



## **Working Paper 26**

# **The 2008 Scottish Employers' Skills Survey**

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# **The 2008 Scottish Employers' Skills Survey**

## **Abstract**

The Scottish Employers' Skills Survey of 2008 was the fifth in a series of large scale surveys undertaken to obtain employers' perspectives on a diverse range of skills related issues, for example vacancies, including 'hard to fill' vacancies, skill shortages, skill gaps and training and staff development. The previous surveys took place in 2002, 2003, 2004 and 2006. This paper has the following aims: to describe the nature of the survey undertaken; to identify the principal issues raised in the questionnaire; to summarise the published report; and to examine the potential of further analysis of the data set. The paper concludes by offering some personal reflections on skills surveys based on early examinations of the data set.

# The 2008 Scottish Employers' Skills Survey <sup>1</sup>

## 1. INTRODUCTION

The Scottish Employers' Skills Survey of 2008 is the fifth in a series of large scale surveys undertaken to obtain employers' perspectives on a diverse range of skills related issues, for example vacancies, including 'hard to fill' vacancies, skill shortages, skill gaps and training and staff development. The others took place in 2002, 2003, 2004 and 2006.

This paper describes the nature of the survey undertaken; identifies the principal issues raised in the questionnaire; summarises the published report (FutureSkills Scotland, 2009); examines the potential of further analysis of the data set; and concludes by offering some personal reflections on skills surveys based on early examinations of the data set.

## 2. THE SURVEY

The survey is establishment based, and the population from which the sample of establishments is taken is obtained from the ONS' Inter-Departmental Business Register. The population sampled was defined as all establishments in Scotland. Quota sampling methods were used and the survey was multi-stage in its design. There were three elements to the sampling frame viz. geography (the 11 Scottish Further Education Funding Council Areas); sector (the six Sector Skills Council key industry groupings); and size (six employer size categories). The resulting quota matrix consists of 164 cells in total, less detailed than in 2006. 14,052 establishments were contacted and positive responses were obtained from 6,274, a response rate of 45 percent. Where positive responses were obtained, telephone interviews were conducted with the senior person responsible for human resource and personnel matters. The telephone interviews were undertaken by staff employed by IFF Research.

The survey, therefore, typifies complex sample design, whereby the data within the sample are weighted, clustered and stratified. Failure to address these features results in conservative overestimates of the standard errors, although not necessarily different signs or values for the coefficients (Cameron and Trivedi, 2005 and 2009).

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<sup>1</sup> This paper is based upon a presentation made at the ONS' Virtual Micro-Data Laboratory Quarterly Workshop "Skills: Policy Evidence and Evaluation", held at the Department for Business, Innovation and Skills, St Paul's Place, Norfolk Street, Sheffield, 23<sup>rd</sup> July, 2010. This work contains statistical data from ONS which is Crown copyright and reproduced with the permission of the controller of HMSO and Queen's Printer for Scotland. The use of ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates. I am particularly indebted to the following for my work associated with the Scottish Employers' Skills Survey data set: Ben Davies of IFF for providing me with the codebook associated with the questionnaire, which facilitated my initial examination of the original data set: members of the MAUS team, for their co-operation throughout the process of statistical analysis: Andy Dickerson and John Forth for their advice and assistance with respect to the ramifications and implications of 'stratification' when applying Stata's 'survey design' routines to the data set: and Patrick Watt, of Skills Development Scotland, for his interest and support. The usual disclaimer applies.

Consequently, the data set is best analysed using software packages which are capable of accommodating these features (e.g. Stata) (Rafferty, 2009).

### 3. THE QUESTIONNAIRE

The questionnaire is in six sections. The aim of this section of the paper is to outline the principal components within each.

The first section seeks **background** information on the establishment:

- The number of staff employed;
- The main business activity undertaken – in terms of product/service (with a view to classification subsequently in terms of the Standard Industrial Classification);
- Whether it was within the private/commercial sector; the public sector; or the voluntary sector (and if within the public sector, which part in particular (e.g. part of the Scottish Government, central government, local government etc.));
- Whether it was part of a larger organisation, and if so the size of the organisation, in size categories; and
- Whether it had a headquarters (HQ) function (and if it did not have a HQ function and was part of a larger organisation, the geographical location of that HQ function).

