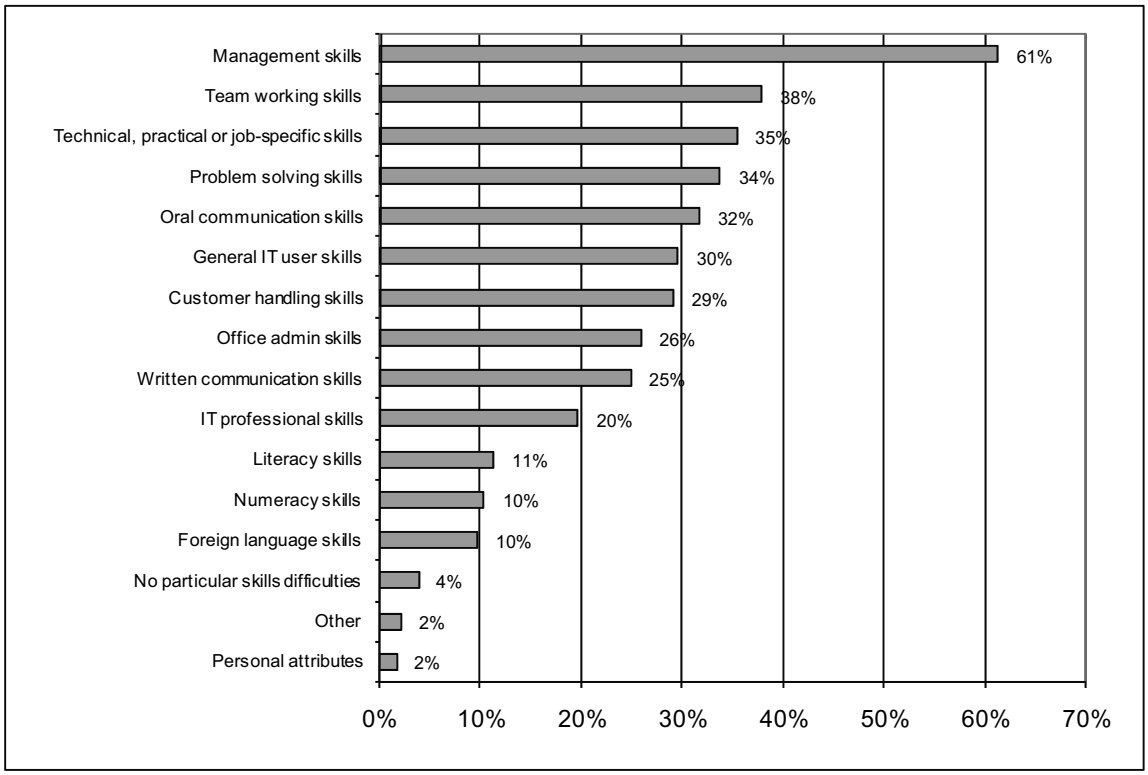
Figure 4.4 Incidence of Skill Gaps Amongst Managers by English Region (% establishments)



Source: NESS 2007
Base: All establishments

The main reason why managerial skill gaps have emerged in England is due to staff either lacking experience or being new recruits (57 per cent of establishments with managerial skill gaps) and due to failure to train (26 per cent). This is also the case in Northern Ireland where partial completion of training programmes is another key reason. Where managers lack full proficiency in their job it is principally in relation to management skills which was reported by 63 per cent of employers, though other technical skills, team working, problem solving and IT user skills also figure prominently (see Figure 4.5). In general, the provision of training is the employer's principal means of filling skill gaps but the evidence in relation to managers shows that the amount of training received by managers is proportionately low compared to other occupations (IFF, 2007). There is a sectoral dimension with the different parts of the public sector tending to report relatively high percentages of workplaces engaged in training (over 60 per cent of workplaces) compared to sectors such as construction, agriculture, and wood and pulp where around 15 per cent of workplaces report training their managers (Bosworth and Wilson, 2005). There is a strong and significant correlation between the percentage of managers qualified at NQF level 4 and the provision of training to managers.

Figure 4.5 Skills in which Managers Lack Full Proficiency (% establishments)



Source: NESS 2007
Base: All establishments

The importance of management skill gaps should not be under-estimated because of their impact on product market and human resource strategies. For example, the extent to which management skill gaps arise in a workplace is related to the extent to which skill gaps arise overall within an establishment: a 1 per cent rise in the all employee skills gap percentage is associated with a 1.25 per cent rise in the percentage of management skill gaps (Bosworth and Wilson., 2005). This is further evidence that the deficiencies in management skills tend to work through into a range of other sub-optimal practices within the workplace.

A further indicator of management quality is the percentage of managers qualified to degree standard (Bosworth and Wilson., 2005). In general, the evidence shows that the qualification level of managers is related to improved organisational performance, though the relationship is not a straightforward one (Bosworth, 2005). Organisational and technical change are both drivers of organisational performance with more highly qualified managers being more likely to engage in change. This can have a perverse effect upon organisational performance since more qualified managers can set high aspirations which may not be subsequently realised (Bosworth *et al.*, 2002). There are marked sectoral differences in the percentage of managers qualified to degree level: from the public sector, mining and quarrying, and computing where well over half the population of managers are qualified to NQF level 4 or higher, to sectors such as retailing, hotels and restaurants, and sale and maintenance of

motor vehicles where a fifth or less of managers are qualified to degree level. Bosworth and Wilson, (2005) also point out that where managers are more likely to be qualified to degree level is where a relatively high percentage of the overall workforce is qualified to this level.

In many respects it is how management competency relates to that in competitor countries which is of interest, especially so for those sectors of the economy open to international trade. Research by Mabey (2006), Mabey and Ramierez (2004), and Tamkin *et al.* (2006) provides some pointers in relation to the relative merits of UK managers:

- UK managers tend to be less strategic and less forward looking than their counterparts in competitor countries;
- expenditure on management training tends to be lower in the UK than compared to the EU average;
- managers in the UK are less likely to bundle together product market and human resource strategies;
- there is less emphasis upon managers being formally qualified in the UK, but UK firms are just as likely to value informally acquired skills;
- managers in the UK tend to rate experience rather more highly than their foreign counterparts, and are less likely to highly rate training in what makes a good manager;
- UK firms are less likely to evaluate the impact of management development activity in a systematic way;
- UK firms have weaker career structures for managers.

Links Between Product Market Strategy and Skills Strategy

For human resource strategy to be effective requires a strategic fit between product market strategy and human resource strategy (Youndt *et al.*,1995; Davis *et al.*, 2001). Further the research demonstrates that effective human resource policy consists of bundles of practices which are mutually reinforcing. This is discussed in more detail in the preceding chapter which addressed the facilitators of training by employers in relation to human resource strategies and HPWP. The evidence provided in the previous section reveals that employers in the UK are less likely to bundle together product market and human resource strategies (Mabey and Ramierez, 2004; Tamkin *et al.*, 2006). The implication is that if a variety of human resource practices – such as those associated with HPWP – are not in

place, then levels of organisational performance or training will not be as high as they might be otherwise.

Management Resources

The ability of management to tackle issues of human resource development and training will be a function of the priority they attach to the issue and the time they have available to allocate to it. These are of course inter-related since managers are unlikely to devote much time to tasks they attach little importance to. Even where managers attach importance to a task, any time to tackle it may be squeezed in managing tasks considered more pressing. Often skills and training, though considered important, are relegated to a position behind issues which need to be dealt with more promptly, such as financial issues, meeting output levels, and so on (Purcell, 1999). Tamkin *et al.,* (2006) point to the competing priorities with which management have to deal. This may mean that more strategic objectives are placed to one side while more immediate demands are met. Support for this argument appears in a number of the international comparative enterprise case studies carried out by NIESR. The work of Mason and Wagner (2002, p. 93), for example, suggests that the greater skills of the German workforce, particularly intermediate skills, help production to move smoothly. This, in turn, not only frees up management time, but also other resources, which enable the development and introduction of strategic incremental process improvements.

There is also a misallocation problem to consider where employees are effectively carrying out the tasks of subordinate workers at the expense of their own job. This results, in part, from subordinates lacking full competence. Steedman *et al.*, 1991 draw attention to the process of 'drawing down' in the spinning plants they visited whereby "…heads of technical departments qualified to Higher National Level… were involved in daily welter of 'trouble shooting' and 'checking up' activity all over their factories as a direct result of the limited competencies of untrained foremen and shopfloor workers. This scenario had few parallels in French and German plants…" (p.65) The inevitable result is that management time becomes even more squeezed with the potential for skills and training issues to be sidelined with the consequence that the problem persists.

Managers' Social Capital

Identifying the extent to which manager's social skills and social capital act as a barrier in practice is difficult to gauge. Some research suggests that UK managers tend to reveal relatively high levels of entrepreneurship (*e.g.* Tamkin *et al.*, 2006), while other research suggests that the mix of technical and social skills required to be fully proficient in a job are

difficult to find. Many employers report that obtaining these hybrid skills is especially difficult at managerial and professional levels (Bonser *et al.*, 2007; Hendry, 2001). Other than this rather slim *prima facie* evidence it is difficult to be sure about the extent to which there is a shortage of social capital and the extent to which this affects the decision to invest in training and skills. Evidence, for instance, from the R&D sector suggests that where there is a flow of R&D specialists through the system this results in effective dissemination of ideas (NAO, 2004).

Influence of Staff on Training

The reluctance of staff to train was cited by 37 per cent of employers as a barrier to any or more training taking place (Shury *et al.*, 2008). It tends to be in the following SSC sectors where a relatively high percentage of employers report staff resistance as a barrier to training:

- Skillsmart Retail;
- Improve;
- Skills for Logistics;
- Skills for Health;
- Skills for Justice;
- Government Skills.

Whilst most barriers were more likely to be reported by the smallest establishments, the reporting of this particular barrier seems to have no relationship with the size of establishment.

The extent to which the reluctance of staff to train is a barrier is a complicated issue because it relates to a number of issues, such as:

- the type of training being delivered (*e.g.* whether or not it leads to a formal qualification);
- whether the training improves the individual's labour market position (*e.g.* higher wages, better job elsewhere);
- how it is being delivered (*e.g.* does it involve out of work study);
- the consequences for the employee of not successfully completing the training (*e.g.* termination of employment; demotion, *etc.*);
- the business environment in which it is taking place (*e.g.* whether organisational change is taking place, job reduction, *etc.*).

The LSC Learner Satisfaction Survey of people participating in work-based learning reveals that 90 per cent of learners were satisfied with the learning they received (Ipsos Mori, 2007). But this a partial measure of the willingness of people in employment to take part in learning because it only includes those which have done so. Other evidence, which looked at workers' attitudes to organisational and technical change in the workplace, and the training which was related to this, suggests that employees are often resistant to change until it is clear what the implications for them will be (Hogarth, 1992). Hence training may be resisted until such time as the training is delivered, the ease of completing it is appraised, and the consequences for the individual made apparent. A study of a large organisation's decision to embark upon a large-scale training programme revealed the efforts it went to in order to obtain the buy-in from employees before it was rolled out, including paying for people to attend a local college to study something they were interested in, so long as it had a potential to benefit the organisation at some point (Lindley and Hogarth, 1992). Similarly, Brown *et al.* (2004) in their study of informal learning networks point out that reluctant trainers can be turned into champions of training if the process of delivering training is one in which the learner feels at ease, but the initial reaction can be one of resistance from the employee.

Information Imperfections

A lack of knowledge about provision available was one of the main reasons cited by employers for not training or carrying out more training: 46 per cent of employers (Shury *et al.*, 2008). The SSC sectors which particularly reported this information gap as a barrier were:

- Semta;
- Cogent
- Skillfast UK;
- Proskills UK;
- Summit Skills;
- Skillset;
- Asset Skills.

The smallest establishments are most likely to report this barrier, with 49 per cent of establishments employing 2-4 people reporting this barrier, compared to 44 per cent of those with 5 – 24 staff and tailing to 33 per cent of those employing more than 250 staff, revealing a 16 percentage point difference in the reporting of this barrier by size.

This data provided suggests that there is an information gap, but a more fundamental gap may be employers' knowledge or perceptions of the value of training to their organisation. If training is regarded as valuable (*i.e.* perceived benefits outweigh the costs over a period of time) then employers will provide it. There is the potential for those which train to report benefits and those that do not to be concerned about the costs. The finding that employers find it difficult to account for the returns to any investment in training may discourage training managers from making a business case to support their annual request for a training budget. This is found in several studies (for example, Hedges and Moss, 1996; Bartel, 2000).

The difficulties experienced in accounting for the returns to the training investment results in training being viewed only as a cost, because the benefits of training in terms of productivity gains, revenue gains, or profit rises may be difficult or impossible to measure, even *ex post*. In those cases where a human resource department does carry out such evaluations there may be an incentive to justify training expenditures as generating (large) benefits so as to justify further investments, such as next year's training budget (Collier *et al.* 2005).

