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SKILLS, KNOWLEDGE AND ORGANISATIONAL PERFORMANCE

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WORK SKILLS IN BRITAIN

David Ashton **Bryn Davies**

Alan Felstead **Francis Green**

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Early in 1997 a survey was carried out into the skills people use at work. Known as the Skills Survey , it collected information from individual job-holders about various aspects of their jobs including qualifications, training, responsibilities and the tasks they carry out at work. Information was collected on the jobs of a representative sample of 2,467 individuals in Britain. The research was sponsored by the Economic and Social Research Council. This Report outlines the concepts deployed and the methods used to conduct the survey and to derive indices of various types of job skills. The Report also highlights some of the important findings that analysis so far has revealed.

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Early in 1997 a survey was carried out into the skills people use at work. Known as the Skills Survey , it collected information from individual job-holders about various aspects of their jobs including qualifications, training, responsibilities and the tasks they carry out at work. Information was collected on the jobs of a representative sample of 2,467 individuals in Britain. The research was sponsored by the Economic and Social Research Council. This Report outlines the concepts deployed and the methods used to conduct the survey and to derive indices of various types of job skills. The Report also highlights some of the important findings that analysis so far has revealed.

Work Skills in Britain

The survey allows examination of many aspects of the level and distribution of skills in Britain at one point in time. Some of the highlights include:

- There is an imbalance between the supply of and demand for qualifications at intermediate levels. In other words, the proportions of the workforce holding intermediate level qualifications considerably exceeds the proportions reporting that those qualifications are actually required to get their current job.
- Where qualifications are required to get a job, in three out of four cases the job-holder judges that the qualification is 'essential' or 'fairly necessary' to do the job well.
- According to several different measures of skill requirements – qualifications, training time and learning time – women part-timers are on average in less skilled jobs.
- Autonomy and variety at the workplace are only imperfectly correlated with other measures of skill.
- Women and men differ but not all that greatly in terms of several key skills used at work. Women deploy above average client communication skills, and horizontal communication skills, while men do better at professional communication skills, problem-solving skills and planning skills.
- Computing skills differ markedly among women according to their working time status. Women part-timers are less likely to use computing skills in their jobs and when they do it is at a far lower level of sophistication than either their full-time counterparts or men.

Skill Trends

There is a keen interest in assessing whether or not work in Britain has become more skilled over the last decade. The Skills Survey allows us to make such an assessment in two ways. First, as broad measures of skill we utilise the required qualification, the learning time and the training time needed for the job, and make direct comparison with the a survey carried out in 1986 – the Social Change and Economic Life Initiative (SCELI) survey. This comparison shows that:

- With all three measures there has been an increase in skills in Britain from 1986 to 1997.

- In terms of the qualification level that new recruits would now be required to have, there has been a small but significant increase in work skills. Whereas 62% of jobs required at least some qualifications in 1986, by 1997 this had risen to 69%. For 'High Level' qualifications (anything above A-level) the proportion rose from 20% to 24%.
- There has been a notable decrease from 66% to 57% in the proportion of workers whose type of work required only short (less than three months) training, and an increase from 22% to 29% in the proportion with long training requirements (over two years). There has been a fall from 27% to 21% in the proportion of jobs which respondents judge take only a short time (less than a month) to 'learn to do well'.
- Another measure of skills 'used' in a job is whether a degree qualification is both required of new recruits and considered either 'essential' or 'fairly necessary' to do the job. On this score, there has also been a significant increase in skills: the proportions in jobs 'using' a degree (in this sense) rose significantly from 7.7% to 10.8%.
- Skills increases are much more pronounced for females than for males. For example, whereas 71% of men's jobs now require some qualification, up a little from 69% in 1986, for women the proportions rose dramatically from 51% to 65%.
- The narrowing of the male/female wage gap between 1986 and 1997 for full-time workers can partially be accounted for by the narrowing male/female human capital gap and increasing returns to human capital for females.

Second, some changes in particular skills between 1992 and 1997 can be estimated. This shows that:

- Reflecting technological change, there has been an increasing usage of computers, and at greater levels of complexity, during the 1990s. There has also been increased importance attached to the exercise of several types of communication skills, social skills and problem-solving skills.
- Amongst those remaining in employment, those more likely to lose out on improving their skills are those in part-time jobs, the self-employed, those over 50 years of age, those who remained in one of the lower status occupations and those who remained in the 'Other Community' industry.
- Those in the lowest pay quintile have experienced substantially fewer skill increases than better off workers.