The second section asks questions **about the workforce**:

- Whether the business faced new or ongoing challenges over the next 12 months and the nature of these (such as increased competition from inside/outside Scotland; attracting appropriately skilled staff; labour costs; cash flow etc.);
- The numbers employed 12 months ago;
- The numbers recruited and who had quit over the 12 month period; and
- The numbers expected to be employed over the forthcoming 12 months.

The third section addresses the issue of **recruitment** for those establishments who had recruited personnel in the last 12 months. It does so by asking questions about the last person employed, the nature of the individual employed and the role he/she was recruited to perform. Effectively, this recruit was categorised by the highest qualification level held i.e.

- With no school leaving qualifications;
- With lower school leaving qualifications;
- With higher school leaving qualifications or their vocational equivalents;
- With degree level qualifications; or
- With qualifications above degree level.

Respondents were then asked why this particular level of qualification was sought, for example whether it was used by the establishment as a criterion applied to screen applicants or whether it reflected the skill level associated with the job to be done. Thereafter, respondents were asked whether or not the individual recruited did hold

the qualification required, and the extent of the subsequent training needs of those recruited, given that the individual in question did hold the required entry qualification.

Finally in this section, respondents were asked whether any of the individuals recruited in the last 2/3 years were new entrants into the labour market e.g. from school; from a further education (FE) college; or from a Scottish university (sic). They were invited to 'think' about these individuals and comment upon how 'well prepared for work' they considered these individuals to be.

The fourth section of the questionnaire seeks information on **vacancies** at the establishment.

Respondents who reported vacancies were asked about the occupations associated with vacancies and the numbers of vacancies associated with each occupation.

For each occupation associated with vacancies, respondents were then asked if they considered any of them to be hard-to-fill and, if so, how many vacancies were in this hard-to-fill category. Where some vacancies were described as hard-to-fill, respondents were then offered three possible explanations as to why this was the case:

- there had been few or no applicants;
- applicants had not been of sufficient quality; or
- for both of these reasons

When there had been an inadequate supply of applicants, respondents were invited to offer explanations for this (such as the wages offered, relative to those obtainable elsewhere; the terms and conditions of employment, relative to those to be found elsewhere; the long/unsocial hours associated with the job; the lack of career prospects in the job; problems associated with the location of the establishment; problems of competition within the local labour market etc.). When applicants were deemed to be lacking in terms of the qualities sought, respondents were invited to identify the diverse aspects of this shortfall (such as in terms of attitudes and motivation to work; qualification levels; skills; work experience etc.). When qualification levels, skills and work experience were identified as lacking, respondents were then invited to comment upon the nature of the skill shortages (such as IT; oral and/or written communication; team working; problem solving; planning and organisation; basic literacy and numeracy etc.) In this way, it was possible to identify the magnitude and nature of skill shortages, where these are defined, following convention, as a specific type of hard to fill vacancy associated with applicants not having the appropriate qualifications, skills and/or work experience.

The duration of these hard-to-fill vacancies was then requested, as was the nature of their impact upon the business (such as loss of business/orders to competitors; delays in meeting orders; withdrawal of product/service ranges; reductions in quality; increased operating costs etc.) Finally, respondents were invited to identify the measures taken to overcome the problem of having hard-to-fill vacancies (such as changing recruitment practices; changing the job specification; training; contracting out work etc.).

The fifth section of the questionnaire asks about **skills gaps**.

First, respondents were asked the occupational profile of the establishment, in terms of the numbers employed by Standard Occupational Classification (SOC). For each SOC, respondents were then asked how many were employed within each occupational grouping who were considered to be 'fully proficient in their jobs'.