Although methods are available to evaluate the benefits and costs of training investments, it seems that few enterprises use cost-benefit analysis to make decisions about training expenditures (Carnevale and Schulz, 1990; Coopers and Lybrand, 1996). It is often the case that, rather than using any quantitative appraisal methods, enterprises make decisions on investments in training based on perceptions of its utility or capacity to achieve strategic goals.

Capital Market Imperfections

There is limited data on the extent to which capital market imperfections are a barrier to training taking place. The availability of capital can be a constraint upon fixed capital investments but the size of these investments tends to be, on average, so much greater than human capital ones that one has to be cautious about inferring too much from this about training. The best information available comes from survey data on the extent to which cost constrains investments in training. This is not really an indicator of capital market imperfections *per se* but gives an insight into how cost constrains training. The SfBN Survey of Employers reveals that 56 per cent of employers in the UK cite it as a barrier to undertaking any or more training (Shury *et al.*, 2008). There is a sectoral dimension about the extent to which cost is listed as barrier the following SSC sectors reporting relatively high shares of employers reporting that cost is a barrier:

- e-skills UK;
- Skillfast UK;

- Skillset;
- Lifelong Learning UK;
- Creative and Cultural Skills.

Again, the smallest establishments are most likely to report this barrier, but with a less pronounced difference than for information barriers. Almost 6 in 10 (59 per cent) of those employing 2-4 staff reported this barrier compared to 51 per cent of the largest employing establishments. The difference is greater between single-site establishments and establishments which are part of a larger organisation. Sixty per cent of single-site establishments report cost as a barrier compared to 47 per cent of those which are part of a larger organisation.

The evidence in relation to short-termism below suggests that management often set high rates of return for all investments but this is unrelated to the operation of capital markets (see below).

Other Institutional Imperfections

An institutional imperfection cited in the Conceptual Report was the value attached to qualifications and a lack of consensus about who was responsible for the provision of certain types of skill, such as basic skills or other transferable skills. The conclusion of Leitch was that too many qualifications lacked economic value, in that there was little or no return to the individual from investing in these skills (HM Treasury, 2006). There is certainly a good deal of qualitative information available from employers about their disappointment with the skills of young people exiting formal education (*i.e.* attitude to work, literacy and numeracy skills), or the problems adults have with basic skills (Hogarth *et al.*, 2003), suggesting a degree of mismatch between the current supply for and demand of skills.

A further institutional barrier to consider is the complexity of the VET system (Stanwick, 2009). In relation to the Australian system, for example, the following point was made by Cully (2005) in relation to employer provided training: “A strong finding to emerge from this body of research is that employers find it difficult to organise funding for their workforces; in particular they find the formal VET system to be complex” (p. 8).

By ‘complex’ employers meant the difficulty in obtaining information about what training will be suitable for their business and keeping up with changes in the training market. While there is survey evidence which shows that employers, for example, sometimes lack information about the availability of training in the UK, it is more difficult to gauge the extent to which this is due to the system being complex.

Short-termism

Short-termism means the pursuit of short-term gain at the expense of long-term achievements (Mullins, 1991). It is a subject which has received much attention in relation to share prices and the operation of capital markets in the UK and USA given its potential to drive down firms' investments.

If the market is perfectly informed and operates efficiently, then the market value of a company will reflect the discounted sum of its future dividends. Investments in skills will be valued by the stock market as long as they give rise to increases in profits and, thereby, future dividends. Thus, a key issue in the use of this measure concerns whether capital markets operate efficiently – in the case of the UK, for example, it has often been argued that the market is short-termist and, therefore, likely to under-value longer term investments in skills and R&D. While there is a substantial empirical literature on short-termism, the issue of whether capital markets are short-termist remains largely unresolved **(**see Timmerman, 1996, Green, *et al.* 1996, Satchell and Damant, 1996, and Miles, 1993 and 1995).

There is a widely held view that stock markets, at least in advanced industrialised countries, are amongst the more efficient of markets, but it should be borne in mind that the market's valuation of companies is based on perceptions of the future under limited information. As a consequence, potential investors approximate the true (future) market valuation based upon the limited information to hand and some learning process. A lack of sufficient information may make potential investors short-termist. At least some results suggest that agents compile sufficient information that they are not short-termist (Satchell and Damant, 1995).

In the UK sub-optimal levels of investment by employers has been explained with reference to the relatively high rates of return sought by employers over a short payback period rather than the operation of the capital markets (Dobbs, 2008). Finance managers and directors within firms set a high rate of return as a criterion for investment because they perceive this to be consistent with capital market valuation practices. Hence short-termism is a management phenomenon which might exist even in situations where capital markets had a long-term outlook. In relation to R&D expenditure the evidence points to investments being dampened by considerations about short-term reported earnings (Grinyer *et al.*, 1998). By constraining investments in R&D there is the potential for negative externalities because training and accumulated skill levels will be lower than might be otherwise expected given the strong association between R&D and skill levels (Bosworth, 2005). Other research, more speculatively, reports a direct impact on skills and training where the operation of relatively de-regulated, competitive market and the short-term pressures this imposes upon

management to achieve performance targets inhibits the realisation of any high-value, high skill strategic ambitions held by employers (Lloyd, 2002). In keeping with this view there is evidence that management in the UK are less likely to take a long-term, strategic view of human resource development (Tamkin *et al.*, 2006).

Small Firms

The evidence in Chapter 2 reveals that small firms are less likely to engage in training At one level this may simply be the result of there being fewer people to train so smaller employers, other things being equal, do not need to train so often. In other words, small firms may reach a training saturation point more quickly than larger employers. Chapter 2 also reported that *per capita* training costs are higher in small than large firms. There are, however, other issues to consider.

It needs to be borne in mind that not all survey reports distinguish between employers of different sizes and frequently refer to 'Small and Medium Sized Enterprises' which can encompass employers of different sizes from those which have just one employee to those with 250 employees. As such one has to be careful about referring to the SME sector as a homogeneous group of firms (Johnson and Devins, 2008) and this report has sought to go beyond this by providing disaggregated data which shows clear differences for the smallest establishments compared to medium sized enterprises and for those which are single-site businesses as opposed to those which are part of a larger organisation. The 'SME' sector, however, also includes those where there is an owner manager. In relation to what makes a good manager, for example, owner managers tend to concentrate much more on control of resources whereas other managers tend to regard the motivation and coaching of staff as more important.

Many of the barriers discussed above tend to be amplified in the case of small employers and single site businesses, who often have less time to devote to training, limited resources to provide it, and much less understanding of what the formal VET system might deliver to their workplace needs (Johnson, 2002; Johnson and Devins, 2008). Research by the LSDA on the participation of small employers suggests that formal learning may often be inappropriate and suggests: "In small companies, the importance of context cannot be over-estimated. Understanding the context in which small firms operate is a crucial factor in supporting better learning and performance within micro-businesses; for example, better support for informal learning may be as important as exhortations to take up training" (Macleod and Hughes, 2006, p.5). Different types of training interventions may be required to meet the needs of small employers. Johnson and Devins (2008), for instance, draw

attention to the importance of informal learning within an SME environment where there may be much less importance attached to formal qualifications or money available to pay for external courses. Edwards notes that where informal learning is included into the measure of training provision the differences between large and small employers is much reduced (Edwards, 2009). Johnson and Devins (2008) go on to demonstrate that SMES place very great store in the ability of a person to do their job. SMEs value the contribution of skills to their business but recognise that these will have to be obtained through a range of informal mechanisms.

A Summary of the Barriers to Participation for the Individual Employer

Based on the barriers to training identified in Box 4.1 derived from the Conceptual Report, Table 4.2 summarises the evidence for each form of barrier. There is evidence of numerous barriers to employers either training at all, or increasing the volume of training they currently provide. These relate in many instances to: (i) management capability to recognise their organisation's skill needs; (ii) the resources to deliver training; and (iii) being able to measure the benefits to establish a business case for training investments.

A strong theme to emerge throughout the evidence is that, unless there is a product market strategy in place that will create a demand for skills, employers are unlikely to engage in training or any other form of skills development. Thus, the evidence points to the sub-optimal delivery of employer provided training with respect to:

- those firms where the product market strategy is not giving rise to a demand for skills or training because it is concentrated in low-value activities. This is considered sub-optimal because the evidence suggests that this position may not be sustainable over the long-run (Wilson and Hogarth, 2003); and
- those employers which have a product market strategy that gives rise to a demand for training but this is not taking place because of the other barriers outlined above.

Table 4.2 Summary of Firm Barriers to Participation in Training

Barrier	Summary	Source
Management skills	More highly skilled managers are more likely to develop higher value-added strategies and this in turn supports the further development of staff	Bosworth, 2005; Bosworth *et al.*, 2002
Links between product market strategy and training	Evidence that many employers fail to recognise the need to develop a skills strategy to support the current and future product market position, this is especially so amongst firms with lower-value added strategies	Wilson and Hogarth, 2003; WMRO, 2007; Bosworth, 2005; Bosworth and Wilson, 2005
Management capacity	Some managers have limited time to devote to anything other than the immediate demands placed on them, hence a more strategic approach to training may be squeezed out	Tamkin, *et al.* 2006
Management's social skills and social capital	There is no evidence that has looked specifically at the social capital of managers The evidence from the R&D sector suggests that where there is a flow of R&D specialists through the system this results in effective dissemination of ideas	NAO, 2004
Influence of staff on training	Often cited as a reason for not training by employers, but this finding needs to be treated with some caution. Often the context in which training is introduced and the means to introduce it explains much about employee reactions to it	*e.g.* Skills for Business Network Surveys
Imperfect information	There appears to be considerable uncertainty about the nature and quality of training available, and the value of training to the employer	Carnevale and Schulz, 1990
Capital market imperfections	Cost clearly signalled as a constraint on training, but there is no data which highlights the role of capital markets limiting provision	SfBN Surveys; Employer Skill Surveys
Short-termism	Little information available in relation to training. Note that short-termism within enterprises is often self-imposed and does not necessarily reflect the behaviour of capital markets	Grinyer *et al.*, 1998
Small firm issues	Strong evidence in all survey data and persistent over time that SMEs train less but some of this difference disappears if informal training is included the actual reasons underlying the reasons why SMEs train less, other than the fact they have fewer people to train, are nuanced	Johnson and Devins, 2008; Johnson, 1999

4.3 Sectoral Barriers to the Provision of Training

The Conceptual Review looks at wage rigidities and spillovers / externalities as evidence of sub-optimal provision at a sectoral level because the private investment decisions made by employers are, because of these factors, less than optimal in aggregate.

In relation to wage rigidities the Conceptual Review suggests that skill shortages or surpluses can arise where there is a degree of wage rigidity. No research has been identified which assesses this relationship.

Poaching is the principal form of spillover / externality mentioned in the Conceptual Review. Some employers consider employees to be the principal beneficiary of training, especially so if they can leave to take up employment elsewhere. 'Poaching' is regarded as a threat to many organisations and so they consequently fail to train. Using data from the British Household Panel Survey, Brunello and Gambarotto (2006) find that firms tend to train less in densely employer populated areas as employers have more opportunity to hire skilled workers from the market. More densely populated areas, can offer better matching opportunities and a higher probability of re-employment. The obverse of this is that employers will be concerned about staff they train being poached. The evidence points to organisations being able to devise human resource policies other than training to deliver the skills they need. Organisations can use other strategies in order to avoid waiting for skilled labour. Such alternative strategies include "muddling through", curtailing expansion plans, using technologies that break down tasks into ones requiring lower skill levels of workers, and poaching of staff who have already been trained elsewhere (Beresford and Capizzi, 2000).