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PREFACE

In early 1997 an innovative social survey was undertaken, aimed at investigating the skills used at work in Britain. Named the 'Skills Survey', it collected data from individual job-holders on a rich array of variables characterising British jobs. The survey's innovative nature derived from its combination of job analysis principles and procedures with the conventional techniques of a representative survey. The intention was that the survey would generate a more valid and detailed picture of skills than is normally available from examining individuals' qualifications or their occupations.

The objectives of this Report are twofold. First, we aim to provide a detailed description of why and how the questionnaire instrument was designed in the way it was, and of how the survey was administered. The underlying principle here is scientific, that is, to provide justification for the findings reported in this publication and elsewhere. Not only should our analyses be replicable, so also it should be possible to evaluate and in principle replicate our methodological steps. This objective occupies up to section 5 of this Report.

The survey was not commissioned in a vacuum but was aimed at investigating certain research questions as part of a larger programme – the Economic and Social Research Council's (ESRC) 'Learning Society' programme. The second objective of this Report, which we turn to in Section 6 and beyond, is to present some of the findings concerning the distribution of and trends in skills in Britain. This objective arises partly from the wider interest in skills issues, but we are not aiming here to cover all the issues that are part of our research agenda or which could be addressed via the survey data. Rather, the tabulations presented will illustrate the sorts of issues that can be investigated using this data and this methodology. They will also, it is hoped, be of substantial interest to those in the research and policy advisory community who are concerned with skills issues. Further to this end, in Section 8 we briefly highlight main findings from some in-depth studies on particular skills issues: the change in skills over time, the valuation of skills, and the links of skills with certain organisational characteristics.

Certain important skills issues – especially those concerning detailed skills trends cannot be adequately examined in any one-off survey. However, a further aim of the Skills Survey was to provide a benchmark of skills usage for purposes of future comparisons. At the time of writing it is planned to conduct another skills survey (Skills Survey 2) in early 2001 under the auspices of the ESRC's new research centre on Skills, Knowledge and Organisational Performance (SKOPE). To this end, an accurate description of the 1997 Skills Survey will be an important element helping to ensure comparability.

ACKNOWLEDGEMENTS

The research on which this Report is based was carried out as part of the Economic and Social Research Council's (ESRC) 'Learning Society Initiative', directed by Frank Coffield (L123251032). The project commissioned Social and Community Planning Research (SCPR) to conduct the survey fieldwork. The helpful and collaborative approach taken by those at SCPR – namely Andrew Shaw, Jon Hales and Andrea Nove – is gratefully acknowledged. While responsibility for the final product rests entirely with the research team, we are grateful to many people from a range of institutions who took the time to offer suggestions in the course of the design of the questionnaire, including the Confederation of British Industry, the Equal Opportunities Commission, the Institute of Management and the Institute of Personnel Development. We are also grateful to the many individuals who took part in the survey, without whom we would have nothing new to report. Finally, we would like to point out that material from the Spring 1997 Quarterly Labour Force Survey is Crown Copyright and has been made available by the Office for National Statistics (ONS) through The Data Archive and has been used by permission. Neither the ONS nor The Data Archive bear any responsibility for the analysis or interpretation of the data reported here.

ABBREVIATIONS

ARF	Address Record Form
ARS	Ability Requirement Scales
BCS	British Cohort Study
DP	Delivery Point
DU	Dwelling Unit
EIB	Employment in Britain
ESRC	Economic and Social Research Council
FJAS	Fleishmann Job Analysis System
HoH	Head of Household
IALS	International Adult Literacy Survey
IT	Information Technology
JA	Job Analysis
JCI	Job Components Inventory
JEM	Job Element Method
KSAO	Knowledge, Skills, Attitudes and Other Characteristics
NACETT	National Advisory Council for Education and Training Targets
NCDS	National Child Development Study
NVQ	National Vocational Qualification
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
PAF	Postcode Address File
PAQ	Position Analysis Questionnaire
QLFS	Quarterly Labour Force Survey
SCELI	Social Change and Economic Life Initiative
SCPR	Social and Community Planning Research
SIC92	Standard Industrial Classification, 1992

SOC	Standard Occupational Classification, 1990
WPS	Work Profiling System

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SECTION 1:
SKILL THEORY AND MEASUREMENT

To understand the thinking behind the Skills Survey, it is useful to begin with a brief reference to the major theories of skill. This section will then describe how we arrived at a conceptual framework for the survey and how we approached the issue of skills measurement.