Respondents were then invited to offer explanations as to why some staff were considered to be not fully proficient in their jobs (such as problems of recruitment; problems of high turnover; insufficient training and development of staff; the nature of recent workplace change etc.). Then respondents were invited to identify the types of skills in need of improvement (such as ICT; oral and/or written communication; customer handling skills; team working; using numbers; literacy etc.) Finally, where respondents had identified skills gaps within their workforce, they were asked about the magnitude and nature of the impact on the establishment of these skills gaps (for example in terms of loss of business; delays; difficulties in introducing new technology/working practices etc.) and the actions taken to improve workforce proficiency (such as increasing recruitment; providing further training; relocating work within the company; expanding trainee programmes; recruiting from overseas etc.).

The sixth and final section of the questionnaire relates to **training and staff development**.

First, respondents were asked whether or not training for employees at the establishment had been funded or arranged in the past 12 months. When training had been undertaken at the establishment, respondents were asked the nature of this i.e. on-the-job; off-the-job; or both. Those who replied in the negative were asked why no training had been provided (for example, that staff were already fully proficient; that no training was necessary, given the nature of the business; that the necessary training was not available; that there were no funds to finance training etc.).

For those establishments which had undertaken off-the-job training, respondents were then asked, on average, how many days of off-the-job training each worker who had received off-the-job training had received. The nature of this training was then requested (e.g. health and safety; supervisory training; management training; training in new technology etc.). Then information was requested on the training provider (e.g. industry/professional bodies; FE colleges; universities; external consultants etc.). The number of staff in each occupational grouping employed at the establishment who had received off-the-job training was then requested. Whether the training provided was implemented to meet statutory requirements was also asked.

Finally in the context of training and staff development, respondents were asked if they had participated in programmes such as 'training for work'; 'modern apprenticeships'; 'skill seekers' 'new deal' etc.: and if they had sought information about training from outside sources, and, if so, the identify of these (such as Scottish Enterprise; Sector Skills Development Agency; LearnDirect Scotland; trade unions; professional bodies; Chambers of Commerce etc..)

The final questions within the training and staff development section of the questionnaire did not relate specifically to the principal subject matter of the section. Rather, they were akin to the questions posed at the outset seeking ‘background’ information about the establishment, but on this occasion as they related – if somewhat indirectly - to product, process and management. For example:

- Whether the organisation recognised trade unions for bargaining purposes;
- The principal markets for the products/services of the establishment (e.g. locally; regionally; nationally i.e. within Scotland; outside Scotland, but within the UK; internationally);
- How sales turnover had changed over the last 12 months (e.g. increased a lot/slightly; decreased a lot/slightly) and how it was expected to change over the next 12 months;
- The nature of the products/services provided by the establishment (e.g. one-off or high volume; simple or complex; price dependent or not price dependent);
- The quality of IT systems in operation at the establishment;
- The nature of the process of product/service delivery at the establishment, for example how automated it was; and how much it made use of skilled labour;
- The nature of any changes which had occurred at the establishment over the last 12 months, such as changes in product, process or management;
- The nature of the management system in operation at the establishment, for example whether it had a business plan, a staff training plan, a sales and marketing plan etc.; and whether or not human resource management activities were strategically integrated with the business strategy; and
- The nature of the human resource management policies and practices in operation at the establishment, for example, whether there were arrangements for employee involvement and/or profit sharing; whether use was made of part time and/or temporary staff; whether quality circles existed etc..

#### 4. THE REPORT

The report is in five substantive sections.<sup>2</sup> The aim of this section of the paper is to outline its essential themes and the salient information presented.

The first, relatively short substantive chapter of the report describes **the context**, the economic and labour market conditions prevailing at the time the survey was undertaken (i.e. the latter part of 2008), conditions which undoubtedly influenced many of the responses given. However, in terms of the ‘business challenges’ faced by establishments, the problem of ‘cash flow’ was cited more frequently than the ‘downturn in the economic climate’. ‘Attracting appropriately skilled staff’ was considered to be a second order challenge.

The second substantive chapter discusses **vacancies, hard-to-fill vacancies and skills shortages**.

The vacancy rate was estimated at 3.1 percent, with 18 percent of establishments surveyed reporting at least one vacancy at the time of the interview.