The annual CIPD Survey of Recruitment and Retention provides evidence of turnover rates by sector. The data reveal that it tends to be sectors which are considered to be relatively less skilled, less well paid where labour turnover is highest. Listed below are the sectors, in order, with the highest turnover rates:

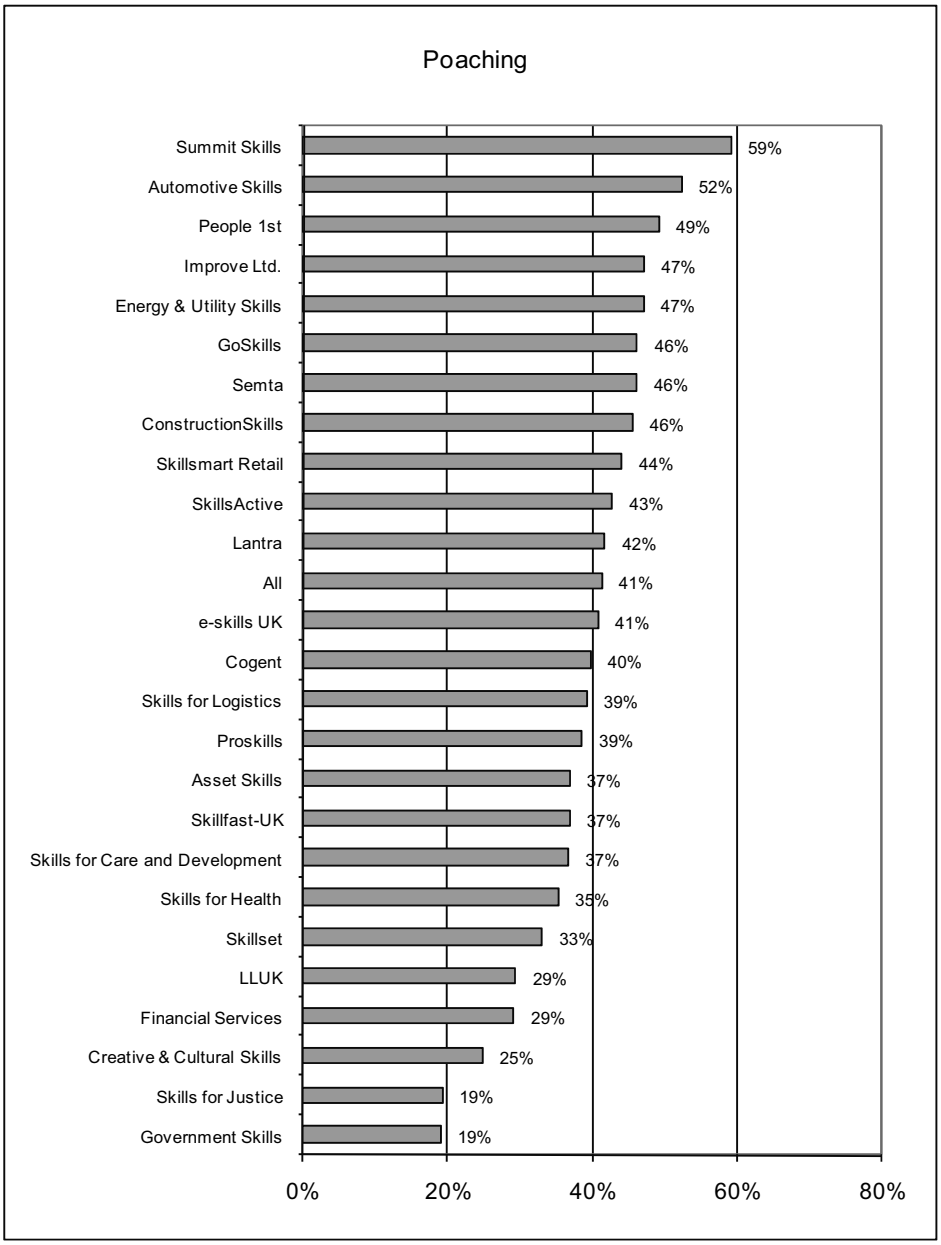
- Hotels, catering and leisure (median voluntary leaver rate of 30 per cent);
- Agriculture and forestry (20 per cent);
- Retail and wholesale (20 per cent);
- IT services (18 per cent);
- Care services (18 per cent);
- Food, drink and tobacco (18 per cent);
- Media (broadcasting, publishing, and so on) (17 per cent);
- Call centres (17 per cent).

The exception to this is the relatively high turnover rates in IT Services and the Media broadcasting, publishing, and so on. Further evidence suggests that it is amongst routine jobs in the service sector that turnover rates are highest:

- senior managers/directors (0 per cent);
- manual/craft workers (13 per cent);
- administrative, secretarial and technical (13 per cent);
- managers/professionals (14 per cent);
- services (customer, personal, protective and sales) (17 per cent).

The SfBN Survey of Employers reveals that poaching is an issue with a sectoral dimension (see Figure 4.6). Again a familiar sectoral pattern emerges, with employers in the SSCs which represent public / community sectors least likely to report a barrier – in this case the fear of poaching. There is also a difference in the reporting of this barrier by size of establishment, with 45 per cent of establishments employing 2-4 staff reporting this barrier compared to 24 per cent of the largest establishments. There is a much less pronounced difference for single site (45 per cent) and private sector establishments part of a larger organisation (40 per cent). Consistent with the industry sector analysis, Government establishments are least likely to report this barrier (18 per cent).

Figure 4.6 Extent to which Fear of Poaching Inhibits Training



Source: SfBN Survey of Employers 2007

Poaching refers to a process whereby employers deliberately seek to recruit the employees of other employers. Labour turnover refers to be more general process of people exiting and entering employment, but like poaching it is likely to lower the optimal level of training at a sectoral or national level. The evidence from the CIPD survey provides prima facie evidence that it is in relatively less skilled jobs, where there is likely to be less skill acquisition – either general or specific - by the employee where labour turnover rates are highest. This indicates that people in those sectors can readily move jobs because skill is not an entry barrier to employment. The key question is whether more skilled people have acquired relatively high levels of organisational specific skills, so that they are relatively more locked into their

present employer, or whether the employer is more likely to develop retention policies to retain these people given the probable higher levels of investment in these employees. The evidence reveals that employers are more sensitive to retention issues amongst more highly skilled staff amongst whom turnover rates are relatively low compared with lower skilled workers (CIPD, 2008).

There is a reasonably compelling literature on R&D spillovers (with considerable analogies with education and skills) which suggests that firms in the same technology pool (often the same sector) benefit from the R&D carried out by other firms in that pool (Griliches, 1992 and 1995).

4.4 Barriers to Training: A National Perspective

The Conceptual Review suggests that employers obtain diminishing returns from the investments in skills, but the State obtains increasing returns. Therefore there is a role for the State to stimulate growth in skills investments from which employers in general will benefit. The key issue is the extent to which national systems are able to stimulate training to the benefit of the national economy.

The UK VET system is a voluntarist and flexible one. Employers can voluntarily engage with the system – there are, for example, relatively few areas of the economy where a licence to practice has been established through statute or regulation – which provides a broad framework in which they can work with training providers to develop the training they require. Where employers choose to engage with the system they have a degree of influence over the structure and delivery of the training they need. In countries such as Germany or the Netherlands the voluntarist approach is less in evidence with, for example, completion of an apprenticeship in the dual system governing access to many occupations, and the capacity of individual employers to flex the training system to their needs less in evidence. The evidence about which type of system works best is largely derived from the National Institute for Economic and Social Research's (NIESR) series of international matched plants studies which tend to reveal that UK employers have lower-value product market strategies which, in turn, limits their demand for skills and thereby training. Their evidence suggests that the institutional frameworks in place within countries such as Germany and the Netherlands establish a relatively high skill equilibrium where company product market strategies, the role of collective bargaining in maintaining wage levels, and a relatively strong VET infrastructure reinforce one another to create a virtuous circle (Mason *et al.*, 1994; Steedman and Wagner, 1987 and 1989; Prais, *et al.* 1992). One difficulty the NIESR's researchers experienced was to find establishments producing similar products, as the continental European plants often

had much higher specification products than their UK counterparts. The case studies supported the hypothesis that poor skills are part of the explanation of the lower productivity of UK plants. Although the link between skills and training is less well developed and the work does not estimate the rate of return to training, an Anglo-Dutch comparison by Mason et al. (1994) touches upon this subject. The authors conclude that:

> The higher skill levels found throughout the Dutch engineering industry primarily reflect that country's widespread provision of full-time vocational education and training. As elsewhere, trainees completing full-time courses of vocational schooling still need to undergo programmes of structured on-the-job training when they first enter employment. However, the relatively high attainments of students at junior and intermediate technical schools in the Netherlands give Dutch employers a considerable 'head-start' over their British counterparts in terms of the 'trainability' of their workforce, both as new entrants to the labour market and subsequently as adult workers who may need retraining and updating. (ibid. p. 350)

Overall, the NIESR's matched plant studies reveal that national systems such as those in the Netherlands and Germany, where the State and the individual (via foregone wages) bear a relatively high share of the costs of initial training, provide employers with a number of benefits:

- they have to provide less training, other things being equal, to raise the skill level of recruits to the required level;
- the quality of the initial vocational education system is such that there is a richer human resource base to develop further through training;
- the system produces a labour market that is relatively well stocked in skilled people which can help offset skill shortages.

The training systems found in continental Europe may also facilitate adaptation to competitive pressures in the product market. Finegold and Mason (1999) compared the VET systems in the USA with those in selected European countries, based on case study evidence, to reveal how competitive pressures in the manufacturing sector tend to push firms towards niche / batch based manufacturing which is dependent upon a skilled workforce. The US plants had relied upon automation because of the economies of scale which resulted from serving such a large domestic market, but this position had been eroded due to cheaper competition from elsewhere, and so the US plants had been pushed towards niche production, requiring more skilled intermediate level personnel. The nature of the VET system in the USA was such however that a greater level of training investment was required to reach the standards of their European counterparts. The latter had traditionally concentrated on high-skilled batch production and benefited from VET systems where the

cost of producing skills was borne in large part by the State or the individual employee. The upside for the USA was that in a relatively weak VET system, individual employees were more likely to see training and education as an investment, more so than in Europe, and so were willing to meet all, or part of the costs of upskilling.

While the VET systems in countries such as the Netherlands and Germany may provide a degree of advantage with respect to the ability of industries to adapt to change as the example above illustrates, there is disagreement about the extent to which these systems are to cope with wider structural changes in the economy, especially the growth of the service sector and increased occupational mobility in the labour market. The German system, for instance, has been criticised for being overly manufacturing oriented, overly specialised, not preparing people for the skills they may need over their working life, and not serving knowledge based firms in the service sector well (Buechtermann and Vogler-Ludwig, 1997; Vogler-Ludwig and Giernalczyk, 2009).

4.5 Conclusion

A number of barriers have been identified at the level of the individual firm, sector, and national economy which result in training being provided at a lower level than would otherwise be the case if the barriers were not in evidence. A summary of the available evidence indicates that the following key barriers in place at each level:

Individual employer:

- product market strategies that generate a limited demand for skills;
- lack of management awareness of a link between skills, training, and performance;
- a lack of information about training availability;
- various barriers faced by small firms;
- management focussed on short-term objectives.

Sectoral level:

- labour turnover and poaching

National Level:

- system effects, whereby skill is not writ large into product market strategies as much as in competitor countries;
- the extent to which the costs of training are shared between the employer, the State, and the individual employee / trainee;

- the institutional arrangements in the labour market which are likely to affect the employer's rationale for training (*e.g.* the requirement to be qualified to practice in a profession or occupation, *etc.*).

There will inevitably be a number of employers which have no current demand for training because their employees are fully proficient for the time being, but there is evidence to suggest that the equilibrium training level at firm, sectoral, and national levels is lower than it might otherwise be. How the potentially surmountable barriers outlined in this chapter might be overcome is considered in the Policy Review.

5. Conclusion

5.1 Introduction

The aim of the study was to examine the extent to which the provision of training or skills by employers is sub-optimal. The inquiry has tackled this by: (i) examining how skills and training are measured in official data and recurrent surveys; (ii) the factors which lead an employer to train, including the extent to which existing measures provide evidence of a positive relationship between skills and organisational performance; and (iii) how more employers might be able to obtain the benefits of training if they were able to overcome a variety of barriers. This chapter summarises some of the key points pulled out in the report and draws together the available indications of where there may be under or over investment in skills. The statistical evidence does not suggest that overall, training levels in the UK are low and that there is a need for blanket policies to rectify low levels of training. But there are questions over the quality of that training, and whether the variations in training levels demonstrated indicate whether there are areas of over or under investment in skills which may warrant targeted public policy intervention.

5.2 The Statistical Resource

One of the aims of the study was to assess whether the statistical information recurrently collected through surveys provided the information required to make judgements about optimal training levels. The data ideally required is outlined in Table 5.1.

A number of points can be made:

- since the inception of SNIB in the early 1990s a substantial time series on employer engagement in training has been constructed, which provides a rich source of data on the extent to which employers train and the barriers they face to providing training;

- there is no longitudinal database which will allow an assessment of the extent to which employers recurrently train which will help deal with the problem of endogeneity when assessing the determinants and returns to training;

- information about a few key organisational performance indicators would allow a regular assessment to be made about the extent to which employer provided training is related to organisational performance. This would help provide a consistent set of estimates of the returns to training for the employer;

- questions about the extent to which employers would like to train more than they had done so over the past 12 months would give information about levels of under investment in training from the employer's perspective. NESS2007 asked about this but only of employers which provided training. The SfBN Surveys of Employers do not ask if a lack of demand for training is a barrier to more training taking place;

- given the importance attached to inter-firm collaboration as a means of promoting training, it would be useful to have some indication of the extent to which this takes place;

- the variations in the timing, content and reporting of employer skill surveys across the UK make direct comparisons difficult between nations.