1.1 Skill Theory

Hitherto our knowledge of skills has been derived from three main sources: the discipline of economics with its concern with measuring the value of skills, sociology with its concern for locating the functions of skill in a social context and psychology with its concern to understand the acquisition of skills. Our aim was to draw on these three disciplines in order to create a genuine interdisciplinary approach to many of the issues surrounding the acquisition of skills, the changes to which they are currently subject and the rewards those who acquire them receive in the labour market. This meant drawing on three very different theoretical traditions each with its own set of assumptions and methodologies.

In the economics literature the dominant approach to understanding the impact of education and training (ET) has been framed by the human capital approach, which regards ET as an investment that can be treated (apart from the issue of property rights) in the same way as physical capital. One can identify returns to investments in education and training at the individual, organisational and societal levels. As such this has formed the basis of a cost benefit methodology and is the most all-pervasive framework to inform national policy debates and the work of international bodies such as the World Bank and the International Labour Organisation. Theoretically, economists regard skills as acquired faculties that generate higher productivity and hence higher wages or better employment prospects.

connection between skills, and ET and between skills, productivity and rewards in the labour market.

A second focus of interest has been on the ways in which the system of production is changing and how employers utilise the skills of employees. This has given rise to a tradition of research, stemming in part from the work of Braverman (1974), on the process of de-skilling and the links between skills, technology and changes in the workplace (Wood, 1989). Some of the main issues of debate here concern the decline of craft skills under capitalism, the introduction of new technology, and the emergence of new forms of post-Fordist production methods and their impact on the composition and distribution of skills within the wider society. This debate has recently expanded to incorporate the impact of globalisation on organisational forms and the 'new' skills they demand from the labour force. This has led to a widespread acceptance of the assumption that employers are introducing 'flat hierarchies', smaller units of employment, team work, quality circles and other high performance management techniques (Keep, 1998). Within this tradition, two dimensions of skill – substantive complexity and autonomy/control – both capture the theoretical arguments and describe a number of the empirical studies (Spenner, 1990).

Within psychology, the concept of skill has been examined in more detail than in both the other disciplines. Different schools of thought within psychology have adopted a wide range of diverse approaches and foci in the conceptualisation and investigation of skill. Much of the early research on skill was in the sphere of learning theory or general behaviour theory. Consequently, the primary focus of these investigators centered upon motor skills and was located squarely within the domain of experimental psychology. Early empirical work by Woodworth (1899) focused on human motor skills, with particular attention on the accuracy of voluntary movements. Perhaps the most frequently cited early research on motor skills was conducted by Bryan and Harter (1897, 1899) who were concerned with changes in skilled performance as a function of training. Under the influence of the behaviourist tradition, interest in motor skill remained a persistent theme within experimental psychology for the next half century, culminating in Fleishmann's (1966) landmark research which provided a widely adopted taxonomy of psychomotor abilities. More recently, sport psychologists have continued empirical and theoretical

skill to identify the cause of problems, which draws upon a body of knowledge and involves the application of rules and analysis to guide behaviour.

A different categorisation system derives from research in the area of job training. The Industrial Training Research Unit (1981) proposed five types of learning summarized by the acronym CRAMP:

1. Comprehension: knowing why, how and when things happen.
2. Reflex Skills: skilled physical movement and perceptual capacities.
3. Attitude.
4. Memorisation.
5. Procedural: following a procedure (eg, operating a petrol pump).

A different but parallel approach to the understanding of skill within occupational psychology has been through the use of job analysis techniques. Job analysis refers to the systematic collection of information about jobs, including the objectives of the job, and the tasks that need to be performed to achieve those objectives. Worker orientated job analysis procedures have focussed on describing the psychological or behavioural requirements of the job, although writers such as Harvey (1991) have argued forcibly that the development of person specifications (the documenting of human characteristics necessary for effective task performance), should be regarded as an entirely separate activity from the job analysis itself.

Notwithstanding Harvey's exhortations to the contrary, a number of worker trait inventories, such as the Job Element Method (JEM) (Primoff and Eyde, 1988), the Ability Requirement Scales (ARS), now called the Fleishmann Job Analysis System (FJAS), (Fleishmann and Mumford, 1988) and the Threshold Traits Analysis System (Lopez, 1988), have been developed to assist employers in specifying the human attributes or KSAO's required for effective job performance.

Perhaps the most widely recognised job analysis tool is the Position Analysis Questionnaire (PAQ), McCormick *et al.* (1972). The PAQ consists of nearly 200 items organised into six major divisions:

Where qualifications are clearly inappropriate, for example in the governments attempts to identify 'skill shortages', then recourse is made to employers' 'hard-to-fill vacancies'. Similarly, economists will use the existence of such 'skill shortages' as an indication of non-optimal levels of training by employers, owing to the presence of externalities associated with job mobility. These measures also raise serious questions of interpretation (Green and Ashton, 1992; Green, *et al.*, 1998). Most commonly, by adopting these proxies economists avoid the problem of measuring skills directly .