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<sup>2</sup> The final chapter of the report reviews the principal findings of the 2008 survey in the context of the four previous surveys.

The distribution of vacancies by establishment size; industry; and occupation was examined by means of cross tabulations. Vacancies were relatively more prevalent in:

- Smaller size establishments;
- Establishments in Health and Social Work and Hotels and Restaurants; and for
- Associate Professionals and Personal Service Occupations

50 percent of all vacancies were deemed to be hard-to-fill, and 29 percent of vacancies so described had been unfilled for more than 6 months. 30 percent of respondents attributed the existence of hard-to-fill vacancies to applicants not being of sufficient quality; 31 percent attributed their existence to there being no or too few applicants; and 39 percent attributed their existence to a combination of both these factors. According to convention, however, skills shortages arise only when job applicants do not possess the required skills, qualification levels and/or work experience. Using this definition, it was estimated that 24 percent of all vacancies were attributable to skill shortages, equivalent to one per cent of all employees in employment and affecting five percent of all establishments. 47 percent of all vacancies deemed hard-to-fill were attributable to skill shortages.

The report then proceeds to create two measures of hard-to-fill vacancies and skills shortages vacancies viz.:

- An employee based rate – where hard-to-fill vacancies and skill shortages vacancies are measured as a proportion of all employees; and
- A vacancy based rate – where hard-to-fill vacancies and skill shortages vacancies are measured as a proportion of all vacancies

The report then estimates the distribution of both by establishment size; industry; and occupation, by means of cross tabulation (cf. Tables 5, 6, 7 and 8).

Technical and practical skills were the most frequently cited skills shortage – by 54 percent of all establishments. Approximately four in five workplaces with skills shortages cited at least one of the softer core skills (viz. customer handling, planning and organising, problem solving, team working and oral and written communication).

Eight out of ten establishments maintained that the existence of hard-to-fill vacancies caused some problems – with difficulties meeting customer service objectives being cited most frequently. For one in five establishments, hard-to-fill vacancies had no impact on their operations.

Given hard-to-fill vacancies, the most frequently cited policy response was to change recruitment practices.

The third substantive chapter of the report discusses **skills gaps**, defined as existing when an employer thinks that a worker does not possess sufficient skills to undertake the job he/she does with full proficiency.

The report distinguishes between the proportion of establishments with skills gaps (i.e. where at least one employee was deemed to be less than proficient in the job that

he/she did) and the skills gap rate (i.e. the total number of individuals with skills gaps expressed as a percentage of the total number of employees). Skills gaps affected eight percent of all employees; and 20 percent of establishments had at least one skills gap.

Again by means of cross tabulation, the report proceeds to examine the skills gap rate by:

- Establishment size – where there was no apparent association between the skills gap rate and establishment size;
- Industry – where the skills gap rate was especially evident in Hotels and Restaurants, where one employee in seven was deemed to be not fully proficient in the job that he/she did (cf. Table 13). (One in every four establishments in this sector reported at least one skills gap.); and
- Occupation – where the skills gap rate was more prevalent in those occupational groupings which generally require lower levels of skills and qualifications, such as Elementary Occupations, Sales and Customer Services and Personal Service Occupations (cf. Figure 14).

Most frequently, the presence of skills gaps were rationalised in terms of the individuals in question having had inadequate time in the job to be able to learn how to do the job proficiently or that the training programmes they were currently participating in were not yet finished. However, the presence of skills gaps was also attributed to change at the workplace, for example the introduction of new working practices; new technology; or new products/services.

The skills employees lacked most were typically those associated with weaknesses in the softer – although highly diverse - core skills, for example planning and organising, customer handling skills and problem solving skills.

Almost 50 percent of establishments had made a major effort to address skills gaps within their workforce. Most did so by providing further training or expanding their existing training programmes. Only a minority resorted to making changes to their recruitment strategies.

The fourth substantive chapter discusses **training and staff development**, where the report makes use of two measures: viz. training incidence – an establishment based measure, which also makes possible an examination of the nature of the training undertaken; and training intensity – an employee based measure, which relates only to those receiving off-the-job training.