Table 5.1 Data Currently Collected by Employer Surveys

Indicator	Comment
Percentage of employers participating in training	Generally available. Employers usually defined as establishments, but not in all international surveys
Percentage of staff receiving training	Generally, but inconsistently available
Which staff receive training	Employers are asked which occupations receive training, but not how much training
How training is delivered	Limited mainly to on- and off-the job, plus some indicators of informal measures. Not much on e-learning, *etc.*
Content of training	Not recently collected except in the Scottish Skills Survey in 2008
Barriers to training	Not always asked of all employers and does not always include 'no demand for training' as a response
Training leading to a formal qualification	Occasional usage
Expenditure on training	Only reported in England currently by the national skill surveys
Engagement in public training programmes	Data is limited and relies on programme evaluations which are not consistently carried out; no information about the extent of inter-firm collaboration

5.3 The Returns to Investing in Skills

This study reveals that there is substantial evidence of gains to organisational performance from employers' investments in skills. Various studies show positive effects on share prices, profitability, productivity, and labour turnover. The results show widely differing rates of return depending upon the study being cited, and there is a danger that the whole subject area has become mired in disputes about appropriate statistical techniques, although these are not insignificant given the need to establish cause and effect. Training is often treated

as a black box in the statistical analyses such that an association is revealed between an indicator of employer training and an indicator of employer performance, but there is incomplete treatment of how one influences the other. Nevertheless, the weight of evidence is that training improves performance in a variety of ways.

5.4 Facilitating Training

The study looked at a number of factors internal and external to the workplace which might influence the decision to train. The strongest determinants appeared to relate to:

- a recognition of the benefits to be derived from employer provided training by the employer providing it. As the previous section illustrates there are financial benefits to be obtained by the employer from the provision of training (although it is not always clear whether employers take this into account in making training decisions);

- product market strategy and the linkages to human resource policies. Employers which have a clearly defined product market strategy to which they have aligned an appropriate human resource strategy are more likely to engage in training, but only if the product market strategy encompasses some degree of change in either production processes or work organisation;

- the role of social partnership tends to increase a commitment to training in a number of ways, such as raising the profile of training as an employment issue and supporting the union wage premium. Institutions other than collective bargaining which include both sides of industry can also facilitate training by employers;

- the role of inter-firm collaboration through promoting R&D and raising employers' product market strategies, sharing the costs of training, and providing a source of information, advice and guidance about training and its benefits to the firm, all have the potential to facilitate training;

- the normative values attached to training by employers (and other social partners) can also facilitate training – *i.e.* where the employer values education and training as social or merit goods in their own right.

5.5 Barriers to Investing In Skills

The Conceptual Review identified the barriers to training at the level of the individual firm, the sector, and the national economy, listed below in section 4.5.

In general, there is evidence to support the existence of most of the barriers listed, (although the evidence is rather weak in relation to management's shortage of social capital / skills, and wage rigidities at the sectoral level). This suggests that rather than simply having no demand for training because all staff are fully proficient there are a range of potentially surmountable barriers preventing more training taking place. Possibly the most significant barrier to training taking place relates to those product market strategies which are based around the production of low specification, low-value added goods or services which are allied to human resource strategies which place little value in the benefits of training to the organisation. This appears to be a barrier relating to management's skills and capabilities and the vision they have for their organisation.

The whole debate about the barriers to training, however, needs to seen in the context of a relatively high percentage of employers providing training to their workforce – especially if informal learning is incorporated into the definition of training.

5.6 Identifying Under and Over Investments in Training and Skills

This section looks at the potential measures of over and under investment in skills and training by employers in order to identify areas where public policy intervention might specifically need to focus. It draws on survey evidence to explore some factors in more depth and reviews and revisits evidence in the report to explore the extent to which the indicators are consistent in the areas to which they point. It should be noted that these are indications, based on this review of existing evidence rather than primary research, and not definitive definitions enabling a comprehensive analysis of over and under investment, and thus, sub-optimal investment. A number of indicators can be drawn on to provide an analysis of:

- the relationship between skill gaps and levels of training;
- the extent to which employers report that they want to provide more training, suggesting they perceive there to be under investment ;
- the relationship between training levels and HPWP, an indicator of training quality;
- training and establishment survival; and

- the extent to which evidence on the supply of qualifications provide information about the extent of any under or over investment in training.

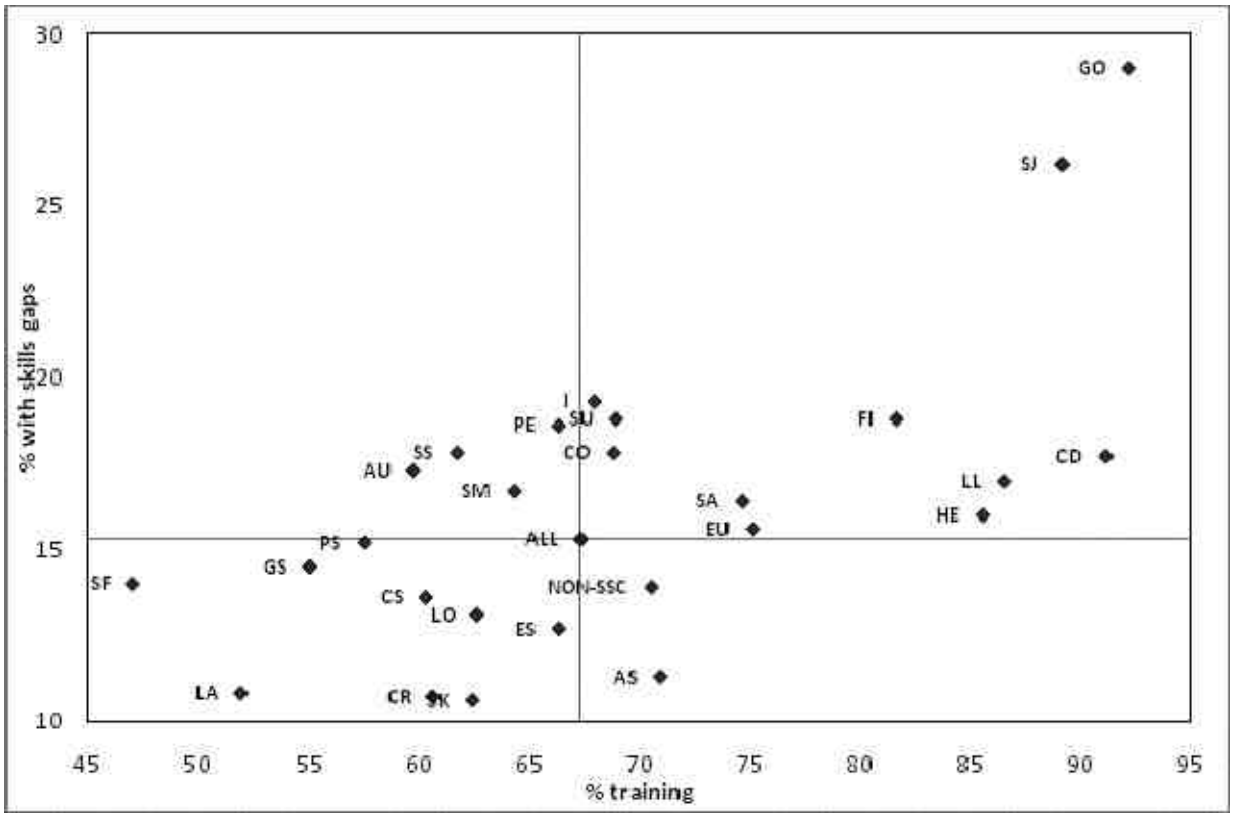
Training and Skills Gaps

If a comparison is made of the extent of skill gaps and levels of training within an establishment then it is possible to gauge where there may be over or under investment in skills.[23] Where skill gaps are relatively high but training levels are relatively low this suggests the possibility of under investment. Conversely, where skill gaps are relatively low but training levels relatively high this may well indicate the possibility of over investment. Using this approach Figures 5.1 and 5.2 provide findings by sector and region / nation respectively. The data indicates that the employers covered by the SSCs for Skillsmart, SEMTA, and Automotive Skills may be under investing in skills, while those covered by Asset Skills and the Non-SSC sectors may be over investing, although these two sector groups are close to the averages. Similarly, Scotland and Greater London tend towards under investment (see Figure 5.2). But it must be stressed that these are relatively crude indicators[24].

[23] An alternative method to identify over and under investment in training is to statistically model the extent to which expected levels of training differ from observed levels. Given that the determinants of employer provided training are relatively well known it is possible to produce an expected value of training in an establishment given its characteristics and gauge how much this differs from the observed value. From the review of the literature it has not been possible to find examples of this type of analysis.

[24] It has been argued that the reporting of skill gaps might indicate a more sophisticated approach to skills development within a firm which means the firm is more likely to identify existing skill gaps It also excludes 'latent skill gaps' – where skill gaps may emerge if there were a higher value added strategy adopted

Figure 5.1 Extent of Skill Gaps and Level of Training Reported by Employers by SSC Sector in England (% establishments)

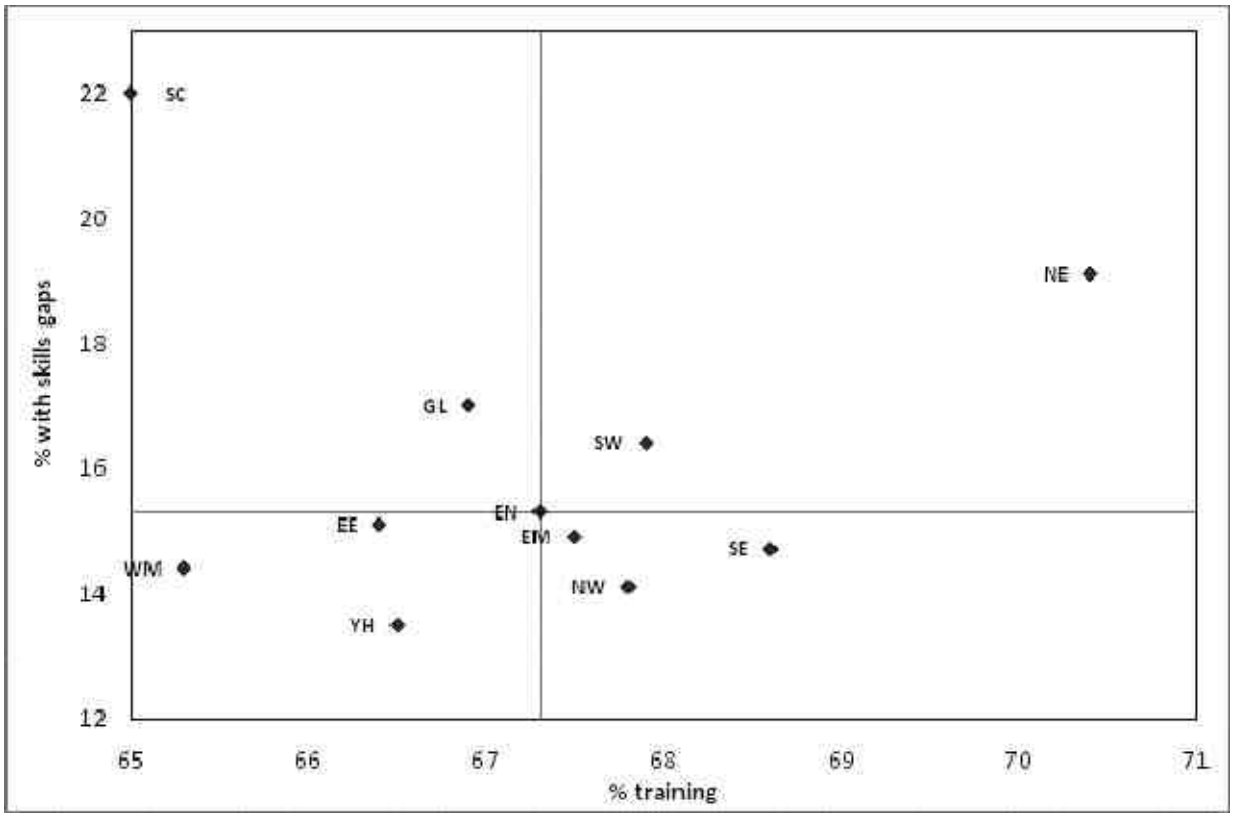


Source: NESS2007

Legend:

All Sectors	**ALL**	Non SSC	**NS**
Asset Skills	**AS**	People 1st	**PE**
Automotive Skills	**AU**	Proskills UK	**PS**
Cogent	**CO**	Semta	**SM**
ConstructionSkills	**CS**	Skillfast-UK	**SF**
Creative & Cultural Skills	**CR**	Skills for Care and Development	**CD**
Energy & Utility Skills	**EU**	Skills for Health	**HE**
e-skills UK	**ES**	Skills for Justice	**SJ**
Financial Services Skills Council	**FI**	Skills for Logistics	**LO**
GoSkills	**GS**	SkillsActive	**SA**
Government Skills	**GO**	Skillset	**SK**
Improve Ltd	**I**	Skillsmart Retail	**SS**
Lantra	**LA**	SummitSkills	**SU**
Lifelong Learning UK	**LL**		

Figure 5.2 Extent of Skill Gaps and Level of Training Reported by Employers by English Region and Scotland (% establishments)



Source: Various national skill surveys: England (2007); Scotland (2006); Wales (2005); Northern Ireland (2005)
Note: The skills survey for Wales in 2005 asks about off-the-job training only; the skills survey in Northern Ireland asks about off-the-job and on-the-job training but does not report the combination of these types of training allow comparisons with England or Scotland to be made.
The skill survey in England collected information from employers with two or more employees, the survey for Scotland collected information from employers with one or more employees.