Sociologists have adopted a range of methodologies for the measurement of skills (Spenner, 1990), the most common being the case study and the social survey. The case study methodology has been used to examine the social construction of skills and the relationship between skills, new technology and new organisational forms. This has been useful in highlighting the ways in which workers are able to utilise the label 'skilled' to sustain their position in the labour market when the content of their job has been routinised and deskilled (Cockburn, 1983). It has also been extensively used to demonstrate the ways in which technology can be used to either enhance employees' skills or to diminish them (Wood, 1989). Finally, it has also been used to identify the new skills which are associated with new technology and new forms of work organisation (Frenkel *et al.*, 1995; Thompson *et al.*, 1995). While these have all been useful contributions, this methodology always faces the problem of generalising to larger populations, especially as case studies often reveal evidence of contradictory trends.

The social survey has been used successfully to identify the social aspects of skill in an attempt to link skill acquisition with the social organisation of work, for example attempts to identify the extent to which jobs offer 'autonomy' and provide the respondent with 'discretion' in the exercise of work tasks and therefore the opportunity for intellectual development (Kohen, 1969). Similarly sociologists have used the survey method to address the question of changes in skill use over time and measure the extent of upskilling and deskilling (Gallie and White, 1998). However, the problem here has usually been that the enquiry into skill use has been only one aspect of a more widely focused enquiry, for example into 'social change and economic life', with the result that the question of skills has inevitably been treated in a relatively superficial manner. In practical terms surveys could only afford a limited amount of time to be devoted to

SECTION 2:

MEASURING SKILLS: AN INTERDISCIPLINARY APPROACH

Our objective was to draw on the different disciplinary backgrounds to develop measures of skill which could be used in a large nationally representative survey to answer a range of question about which our knowledge was relatively limited, but which have important theoretical and policy implications. We wished to further our knowledge of the relationships between education, learning, training and skills, between skills and economic rewards and between organisational structures and skills. Given that the focus of the project was on those skills used in the labour market we did not investigate those used in the home and at leisure. As a descriptive matter, we wished to develop more accurate measures of the distribution of skills of the labour force and changes over time. We saw the survey as providing a benchmark for future research and for informing the policy debate with more reliable data and analysis. This meant drawing on the contributions of these different theoretical traditions in developing an appropriate methodology but also being cognisant of their limitations.

It proved necessary, therefore, to confront certain theoretical issues normally eschewed in social scientific research, especially that concerning the relationship between individual and social/structural variables in the production of skills. We could have treated skill in a positivist manner as existing independently of human perceptions of it and concentrated on identifying the psychological attributes associated with it, treating skill essentially as a characteristic of the individual (Attewell, 1990). On the other hand, we could have treated skill as a function of the social organisation of work, focussing on the employment and work conditions which generate different levels of skills. However, since our objective was to build on the strengths of the different disciplines we chose to find ways of integrating these different theoretical perspectives in the development of our methodology. We do not make any claims to have provided a model or ideal approach to skills measurement for all time. However, we do believe that we have contributed to the methodology of skill measurement.

items about job requirements, including 'having a particular talent or knack for this kind of work', 'good contacts with clients or customers' and so on. The questionnaire used in Employment in Britain takes a similar broad approach to the assessment of skills. It asks respondents about the autonomy and responsibility their job affords and a range of identical questions on training, learning time and qualification requirements. The latter prove useful in identifying skills trends (see Section 7). However, a second approach is also used based on binary questions about whether or not respondents: 'deal with customers', 'produce with machines' and so on. As with SCELI, this approach focuses on the respondent's job type rather than the skills of the individual.

The Canadian Facts Survey, Employed Questionnaire provides another, more detailed, approach to the assessment of skills by asking respondents about issues surrounding the amount of control they have over various aspects of their work, such as the closeness of supervision, autonomy, discretion, the extent to which their jobs required problem-solving skills. This survey also included coverage of the issue of transferability, namely how far the skills acquired in the present job were transferable to other employers, an item of some importance for economic theory. Yet, while this survey was useful in helping us formulate questions in these areas it was, like the others, relatively unsophisticated in psychometric terms and somewhat limited in terms of coverage of the different dimensions of skill.