65 percent of employers had provided some form of training for their staff in the past 12 months i.e. off-the-job only; on-the-job only; or a combination of both. Using these three categories, training incidence was then examined by establishment size and industry (cf. Figure (sic) 19). Important differences were identified. For example, the absence of off-the-job training in smaller establishments; and the combination of both on-the-job and off-the-job training programmes in larger establishments; the prevalence of training within public sector type industries (such as Public Administration and Defence, Education and Health and Social Work) and its relative absence in Manufacturing and Construction.

For those establishments which reported that no training had been undertaken, 40 percent claimed that their staff were already fully proficient in terms of their skills requirements and 31 percent maintained that no training was necessary, given the nature of the business (cf. Figure 27).

43 percent of all employees received off-the-job training in the 12 months preceding the interview. The report then proceeds to examine training intensity by:

- Size of establishment – where training intensity was relatively less in smaller sized establishments (cf. Figure 20);
- Industry – where training intensity was relatively higher in Health and Social Work and much lower in Hotels and Restaurants and Wholesale and Retail (cf. Figure 21); and
- Occupation – where training intensity was relatively higher for those occupational groupings associated with higher levels of qualifications (such as Associate Professional and Professional) and much lower for those occupational groupings associated with lower levels of qualifications (such as Sales and Customer Service) (cf. Figure 22).

Approximately one third of all establishments had arranged for between three to five days of off-the-job training for their staff. 10 percent had arranged for more than 20 days (cf. Table 24). Often the training provided was designed to meet legal requirements, if only partially so for some. Only 22 percent of establishments reported that none of the training they provided was required by law.

In terms of the types of training provided, 84 percent was specific to the job; 69 percent was related to health and safety; 51 percent was subsequent to the introduction of new technology; and 50 percent was associated with induction (cf. Figure 23). 63 percent of off-the-job training was provided by private training contractors/external consultants and 53 percent by existing personnel employed at the site. 26 percent was provided by FE colleges (cf. Figure 25). A diverse range of organisations were consulted prior to undertaking off-the-job training, notably the relevant professional bodies, educational institutes and private training providers (cf. Figure 26).

The fifth and final substantive section of the report relates to **recruitment from school, college or university**, where the single concern was related to how well the individuals were prepared for work. 59 percent of those establishments which had recruited school leavers considered these recruits to be well prepared for work; 76 percent of those establishments which had recruited from the further education sector considered these recruits to be well prepared for work; and 89 percentage of those which had recruited from the higher education sector considered these recruits to be well prepared for work (cf. Figure 29).<sup>3</sup>

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<sup>3</sup> At this juncture, the report amplifies these findings, notably the sources of dissatisfaction with new entrants to the labour market in terms of their work readiness, by referring to other, related studies undertaken on behalf of FutureSkills Scotland.

## 5. FURTHER POTENTIAL IN THE DATA SET

Inevitably, the published report produces a less than comprehensive examination and analysis of the data set obtained from the telephone survey conducted. The aim of this section of the paper is to identify some further work which is warranted, not all of which would necessarily be seen as associated with an exclusively 'Scottish' dimension of the issues raised.

Given the nature of its multi-stage construction, the data set warrants comparative, disaggregated analysis, by geography (i.e. by the 11 Scottish Further Education Funding Council Areas) and by sector (i.e. by the six Sector Skills Council key industry groupings). Given the report's dominant themes of vacancies, hard to fill vacancies, skills shortages, skills gaps, training and staff development and recruitment of new entrants into the labour market, are there spatial differences to be observed? Are there sectoral differences to be observed? If so, why might these differences arise? And what are the policy implications? <sup>4</sup>

The data set warrants more sophisticated, multi-variate analysis. For example, in the report the incidence of vacancies, skill shortages, skills gaps and training are associated with establishment size, if not sector. Whereas vacancies, skills shortages and skills gaps are more prevalent in relatively smaller sized establishments, training is less likely to be provided there. Would these conclusions remain valid given multi-variate analyses, when other observables are controlled for?