Legend:

EE East of England
EM East Midlands
EN England
GL Greater London
NE North East
WM West Midlands
NW North West
SW South West
SE South East
SC Scotland
YH Yorkshire / Humberside

More training required

A further indication of the extent to which there is an under investment in training is obtained from NESS07 which asked those employers which trained whether they would like to have provided more training. Ideally a measure is required of the extent to which all employers, not just those which trained, would like to have provided more or some training to check whether there was a need for training which was not delivered because of one of the barriers

described in Chapter 3.[25] Nevertheless, the data from NESS 2007 provides indicative evidence for England that there is a demand for more training from employers (41 per cent of those which had trained would have like to have provided more training). There is not much variation by region but London and the North East stand out with a relatively high percentage of employers wanting more training: 49 per cent of employers in London and 48 per cent of employers in the North East reported wanting more training compared to 36 per cent in the East Midlands (the lowest) and 41 per cent in England.[26] Generally smaller establishments are less likely to report that they would like to train more. It was the employers covered by the following SSC sectors which were most likely to report that they would like to train more are:[27]

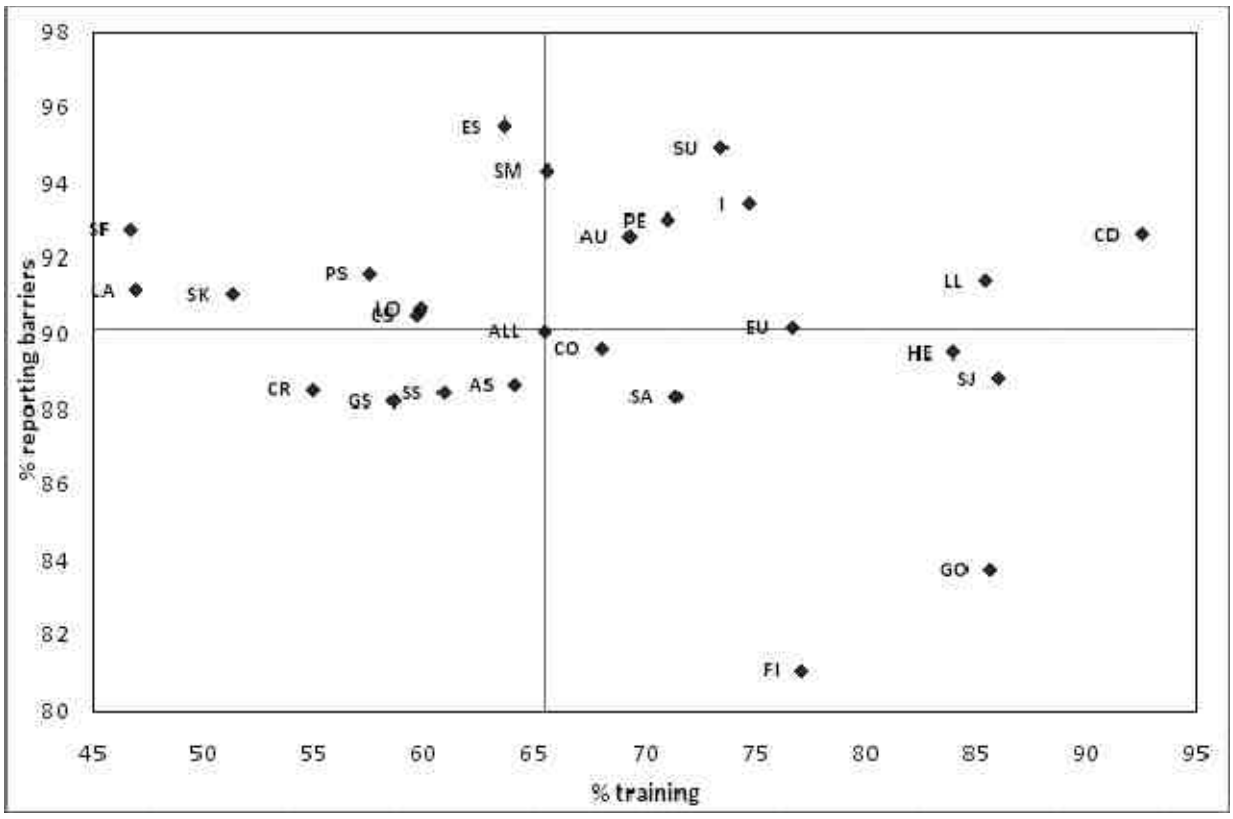
- Lifelong Learning UK;
- Skillset;
- Skills for Care and Development; and
- Creative and Cultural.

Two of these sectors have a relatively high proportion of training establishments (sectors covered by Lifelong Learning UK and Skills for Care and Development) whilst the other two have a relatively low proportion of employers providing training, which emphasises the need for a rounded view of under or over investment, taking into account a broad analysis of factors which impact on the training investment decision.

In order to obtain an indication of the extent to which the barrier faced by the employer is particularly high or low, Figure 5.3 shows the relationship between the incidence of training and the extent to which one or more of potentially surmountable barriers are cited. The upper left quadrant is of particular interest because this indicates those SSC sectors comprised of employers which face a relatively high incidence of barriers to training and record a relatively low percentage of employers which have trained over the past 12 months. The employers which fall into this quadrant may be regarded as being relatively more challenging with respect to increasing the incidence of training. The SSC sectors which fall into this quadrant are: Skills for Logistics, Construction Skills, Proskills UK, Skillset, Lantra, and Skillfast-UK.

[25] Special tabulations from the SfN Employer Perspectives Survey will provide a better indicator of this.
[26] Figures C.3 and 4 in Annex C provide more data.
[27] Figures C.3, C.4, and C.5 in Annex C provide more data

Figure 5.3 Percentage of Employers Providing Training and Surmountable Barriers to Training by SSC



Source: SfBN Employer Survey 2007
Legend: see Figure 5.1

Training Levels and HPWP

Chapter 3, in its discussion of human resource strategies which are associated with relatively high levels of human resource development, paid particular attention to HPWP and the integral role of training within these. The literature reviewed in Chapter 3 pointed to the integration of human resource strategy, human resource development, and product market strategy in raising organisational performance. It is considered here as a potential indicator of the quality of training because it is a measure (if imperfect) of this integration and where there is potential for training to achieve better outcomes through integration with a broader range of practices and strategies.

The SfBN Survey of Employers 2007 asked employers about a range of human resource and business practices which may be considered to be HPWP. Employers are asked if they practice any of the sixteen practices listed:

Training Related:
Training Plan
Training Budget
Training Needs Assessment

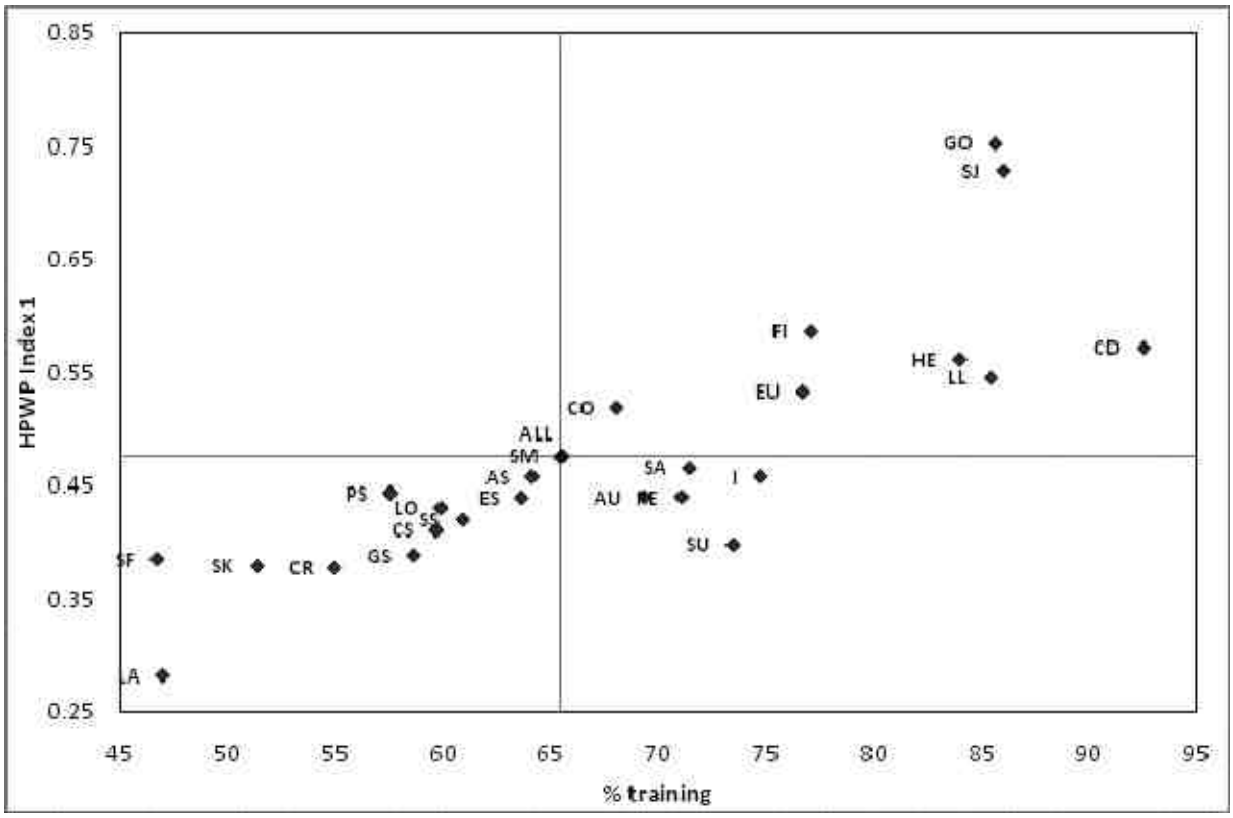
Conduct staff appraisals
Formally assess performance
Conducted training in the last 12 months
Work shadowing / stretching / supervision

Other:

Business plan
Create teams to work on projects
Individual performance related pay
Flexible benefits
Accredited IiP
Accredited ISO 9000
Performance bonuses
Employer consultation
Consultation with trade unions

Figure 5.4 shows the distribution of sectors according to the percentage of employers which provide training and the extent to which they utilise HPWP. The HPWP index uses a score of 0 if there are no HPWP and 1 if all 16 practices are in place.