2.2 Arriving at a Conceptual Framework

The first issue to be tackled in developing the questionnaire was the conceptualisation of 'skill'. The categories to be utilised would have to be adequate to apply to all types of work likely to be found in the country. As indicated above, the economics/sociology literatures and policy discourse have generated no consensus in this matter – either neglecting to define it altogether or adopting implicit conceptualisations which range from very narrow definitions focused on technical skills to broader definitions. The psychological literature raised an alternative problem, namely that its definitions were very restricted in scope, limiting themselves to cognitive and psychomotor abilities, and excluding some combination of knowledge, attitudes, motivation or personal style. Moreover, definitions within the psychology literature

closely tied to performance in particular jobs for our purpose of capturing a full range of skills across a very broad ranging sample. Instead, we examined a wide range of different generic competence models for both managerial and non-managerial staff.

This review process led to an initial conceptual framework covering five broad areas:

- Intellectual ability
- Interpersonal skills
- Physical ability
- Knowledge base
- Motivation

At this stage we returned to the economics/sociology/policy discourse literatures and to the previous surveys referred to above, to check for missing dimensions. Given the objective of identifying the returns to skills in the labour market we included detailed questions on pay, benefits and working conditions. In addition, we were interested in establishing the links (if any) between the effort individuals put into their work, their reliability as employees and economic returns. The other area where we were keen to obtain hard data was on the links between qualifications, training (both off-the-job and on-the-job) and skills, hence the questions on training and educational qualifications. This would enable an examination of the ways in which qualifications and training were associated with different types of skill.

With regard to the situational factors we were particularly interested in exploring the impact of task variety and autonomy and the level of responsibility exercised at work. In addition, there was a danger that, if we relied only on existing psychological work on skills, we would fail to address the important question of 'new skills' which many commentators were claiming to be increasingly important -- most prominently, information technology, teamworking, and problem-solving skills. These skills are frequently linked to the emergence of new organisational forms and for this reason we included a number of questions designed to identify those organisations at the forefront of change.

F. ATTITUDES/WORKING ENVIRONMENT

_ Organisational Commitment

_ Employment Commitment

_ Autonomy/Discretion/Decision Latitude

_ Responsibility for Things and Persons

_ Routinisation/Skill variety

_ Subjective effort

_ Working Conditions

_ Organisational Culture and Climate

2.3 Approaches to Measurement

The next stage was a consideration of alternative approaches to measurement of the different constructs. Approaches other than self-report assessment of skills were initially considered, including objective ability testing through the use of psychometric instruments and the use of others' (eg, supervisors') rating of the skill range and level of the target individuals. However, these were rejected as practically impossible. On one hand, the administration of psychometric tests would have over-extended by far the budget available for the research. Moreover, there are obvious serious hurdles in securing the consent of survey respondents to undertake such tests.[1] In Britain, there are no expert systems of skill ratings apposite to British occupational categories, similar to the North American Dictionary of Occupational Titles (DOT); moreover, the DOT system in the US is in the process of a much-needed updating. Hence, self-rating was adopted for this project.

Nevertheless, the use of a self-report methodology raised some fundamental issues that affected the survey design. Of particular concern were the issues of social desirability responding and self-referencing of standards, which might systematically bias the data collected in unidentifiable ways. The main strategy we adopted was to assess skills through questions about the skill requirements of respondents' jobs, rather than directly asking respondents to evaluate their own range and level of skill. The rationale is that

[1] Despite these hurdles, the OECD is at the time of writing planning a multi-country survey of individuals, which will involve the testing of certain 'life skills'.

practice, whereas the former could be interpreted as a question about potential or capacity to do so: eg, 'I don't at the moment and never have done in the past, but I am able to, if I wanted to.' The drawback of adopting this principle is that there is a possibility that the particular demands or constraints of an individual's current job, such as the lack of opportunities to practice such a skill, may lead them to respond 'Rarely' to an item such as 'I listen carefully to others' when in fact they are potentially very effective at doing so. On balance however, we felt that the cost of underestimating the competence of some respondents is likely to be outweighed by the benefits of reducing ambiguity and social desirability responding. In the light of these considerations we attempted, where possible to avoid asking questions such as 'I am able to...' or I know how to ...' or 'I can ...' preferring instead, 'I do ..'.

For both approaches to skills measurement, the selection of a suitable set of response alternatives required a format which would allow relatively straightforward completion of the questionnaire for all groups of respondents. In studies with educationally highly qualified respondents there is sometimes value in providing seven or even nine alternative responses so that all informants can state their perception to the degree of precision considered appropriate. However, that large number of options is often reported to be confusing by respondents and in the present study the intention was to sample from a wide range of groups within the British population. We, therefore, opted for a five point scale.