The focus of the survey is upon labour-related problems at the workplace, for example the existence of hard-to-fill vacancies and skills gaps. The frequency distribution across all establishments of the policy responses to these problems is reported, but in what way do these policy responses vary by establishment size and/or sector, again controlling for other observables? If different policy responses are to be observed, what are the circumstances which may explain these?

Nothing is said about the potential role played by the (loosely defined) product/process/policy variables associated with the set of questions which concludes section six of the questionnaire. Are they correlated with, for example, training, however, measured, as the 'drivers of training' literature would suggest? (cf. Ashton, 2007; Sung et al, 2009).

Perhaps the greatest scope offered by the data set, however, is its potential to match it with others.

A final question asked: "... it is sometimes possible to link the data we have collected with other surveys or datasets, to which we have authorised access. Would you be content for us to do this, as it can provide us with the potential for further analysis? In doing this, we assure you that your confidentiality will be respected and the linked data will be anonymised and used for statistical and analytical purposes only, with only authorised researchers having access to the linked data."

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<sup>4</sup> Given their participation in the preliminary stages of the exercise, the presumption is that both the Scottish Further Education Councils and the Sector Skills Councils will have undertaken their own separate analysis of the data set for their own purposes, if not necessarily making their findings publicly available.

86 percent gave their assent to linking, a percentage remarkably consistent across all the subdivisions of the data set, as reported in columns 2 of Tables 1 – 3. An exercise to match each establishment with its Inter-Departmental Business Register (IDBR) reference number then followed, the results of which are reported in columns 3 of the same tables.

Given the matching exercise, the question is to what other data set/s could/should the 2008 Scottish Employers' Skills Survey be linked?

One possibility is with the Annual Respondents Database (ARD), in an investigation of the determinants of productivity, for long a principal focus of policy research. By itself, the ARD has limitations when investigating productivity, notably incomplete information on human capital and change at the level of plant/establishment/enterprise (Harris, 2005). In many ways, the data available in the Scottish Employers' Skills Survey offers partial compensation for these limitations, notably providing establishment information on numbers employed; the incidence and intensity of training (as defined in Sutherland (2010)); the nature of the workforce and technology employed; whether new equipment and new methods of working have been introduced; and the presence or otherwise of policies frequently associated with the 'high involvement management' literature (Wood and Bryson, 2009).<sup>5</sup>

## **6. BY WAY OF CONCLUSION, SOME PERSONAL REFLECTIONS**

While further exploration of the 2008 Scottish Employers' Skills Survey data set is to be encouraged, linked to others or not, it seems opportune to reflect upon it, with a view towards future surveys of the same or similar nature, in Scotland and elsewhere.

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<sup>5</sup> Thus far, my own work has focused upon multi-variate analyses of training incidence (defined as whether or not training has been provided at the establishment) and training intensity (defined as the percentage of staff employed at the establishment who have received off-the-job training). An important feature of this work has been the attempt to incorporate into the analysis variables found in the concluding part of section six of the questionnaire, where issues pertaining to product, process and policy are raised, collectively, often seen as 'the drivers of training'. The analysis has been undertaken for all establishments (Sutherland, 2010a), where the scope to incorporate the salient variables is somewhat restricted, and for establishments in the private/commercial sector only (Sutherland, 2010b), where more of the questions asked about product, process and policy tend to be more applicable. Even in the latter estimations, however, variables relating to establishment size and sector are of more consequence, offering more consistent and coherent explanations of the two dependent variables. The results for the variables associated with the 'drivers of training' literature are (perhaps inevitably) 'better' in the analysis of the private/commercial sector sub population, especially those variables associated with management systems and human resource management strategy. Nonetheless, from the perspective of a prospective empirical investigation of the drivers of training hypothesis using micro-econometrics, the outcome is somewhat disappointing. Related work has examined the incidence of skills gaps, hard-to-fill vacancies and no training at (all) establishments, initially to identify the determinants of these three establishment outcomes and to establish the extent to which the determinants differ, and latterly to examine the possibility that different combinations of these three establishment outcomes may be related (Sutherland, 2010c). The binomial probit estimations do identify distinct determinants for the three dependent variables in question, and the bivariate probit estimations identify a positive relationship between skills gaps and hard-to-fill vacancies and a negative relationship between skills gaps and no training taking place at the establishment.