Figure 5.4 Percentage of Employers Providing Training and their use of HPWP by SSC



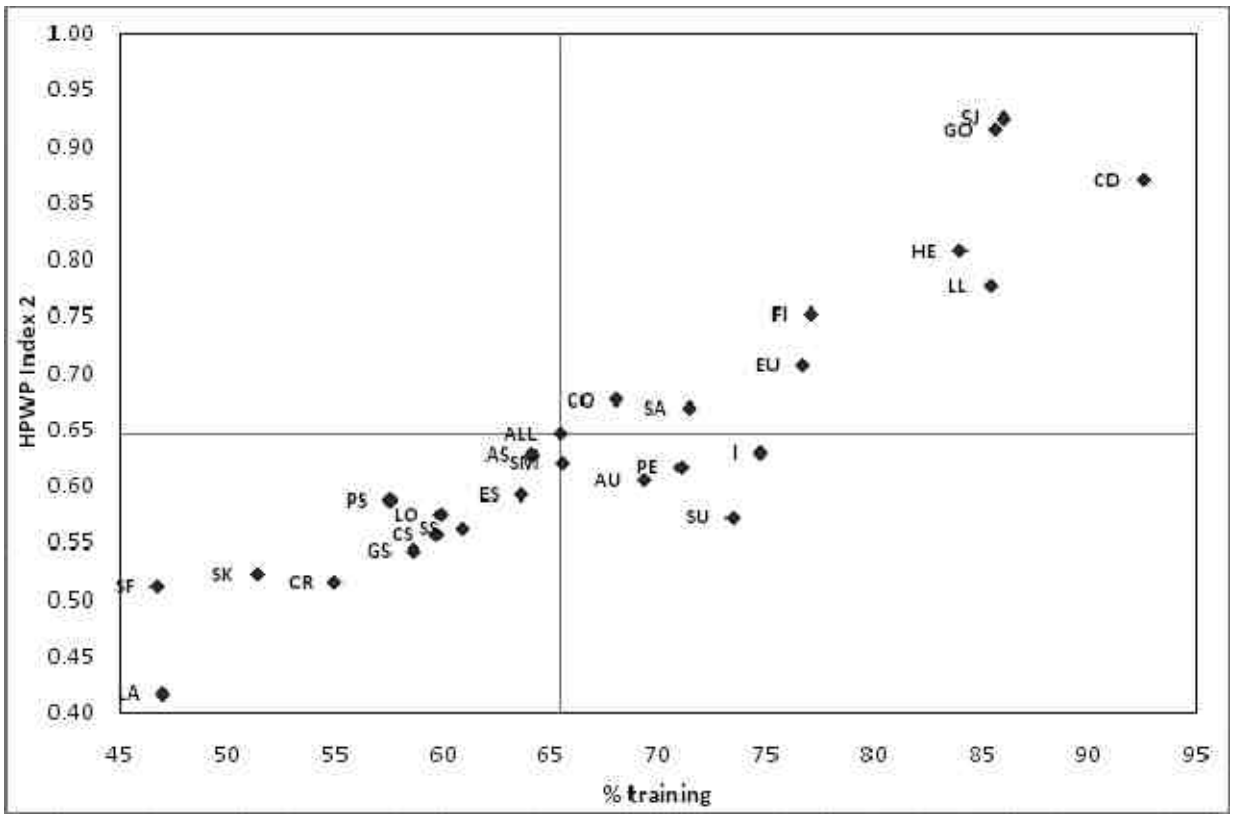
Source: SfBN Employer Survey 2007
Legend: see Figure 5.1

The upper right quadrant may be interpreted as sectors of the economy where relatively high levels of training go hand-in-hand with a range of other human resource practices. The public sector stands out as being represented in this sector. The lower left quadrant suggests that there may be an under investment in both training and the wider set of HPWP

practices. In this quadrant, sectors covered by Lantra, Skillsfast-UK, and Skillset stand out, followed by Skillsmart-Retail, GoSkills, and Creative and Cultural Skills.

Figure 5.5 repeats the analysis but just considers the training related HPWP. In general a similar pattern emerges to that presented in Figure 5.4.

Figure 5.5 Percentage of Employers Providing Training and their use of Training Related HPWP by SSC

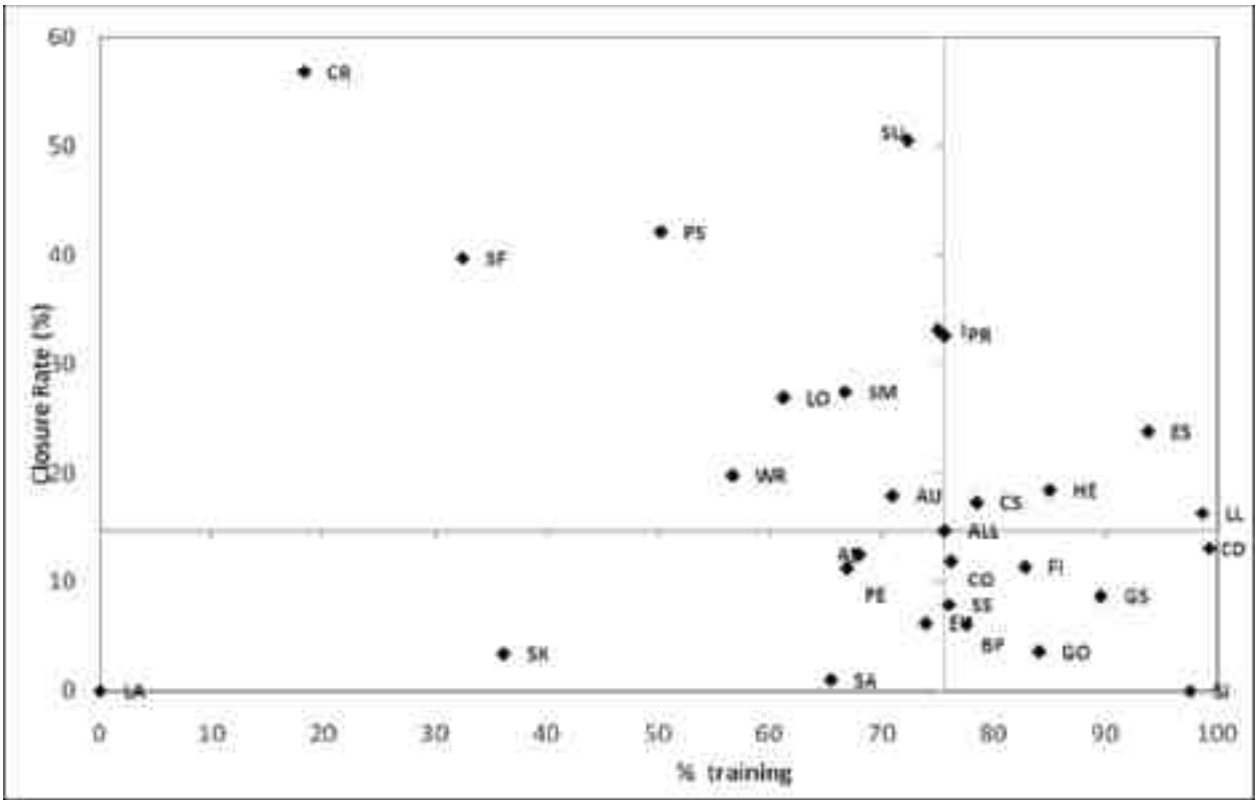


Source: SfBN Employer Survey 2007
Legend: see Figure 5.1

Training and Workplace Survival

The analysis by Collier *et al.* (2007) demonstrated the link between skills and company survival by comparing the training activities of firms in 1998 (based on WERS data) and then relating this to whether or not they had survived over the next six years (based on WERS 2004). Using the data they reported about training levels and the company closure / survival rate, Figure 5.6 shows the extent to which training and company closure / survival are related at the sectoral level.

Figure 5.6 Percentage of Employers Providing Training and Company Survival by SSC



Source: WERS 1998; 2004 as reported in Collier et al., 2007
Legend: see Figure 5.1

The quadrant of interest is the upper left quadrant which is comprised of sectors which have a relatively high closure rate and a relatively low percentage of employers reporting training. The sectors which stand out here are those covered by Creative and Cultural Skills, Skillsfast, and Proskills. Employers in these sectors may be under investing in skills.

Qualifications as a Proxy Measure of Over-Supply

The evidence presented above provides an indication of whether there may be under investment in training by employers. There is a body of evidence which suggests that over-supply of skills may be the problem. An indication of over-supply can be obtained from the ESRC / SKOPE Skills at Work Surveys which sought to compare the skills and qualifications individuals possessed and compared this with the skills they used in their day-to-day jobs (Felstead *et al.*, 2006). These surveys indicate that whilst the demand for skills has been increasing over time the supply of skills has been increasing at a faster rate such that there is over-supply at nearly all qualification levels. For example, indicative estimates are provided which suggest that in 2006 there was excess supply of 2 million people qualified at an intermediate level (Level 3). The data is not presented with respect to sector or size. The

difference, however, between supply and demand may simply reflect the lag between the supply of skills improving and demand catching up.

International evidence reveals a similar picture. Evidence from Australia, for instance, indicates that between 10 and 15 per cent of employees felt that their skills were not being used in their current job (Watson, 2006). If there is over-supply of skills – as the Skills at Work Survey suggests – then employers may not have to train because they have a stock of, as yet, unused skills at their disposal (Lloyd *et al.*, 2008). The evidence from Australia also suggests that people in low-skilled jobs – as many as 30 per cent – feel their skills are under-used which may further drive down the demand for training because the skills are already in place.

It should be noted – as discussed elsewhere in this report – that using qualifications as a proxy for over or under supply of skills or over or under investment in training is fraught with problems because: (i) it relates to current supply rather than future demand; and (ii) qualifications are an imperfect indicator of skill.

Indicative Evidence of Under and Over Investment

The information provided in this report demonstrates:

- that it is exceedingly difficult with the data available to identify the extent to which over and under investment in training takes place;
- by cross-classifying the distribution of sectors or regions / nations according to a number of factors which are related to training it is possible to indicate where there are pockets of relatively low investment in training;
- using a simple measure which compares the incidence of training to reported skill gaps suggests that there might be under investment in the SSC sectors Skillsmart Retail, SEMTA, and Automotive Skills;
- using another measure based on the extent to which employers report they would have liked to invest more in training but were prevented in some way, it is observed that the employers in the sectors covered by the SSCs Lifelong Learning UK, Skillset, Skills for Care and Development, and Creative and Cultural all had a relatively high percentage of employers which wanted to provide more training than they had been able to deliver;
- London and the North East stand out as having a high percentage of employers wanting to have provided more training;

- sectors covered by Lantra, Skillfast-UK, and Skillset appear to have relatively low investment in both training and the wider set of HPW practices, whereas sectors covered by Construction Skills and SummitSkills have relatively high levels of training and low levels of HPW practices, suggesting training does not take place within a broader context which might yield greater benefits and optimise investment;
- in relation to workplace closure sectors covered by Creative and Cultural Skills, Skillsfast, and Proskills have a relatively high closure rate and a relatively low percentage of employers reporting training, suggesting that an increase in training may have helped the business survive;
- by taking a rounded view of investment and the reasons behind it it may be possible to come to a view of areas of under and over investment, but the data is not always available and needs to be grounded, for example, in the sectoral context;
- it must be stressed that these are relatively crude indicators of any over or under investment and must be viewed with caution.

The results provided in this chapter provide insights into where there may be pockets of under investment in training. These vary according to the factor training is being compared with but in aggregate they reveals sectors of the economy where under investment may well have occurred.

5.7 Final Comments

There is a large volume of data available about the incidence of training (*i.e*. the percentage of employers disaggregated by size, sector, *etc.*), the volume of training (*i.e.* the average number of training days *per* trainee or employee), and its mode of delivery (on- or off-the job, formal and informal training). Overall the evidence points to the incidence of training being relatively high compared to other EU countries, especially so if a broad definition of training is used. The debate, however, is not just about the incidence or volume of training in general, but the incidence and volume of effective training, in other words that which will, for instance, reduce skill gaps in the workforce, improve organisational performance, and offset firm closure. Based on the indicative evidence in this report there is *prima facie* evidence of pockets of under investment in training. How this might be tackled is potentially complicated – based on the evidence in the chapters on what facilitates training (Chapter 3) and the barriers to training (Chapter 4) – and is comprehensively addressed in the Policy Review.

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ANNEX A:
ANALYTICAL FRAMEWORK AND SEARCH TERMS

The aim of the literature review is to systematically evaluate the evidence about the extent to which employer investments in training may be optimal or sub-optimal drawing upon national and sectoral reports as available. The conceptual paper will outline the differing theoretical approaches to explaining / measuring employer skill investments, the aim of this paper is to assess the evidence as available. It also needs to assess:

- how skill investments are conventionally measured;
- how measures need to be improved if a better understanding of the costs and benefits of employer training investments are to be better understood; and
- what differing approaches have to say about the extent to which investments are optimal or not.