- For the job requirements importance items these ranged from 'Extremely important' to 'Not at all important'.
- For the job requirements frequency items, these ranged from 'almost all the time' to 'none of the time'.
- For the self-assessed skill/competence items a frequency response format was chosen, since this has been shown in previous work (SHL, IMC Manual 1993) to reduce unwanted effects of social desirability responding. This frequency format was again based on a five point scale ranging from 'Always' to 'Hardly ever'. However, the scale was stretched at the top end in order to ensure sufficient variation among respondents.

A small sub-group of the Learning Society programme also met in August 1996 in London to discuss areas of mutual interest. Four out of the thirteen projects which made up the Learning Society Programme were represented at that meeting. A draft version of the Skills Survey was the subject of one of the sessions at this event. All the responses to the entire consultation process were collated in the first week of September 1996 and incorporated (as far as was possible) into the final version of the questionnaire. A number of valuable detailed suggestions were made – we would, therefore, like to thank all those who took the time to comment on the research instrument.

Overall the questionnaire was subjected to five redrafts over the course of eight months, before the final version to be used in the pilot study was agreed.

2.6 Summary

The result of our preliminary work was a questionnaire which did meet our primary objectives. It was built on the inputs from three separate disciplines. It held the promise of providing a detailed examination of many more dimensions of skills than has hitherto been possible. It was to be aimed at a nationally-representative sample comprising respondents in all types of jobs. Moreover, it did provide the prospect of enabling an analysis to link skills perceived as personal attributes to situational factors associated with the organisation of work and to the rewards such skills received in the labour market.

similar proportion (1.9%) did the reverse (choosing to self-complete only Section C). Only one respondent in seven (14.1%) opted for interviewer administration of both Sections JA and C.

An important aspect of the Skills Survey was the inclusion of several questions that had been asked of respondents to previous British surveys – in particular, SCELI respondents in 1986 and EIB respondents in 1992. Several questions, on both skill and related areas, were replicated word for word as far as possible, including any accompanying prompts, use of show cards and response sets. Repeating questions allows comparisons over time to be made. The disadvantage is that one cannot improve or modify the wording to suit current purposes without risking distortion. The repeat questions appear in the B, M and P parts of the questionnaire.

individual's eligibility for inclusion can become questionable. These included those on government schemes – which for our purposes was excluded from the definition of paid work – and being away from work because of maternity leave – which was treated as falling within the scope of the survey. SCPR gave interviewers guidance on the eligibility of respondents in ten ambiguous situations. This advice was given by way of written instructions and verbally at interviewer briefings. For completeness, the examples were as follows:

1. Someone on a government scheme (eg, Training for Work). This person might think she/he is in paid work since she/he gets a training allowance of £10 a week on top of his/her benefit. However, she/he would be ineligible for Skills Survey, unless she/he is doing paid work as well as being on a scheme.
2. Someone claiming unemployment benefit of some sort (eg, Jobseekers' Allowance). This person might say 'I'm on the dole, so it's not relevant to me'. However, remember that (a) many people who claim benefit also do work, mostly legally, and (b) benefit status is not an issue for this survey – we are only interested in the work people are doing. So, although most people in this category are likely to be ineligible, there may be circumstances where they are eligible. In these circumstances great tact is required.
3. Someone doing voluntary work. Unless she/he is also doing paid work, this person would be ineligible. Some voluntary workers do get their expenses reimbursed, but if that is the extent of their 'payment' then they should be regarded as ineligible for inclusion in the survey.
4. Someone who is on holiday/maternity leave/sick leave. As long as the job has not come to an end those in this situation at the time of interview would be within the scope of the survey.
5. Someone on a period of unpaid leave or a sabbatical. People in these circumstances are eligible for interview if they feel that they have a job to go back to at the end of the period.
6. Someone who has an irregular job. In other words, someone who does not work a regular number of hours or someone who does not work every week. In this case if the job is on-going the person is eligible for interview even if she/he has not worked in the seven days prior to interview.

The sampling frame consisted of 8,500 Postcode Address File (PAF) addresses in England, Wales and Scotland (south of the Caledonian canal). PAF is an address database held by the Royal Mail.[5] It is a computerised database of over 26 million addresses in the UK. It has become the most commonly used sample frame for social surveys, replacing the Electoral Register.[6] The PAF is organised by postcode. Each postcode is broken down into four parts: area; district; sector; and unit. There are 124 postcode areas in the UK and around 20 districts are found in each area. Postal sectors comprise approximately 3,000 addresses and there are about 15 addresses per postal unit. For example, the postcode LE1 7QR denotes LE as the postal area, 1 as the postal district in that area, 7 the postal sector and QR the unit. The PAF system has been primarily developed to facilitate the automation of mail delivery. It also provides researchers with a sampling frame of addresses.