The principle of 'linking' is to be commended and its further application across other establishment data sets warrants exploration. Matching establishments with their IDBR reference number, however, is surely done better 'ex ante' rather than 'ex post'? To the extent that establishments are sampled from the IDBR, they have a reference number at the outset. This could be retained on the corresponding response sheet to the questionnaire, together with an appropriate establishment identifier, and inputted into the evolving data set but dropped when the respondent does not assent to the principle of linking.

Similar but separate surveys have been conducted for England and Wales. A degree of harmonisation – not necessarily homogenisation, because the particular concerns of the diverse, nationally based, stakeholders must be appreciated and acknowledged – may be warranted, especially if it were practical subsequently to merge the data sets in question. For example, only within a merged data, cross national set is it possible to identify problems peculiar to Scotland/England/Wales.

The role which product/process/policy – and more especially changes to these – play in explaining skills gaps, skills shortages, hard-to-fill vacancies and, more especially, training warrants further investigation. Consequently, the final component within section 6 of the questionnaire associated with SESS 2008 warrants further re-examination (and perhaps inclusion in the corresponding surveys across England and Wales?). The most obvious source for inspiration for further/amended questions is the 'high involvement management' literature, not the least because of the success variables reflecting work organisation and human resource management policies appear to have in explaining corporate performance, although this outcome is more applicable to studies in the USA than in the UK (cf. Wood and Bryson, 2009).

The survey has obvious policy relevance. Moreover, when linked to other data sets, it has the further potential of facilitating policy evaluation. Cross section surveys, however, produce correlations. To establish causation – for example to estimate the impact of policy and/or problems on performance – requires a panel data set. Notwithstanding the difficulties of obtaining the agreement of managers of establishments to participate in surveys such as this, some effort should be made to capitalise on those respondents who replied positively to the question “.. would it be OK to contact you again in connection with future studies?” to revisit them in future with a view to constructing a panel element within the survey.

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## STATISTICAL APPENDIX

**Table 1. The Results of the Matching Exercise, By SIC**

<b>Industry</b>	<b>Willing for Data to be Linked (%)</b>	<b>Willing to be Linked and Matched with IDBR Reference Number (%)</b>
Agriculture, Forestry and Fishing	82.54	61.11
Energy and Water	87.14	65.71
Manufacturing	88.35	65.04
Construction	86.14	66.58
Wholesale and Retail	85.70	62.11
Hotels and Restaurants	86.30	62.50
Transport, Storage and Communication	87.28	62.28
Financial Intermediation	78.68	58.88
Real Estate, Renting and Business Activities	85.41	60.28
Public Administration and Defence	84.65	46.53
Education	88.38	40.00
Health and Social Work	86.34	53.15
Other Services	87.08	45.32
<b>Total</b>	<b>86.13</b>	<b>58.22</b>

**Table 2. The Results of the Matching Exercise, By Establishment Size**

<b>Establishment Size (range of employees employed)</b>	<b>Willing for Data to be Linked (%)</b>	<b>Willing to be Linked and Matched With IDBR Reference Number (%)</b>
1 – 4 employees	84.48	55.24
5 – 9 employees	86.29	59.79
10 – 24 employees	86.63	59.88
25 – 49 employees	85.31	56.99
50 – 249 employees	88.40	60.00
250 employees or over	88.36	54.50
<b>Total</b>	<b>86.13</b>	<b>58.22</b>

**Table 3. Results of the Matching Exercise, By Sector**

<b>Sector</b>	<b>Willing for Data To be Linked (%)</b>	<b>Willing to be Linked and Matched with IDBR Reference Number (%)</b>
Private or Commercial Sector	85.71	61.72
Public Sector	87.20	37.80
Voluntary Sector	88.79	56.98
<b>Total</b>	<b>86.12</b>	<b>58.20</b>