Search terms

- General search terms
  - Employer Investment in skill
  - Employer investment in training
  - Employer investment in workforce development
- Macro- and microeconomic accounts of employer training
- Skills and organisational performance
  - High Performance Work Practices
  - High Performance Work Organisations
  - Skills / training and innovation
- Theory on employer training / skills investments
  - Macro- and microeconomic accounts of employer training
    - Neoclassical theory
    - Human capital theory
  - Employer training and market failure
  - Employer training levy / levies
  - Training taxes
  - Low skill equilibrium

    - employer underinvestment in training / skills
    - employer under provide training / skills
    - employer training / skills investment evidence
    - employer training / skills sub-optimal
    - employer training / skills optimal
    - sufficient training employer
- Evaluation evidence
    - Evaluation of employer training
    - Evaluation of training / skills programmes
    - Evaluation of government training / skills programmes
    - Evaluation of apprenticeships
- Costs and benefits of training
    - DCF and skills
    - DCF and training
    - Costs and benefits of employer training
    - Net present value of employer training
    - Returns to employer
    - Employer returns to training
- Wider economic benefits of employer training
    - Training spillover effects
    - Skills spillover effects
    - Labour retention
    - Recruitment
- Wider benefits of training / learning
    - Skills and community benefits
    - Training and community benefits
    - Social benefits to employers
    - Wider benefits of skills / training

ANNEX B:
EU COUNTRY CODES

eu27 European Union (27 countries)
eu25 European Union (25 countries)
be Belgium
bg Bulgaria
cz Czech Republic
dk Denmark
de Germany (including ex-GDR from 1991)
ee Estonia
gr Greece
es Spain
fr France
it Italy
cy Cyprus
lv Latvia
lt Lithuania
lu Luxembourg (Grand-Duché)
hu Hungary
mt Malta
nl Netherlands
at Austria
pl Poland
pt Portugal
ro Romania
si Slovenia
sk Slovakia
fi Finland
se Sweden
uk United Kingdom
no Norway

ANNEX C: ADDITIONAL CHARTS AND TABLES

Table C.1 Training Expenditure Estimates from the CIPD Survey, 2008

	Establishments with a training budget (%)	Training Expenditure per employee (2008) (£)	Training Expenditure per employee (2007) (£)	Training Days per Employee
All	77	300		
Private Sector	71	296	273	5.3
Public Sector	89	222	250	5.4
Voluntary sector	85	375	375	5.1
Size of establishment				
250 or fewer	67	375		5.3
251- 1000	79	304		4.7
1001-5000	84	226		5.2
5000 or more	81	108		6.1
Base	729	559		681

Source: CIPD, 2008 Table 21, p.26

Table C.2 Employers' Training Costs in the UK by Sector and Size, 2007

	Costs *per* participant (£)	Costs *per* employee (£)
All	710	290
Sector		
Primary/Utilities	540	230
Manufacturing	650	250
Construction	850	420
Wholesale/retail	580	170
Transport and communications	470	140
Finance and Business Services	900	460
Other Services	840	460
Public Administration	1160	320
Education	630	270
Health and Social Care	560	290
Size of employer		
1-49	860	400*
50-249	750	320
250 -490	650	290
500+	670	250

Source: Dent and Wiseman, 2008 Table 7 and Table 9 / CVTS for the UK
*Note: Employers with 10-49 employees

Table C.3 Training Expenditure by Size of Establishment

	Mean cost per training establishment	Cost per trainee (all training)	Average off-the-job training costs per off-the-job trainee	Average on-the-job training costs per on-the-job trainee
Overall	£39,700	£2,775	£2,300	£1,750
Fewer than 5 employees	£13,500	£6,125	£6,200	£3,450
5 to 24	£27,600	£3,650	£3,225	£2,200
25 to 99	£87,900	£2,725	£2,075	£1,775
100 to 199	£297,700	£3,200	£2,250	£2,200
200 to 499	£444,800	£1,850	£1,425	£1,250
500+	£825,200	£ 925	£ 750	£ 600

Source: NESS 2007

Note: Mean costs rounded to nearest £100, costs per-trainee rounded to nearest £25. Per trainee figures calculated using respondents' trainee numbers from main NESS05 data.

Table C.4 Total Training Expenditure and Per Capita Spend by SSC

	Unweighted base	*Weighted base*	Total (million)	% change in expenditure from 2005	% of total expend-iture	% of all employ-ment	Training spend per employee
Overall	*7,190*	*974,091*	£38,648	16			£1,725
Lantra	*229*	*35,084*	£920	20	2	1	£2,975
Cogent	*176*	*9,419*	£490	19	1	2	£1,250
Proskills UK	*190*	*10,005*	£621	50	2	1	£2,275
Improve Ltd	*130*	*5,241*	£196	-27	1	2	£550
Skillfast-UK	*135*	*8,150*	£118	-13	*	1	£575
Semta	*303*	*31,206*	£1,853	4	5	5	£1,575
Energy & Utility Skills	*53*	*8,941*	£715	555	2	1	£2,925
ConstructionSkills	*488*	*68,063*	£2,809	11	7	5	£2,750
SummitSkills	*197*	*17,527*	£556	22	1	1	£2,450
Automotive Skills	*245*	*29,284*	£740	30	2	2	£1,600
Skillsmart Retail	*612*	*118,436*	£2,841	-6	7	10	£1,225
People 1st	*545*	*93,557*	£4,025	8	10	7	£2,575
GoSkills	*114*	*7,095*	£268	2	1	2	£675
Skills for Logistics	*205*	*19,836*	£524	-6	1	3	£825
Financial Services Skills Council	*201*	*28,487*	£1,262	-26	3	4	£1,425
Asset Skills	*282*	*57,887*	£2,003	38	5	4	£2,500
e-skills UK	*318*	*31,663*	£952	-10	2	3	£1,475
Government Skills	*29*	*3,450*	£133	!	*	2	£375
Skills for Justice	*28*	*2,949*	£439	*106*	*1*	*1*	£1,425
Lifelong Learning UK	*232*	*17,702*	£1,657	58	4	4	£2,075
Skills for Health	*295*	*36,207*	£1,861	-8	5	7	£1,125
Skills for Care & Development	*422*	*44,742*	£1,970	6	5	4	£2,275
Skillset	*132*	*6,183*	£247	176	1	1	£1,975
Creative & Cultural Skills	*215*	*15,219*	£375	19	1	1	£1,700
SkillsActive	*201*	*12,413*	£291	-4	1	1	£1,050
Non-SSC employers	*1,213*	*255,343*	£10,780	39	28	26	£1,875

Source: NESS 2007

Table C.5 Incidence of Training in England and Scotland

	On-the-job only	Off-the-job only	Both on- and off-the-job	Any training	No Training
England (2007)	21	13	33	67	33
Scotland (2008)	19	10	36	65	35

Source: England: National Employers Skills Survey 2007
Scotland: Skills in Scotland 2008

Note: (1) Directly comparable data not provided in reports for Northern Ireland– the survey of Wales asks only about off-the-job training and in Northern Ireland information is not provided in a comparable form.

Table C.6 Provision of Training to Occupation Groups (percentage of workforce group receiving training)

	Off-the-job	On-the-job
Managers	42	35
Professionals	59	52
Associate Professionals	57	44
Administrative / Clerical	47	32
Skilled Trades	45	36
Personal Services	67	52
Sales	61	27
Machine Operatives	43	24
Elementary	41	26

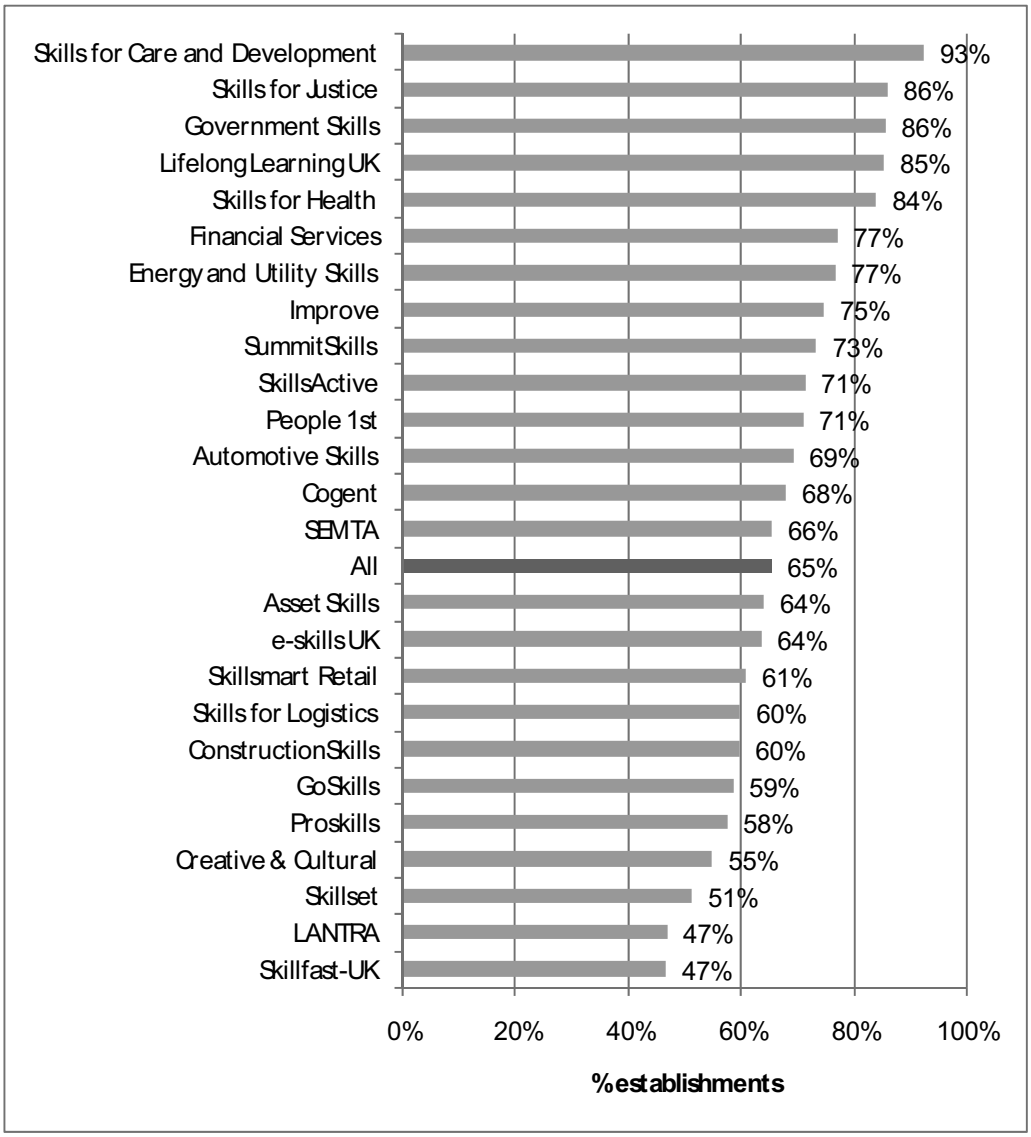
Source: NESS2007

Table C.7 Employers Offering Off-the-job Training Leading to Formal Qualifications by Size of Employer (%)

	1999	2000	2001	2002
5 – 24	48	51	50	48
25 – 99	57	64	62	60
100 – 199	66	73	71	74
200 – 499	85	82	80	80
500 +	89	90	84	88
TOTAL	52	56	55	52

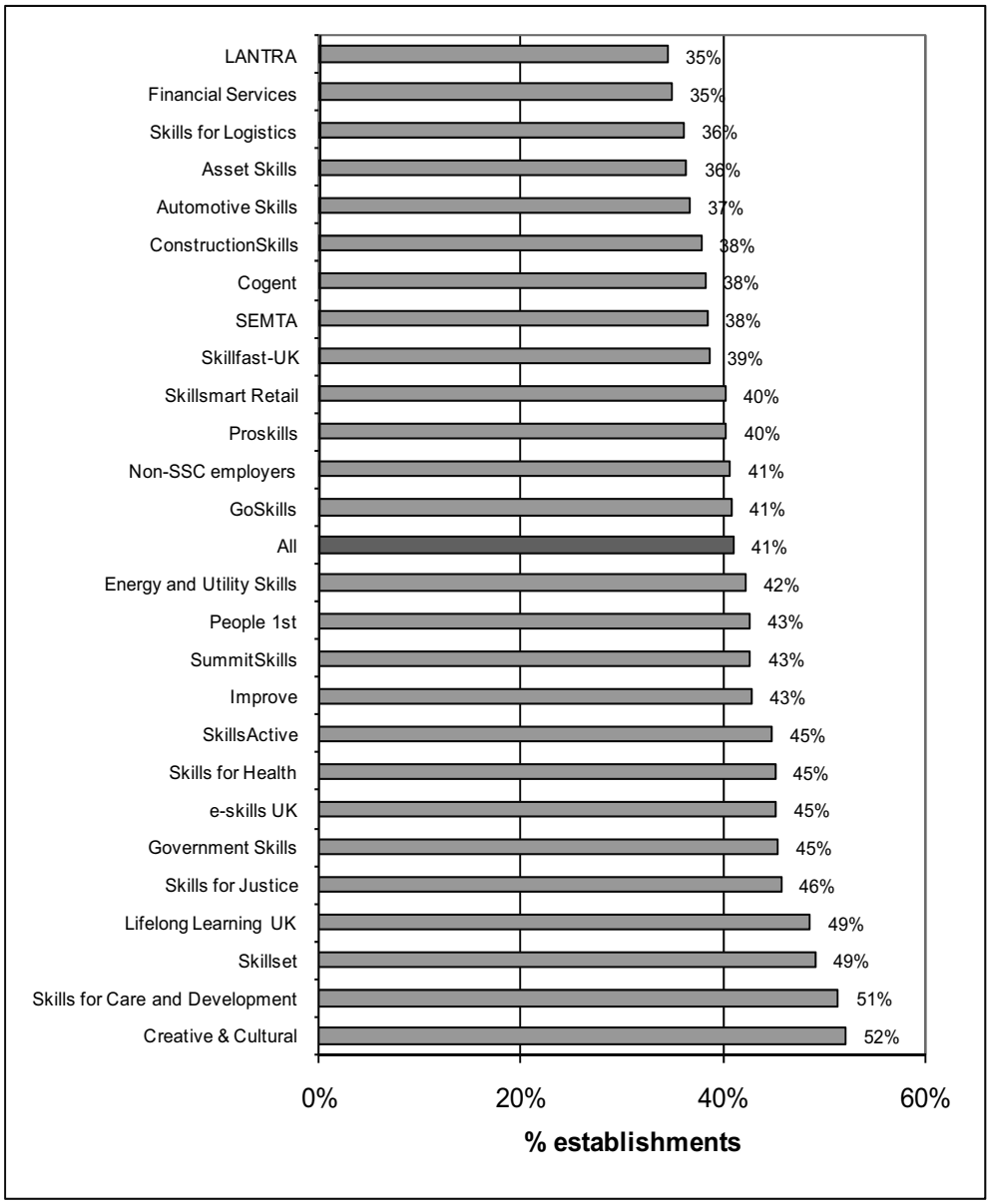
Source: Learning and Training at Work Surveys