Four factors determined the size of the sampling frame drawn from the PAF. First, the proportion of households which included an adult aged 20-60 and in employment. This was not known precisely, but it was predicted to be at least 50% of households. Secondly, the proportion of eligible households in which an interview would be successfully completed. This is the product of the percentage of households screened, the percentage of households eligible and the percentage of selected individuals who agree to take part. While SCPR were uncertain about the response of working people to a survey carried out by academics rather than by government, it was assumed for planning purposes that between 65-75% of eligible respondents would be interviewed for the survey. The third factor which affects the number of addresses selected is that the PAF contains a significant amount of 'deadwood', that is, uninhabited addresses. It is known that these account for, on average, 11% of addresses contained in a PAF sample. Finally, a reserve number of addresses was contained in the sampling frame in order that more addresses could be issued to interviewers if the initial assumptions on eligibility, screening and response rates proved to be over-optimistic in practice.

The selection of addresses (or delivery points) involved a series of steps. First, a list of all postal districts was generated and these were put into two groups – one for

[5] This information was taken from Royal Mail (1998).
[6] SCELI used the Electoral Register as its sampling frame. It was used to provide the initial selection of addresses, with probabilities proportional to the number of electors at each address (Penn *et al.*, 1994: 338).

and the total number of DPs in the selected sector and every eleventh address was selected.[7] These addresses acted as the sampling frame for the survey.

4.4 Piloting

A pilot survey was carried out in November 1996. Six interviewers were personally briefed by an SCPR researcher. The sample of respondents was drawn from among participants to a previous SCPR survey – British Social Attitudes Survey – who had agreed that SCPR could recontact them again. Sixty-six interviews were completed. One of the pilot interviewers was accompanied by a member of the sponsoring research team. A de-briefing meeting was held in late November 1996. The de-brief was led by an SCPR researcher, who was joined by the sponsoring research team.

Piloting confirmed the validity of most of the research instrument, including the use of the self-completion part of the questionnaire (see Section 4.5). However, it was found that interviewers had directed respondents towards self-completion. Indeed, when given the option of self or interviewer completion, many respondents chose the latter.

The pilot interviews also raised concerns about the extent to which respondents were able to differentiate between similarly, but different, questions. In particular, concerns were voiced that many respondents did not grasp the distinction between questions on the importance of various job tasks and questions about the effectiveness with which they carried them out effectively – Job Analysis versus Competence sections of the questionnaire (see Section 3.1). The structure of the competence questions was revised and a small, second pilot was undertaken. Two interviewers carried out 12 interviews in late December and early January. Again no major difficulties were encountered administering the survey and many of the issues identified in the first pilot were either resolved or minimised. Nevertheless, it did appear that some respondents failed to see the distinction between the Job Analysis and Competence sections of the questionnaire. In order to minimise this confusion the introductions to be read out by

[7] In one postcode sector this procedure resulted in duplicate addresses being selected within the sample. This was due to the number of addresses in the sample being both relatively small and exactly divisible by 11. With the list being treated as circular, some addresses were therefore selected for a second time. These addresses were replaced with selections generated by a second random starting point.

- one or two full practice interviews (with explanatory breaks).

The briefings were supported by a written set of interviewer instructions.

Initially, each interviewer was issued with 61 addresses per sampling point. This was based on SCPR's estimates of the proportion of addresses successfully screened, the proportion of these containing eligible individuals and the response rates of those selected for interview. However, it was not thought likely that these addresses would yield all of the target sample of 2,500 interviews. Indeed, it proved necessary to issue all the other available addresses (2,400), so that each interviewer was allocated a total of 85 addresses to contact.

The fieldwork revealed that the proportion of selected households without an eligible person for interview accounted for almost half of all valid residential addresses. The number 'out of scope' was towards the higher end of SCPR's original estimates. Furthermore, rates of refusal proved to be at the higher end of SCPR's estimated range. Hence, it became clear that an input of additional fieldwork resources would be required in order to achieve the target number of interviews from the selected sample of addresses. SCPR field staff, therefore, examined non-productive addresses with a view to re-issuing those for which there appeared a possibility of an interview being secured. The resulting re-issuing was extensive. In total, 995 addresses were re-issued to interviewers, out of which 146 interviews were conducted and 144 addresses were found to be 'out of scope'.

Interviewers were supplied with SCPR-headed letters to distribute to those with whom they made contact on the doorstep – no advance letter was distributed. This letter gave brief details about the subject matter of the survey and how long the interview would take. It also gave a freephone helpline number for people to call if they had any concerns. Interviewers were also instructed to leave a copy with each respondent after completing the interview in case respondents developed concerns after the interview.