Figure C.1 Employer Participation in Training in England by SSC sector, 2007



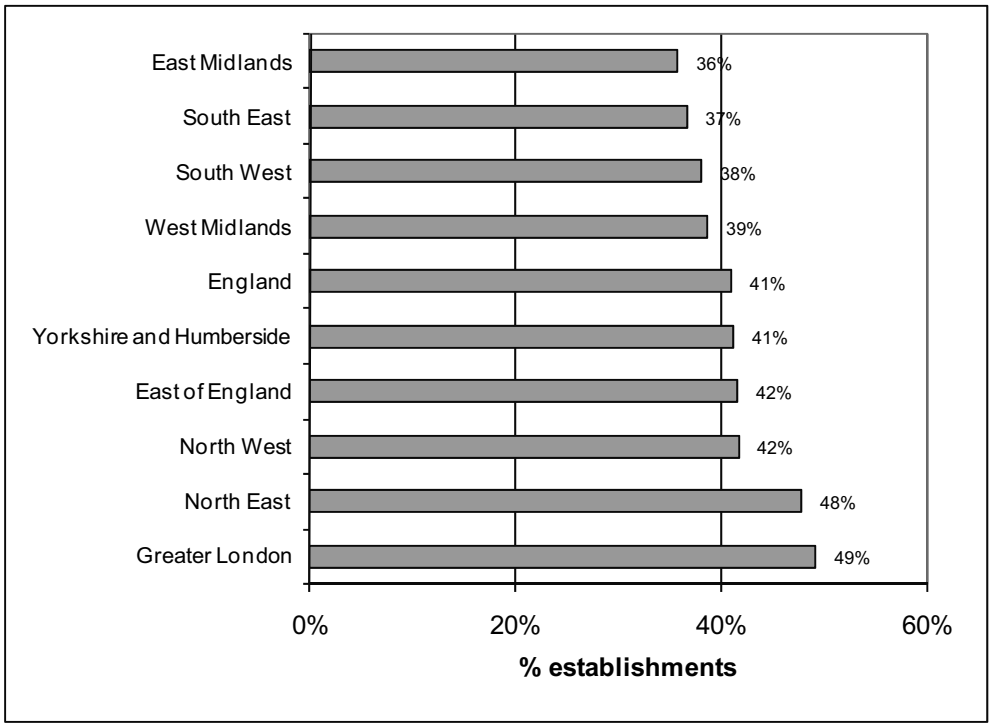
Source: SfBN Employer Survey 2007

Figure C.2 More Training Wanted by SSC Sector



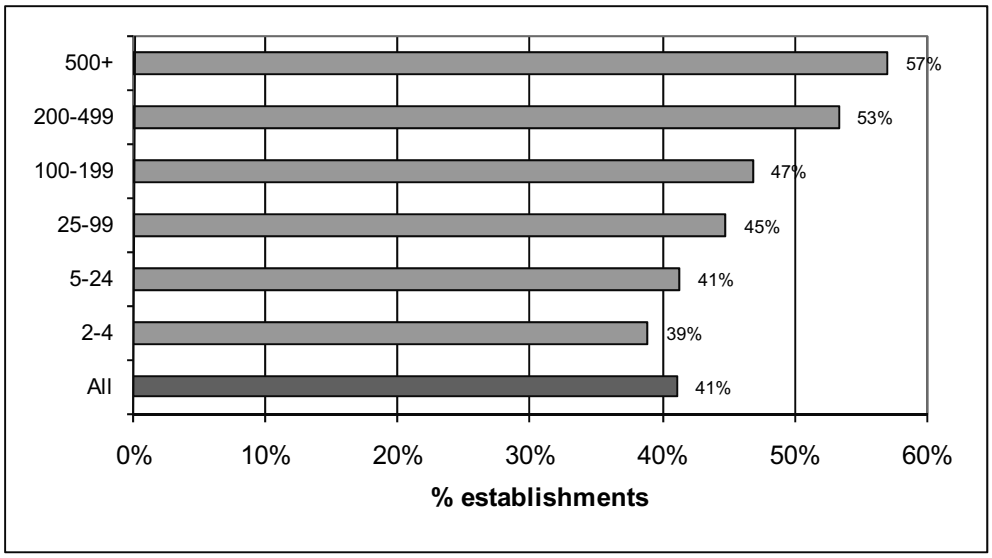
Source: NESS2007
Base: All establishments providing training

Figure C.3 Want More Training by English Regions



Source: NESS2007
Base: All establishments providing training

Figure C.4 More Training Wanted by Size of Establishment



Source: NESS2007
Base: All establishments providing training

ANNEX D: SSC Footprints (SIC definitions)

Much of the analysis presented in this report at the sectoral level is based on employers which fall in scope of Sector Skill Councils (SSCs). The SSCs are listed in Table D.1 together with a description of the sector and a definition in terms of Standard Industrial Classification (SIC). The SIC codes used are a 'best fit' of each SSC's core business sectors and the extent to which this is an exact fit varies between SSCs. In some cases, the use of the core SIC codes excludes elements of the SSC footprint because they are included in other areas. Further information is provided in Table D.1 below. The category 'Non-SSC employers' represents those SICs not allocated to an SSC at the time of the study.

SSCs are ordered in the table below according to where the 'core' of the industry which the SSC represents falls, running through from primary, manufacturing to service sectors.

SSCs can provide further depth analysis of skills and productivity within their sector, and website links are provided in the table below.

Table D.1: Sector skills Council Names, Standard Industrial Classification Definitions and Description.

SSC name	SSC description	SIC definition
Lantra www.lantra.co.uk	Environmental and land-based industries	1, 2, 5.02, 20.1, 51.88, 85.2, 92.53
Lantra also cover industries which are small elements of other SIC codes not necessarily within their core, e.g. floristry, fencemaking, farriery.		
Cogent www.cogent-ssc.com	Chemicals, nuclear, oil and gas, petroleum and polymer industries	11, 23–25 (excluding 24.3, 24.64, 24.7, 25.11, 25.12), 50.5
Cogent also cover the nuclear industry and signmaking, but it is not possible to isolate these in terms of SIC.		
Proskills UK www.proskills.org.uk	Process and manufacturing of extractives, coatings, refractories, building products, paper and print	10, 12–14, 21.24, 22.2, 24.3, 26.1, 26.26, 26.4–26.8
Improve Ltd info@improveltd.co.uk	Food and drink manufacturing and processing	15, 51.38

continued…

Table D.1: SSC Sector Names, SIC Definitions and Description *(continued)*

SSC name	SSC description	SIC definition
Skillfast-UK www.skillfast-uk.org	Apparel, footwear and textile industry	17–19, 24.7, 51.16, 51.24, 51.41, 51.42, 52.71, 93.01
Semta www.semta.org.uk	Science, engineering and manufacturing technologies	25.11, 25.12, 27-35, 51.52, 51.57, 73.10
Semta also cover science sectors, not exclusively defined by SSC.		
Energy & Utility Skills www.euskills.co.uk	Electricity, gas, waste management and water industries	37, 40.1, 40.2, 41, 60.3, 90.01, 90.02
Energy & Utility Skills also have an interest in gas fitters, covered by SummitSkills SSC.		
ConstructionSkills www.constructionskills.net	Development and maintenance of the built environment	45.1, 45.2, 45.32, 45.34, 45.4, 45.5, 74.2
A substantial proportion of construction work is sub-contracted to self-employed individuals (without employees) who will be excluded from this survey.		
SummitSkills www.summitskills.org.uk	Building services engineering (electro-technical, heating, ventilating, air conditioning, refrigeration and plumbing)	45.31, 45.33, 52.72
Automotive Skills www.automotiveskills.org.uk	Retail motor industry	50.1–50.4, 71.1
Skillsmart Retail www.skillsmartretail.com	Retail industry	52.1–52.6
People 1st www.people1st.co.uk	Hospitality, leisure, travel and tourism	55.1, 55.21, 55.23, 55.3-55.5, 63.3, 92.33, 92.71

continued…

Table D.1: SSC Sector Names, SIC Definitions and Description *(continued)*

SSC name	SSC description	SIC definition
GoSkills www.goskills.org	Passenger transport	60.1, 60.21–60.23, 61, 62.1, 62.2, 63.2, 80.41
Skills for Logistics www.skillsforlogistics.org	Freight logistics industry	60.24, 63.1, 63.4, 64.1
Skills for Logistics also cover rail and water freight transport, for which there are no specific SIC codes.		
Financial Services Skills Council www.fssc.org.uk	Financial services industry	65–67
Asset Skills www.assetskills.org	Property, housing, cleaning and facilities management	70, 74.7
Facilities Management, although as an industry is included in SIC code 70, is also an occupation employed across all industries, so is not fully represented through SIC. Some social Housing Management activity also falls within 85.31 Social Work activities with accommodation.		
e-skills UK www.e-skills.com	IT, telecoms and contact centres	22.33, 64.2, 72, 74.86
e-skills UK covers IT and telecoms professionals across all industries. Additionally, as a fast changing sector, sector boundaries are continually changing.		
Government Skills www.government-skills.gov.uk	Central government	75.1, 75.21, 75.22, 75.3
Most of the above SIC codes also incorporate local government. As it is not possible to identify through SIC, employers in these sectors were asked an additional question to ascertain whether they were central or local government establishments.		
Skills for Justice www.skillsforjustice.com	Custodial care, community justice and police	75.23, 75.24

continued…

Table D.1: SSC sector names, SIC definitions and description (continued).

SSC name	SSC description	SIC definition
Lifelong Learning UK www.lifelonglearninguk.org	Community-based learning and development, further education, higher education, library and information services, work-based learning	80.22, 80.3, 80.42, 92.51
Skills for Health www.skillsforhealth.org.uk	NHS, independent and voluntary health organisations	85.1
Skills for Care and Development www.skillsforcareanddevelopment.org.uk	Social care including children, families and young children	85.3
Skillset www.skillset.org	Broadcast, film, video, interactive media and photo imaging	22.32, 24.64, 74.81, 92.1, 92.2
Photo-imaging is spread across a range of SIC codes, it is not possible to isolate the retail element. Interactive media, the largest sector in scope to Skillset, is not exclusively coded and is included within the core of e-skills UK, therefore it is excluded from this analysis. Additionally, self-employed people without employees are not included in this survey but represent most of the sector in areas which are included such as film production and independent production. For these reasons combined, the data presented for Skillset should be interpreted with extreme caution.		
Creative & Cultural Skills www.ccskills.org.uk	Arts, museums and galleries, heritage, crafts and design	22.14, 22.31, 36.22, 36.3, 74.4, 92.31, 92.32, 92.34, 92.4, 92.52
SkillsActive www.skillsactive.com	Sport and Recreation, health and fitness, playwork, the outdoors and caravans.	55.22, 92.6, 93.04
SkillsActive covers sectors which form only a portion of other SIC codes and so do not make sense to include in analysis. Some sub-sectors, such as playwork, are excluded from the analysis.		
Non-SSC employers	All sectors not covered by an SSC at this point in time, spread across manufacturing and service sectors.	All other SICs

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