On the doorstep interviewers were instructed to avoid using the term 'skills' as this was thought to be off-putting to those who thought their jobs were unskilled. Instead, interviewers were instructed to use more neutral wording such as the survey is about 'the

calls were the norm for this survey since, by definition, all respondents will be working. However, interviewers were told not to assume that respondents would be necessarily at home during the evening since they might work irregular hours or shifts. As a check interviewers were asked to record the times of their calls and the date on a form known as the Address Record Form (ARF). This form also acted as the screening device.

On arrival at each address the interviewer's first task was to ascertain whether the address selected was traceable, residential and occupied. If the interviewer could not find the address she/he was instructed to call the SCPR office who would give more information to help locate it. If, however, the address was derelict, demolished, empty, not built, a holiday/weekend home or industrial premises it was declared unproductive for the purposes of the survey. Interviewers then had to determine the number of occupied dwelling units (DUs) at each of the remaining productive addresses. A DU normally comprises a self-contained accommodation unit with its own front door. Therefore, a whole house is a single DU. If, however, a house is divided into flats, each with its own front door, then interviewers treated each flat as a single DU. If there was only one DU at the address, interviewers went on to selecting respondents for interview. However, where there was more than one DU, interviewers had to select one of them at random. To do this interviewers had to list the DUs in a systematic order (eg, in flat number order or from top to bottom) and then use the selection label which was stuck on the front of each ARF alongside the address label to select one of the DUs (see Figure 4.1). The selection label consisted of two rows of numbers. The top row corresponded to the total number of occupied DUs at that address (N), while the bottom row was a random number (between 0 and N) corresponding to the number of the DU to be selected. This is sometimes referred to as a Kish Grid. This meant, for example, that for an address comprising five DUs, interviewers had to locate '5' on the DU row and then read off the number of the DU to be selected from the selection label.

Once the DU was selected, interviewers had to collect information about those who lived there. To do so, interviewers were instructed to make contact with a responsible adult (18 years old or over) who would be able to give the necessary information about the people living in the DU. Interviewers were expected if necessary to make a minimum of four calls to ascertain this information from such a source. If the

SECTION 5:
FIELDWORK OUTCOMES

We next turn our attention to what the fieldwork achieved in terms of response rates and interview length as well as how the data were coded and what corrections were made.

5.1 Response Rates

The effectiveness of surveys is often judged according to the response rates they achieve. However, response rates can be measured in several ways. First, it is important to monitor the fieldwork performance of the market research company commissioned to carry out the work. Here, the focus is on the extent to which SCPR completed the screening of households and, where appropriate, conducted full interviews with eligible respondents. This is sometimes referred to as the gross response rate. Secondly, the reliability of the results generated by the survey can be influenced by the extent to which sample households with eligible respondents participated in the survey. This is known as the net response rate and is based on estimates about the proportion of households with eligible respondents who refused to be screened. Both response rates were calculated and compared to surveys with a similar target group.

Interviewers were issued with 8,500 addresses (initially 6,100 were issued but as the fieldwork progressed the remaining 2,400 were issued in the light of fieldwork outcomes). As in all PAF-generated samples, a proportion of addresses proved to be 'deadwood' for the purposes of this survey. They included addresses at which no-one lived because they were empty, derelict or not yet built (5.0%), industrial rather than residential property (3.2%) or for some other reason (2.5%). Together these accounted for 911 (10.7%) of the 8,500 addresses issued (see Table 5.1).

Of those remaining, 7,140 (94.1%) were screened for the presence of someone aged 20 to 60 in paid work. A total of 449 (5.9%) addresses were not screened. The reasons included those who refused to co-operate with the screening and selection

know what proportion of those households not screened contain individuals eligible for interview. However, it is reasonable to assume that the proportion is similar to the proportion of households successfully screened in field. In our case the figure was 51.5%. In other words, of the 449 households not screened by SCPR for this survey one can assume that 231 contained individuals who were within its scope. Were the screening of households 100% successful, therefore, we would have had 3,676 + 231 eligible individuals to interview. The fact that SCPR successfully interviewed 2,467 of them suggests that the net response rate was 63.1%.[9] Even though the screening of households was completed in the overwhelming majority of cases (94.1%), failure to screen even a small percentage of households has an impact on the net response rate recorded. One should, therefore, be wary about comparing response rates across surveys since those which screen (such as ours) will inevitably post lower net response rates than those whose sample comprises a list of pre-selected named individuals.

Nevertheless, a response rate (gross or net) of around two-thirds of those deemed eligible for interview is reasonable and is in line with other national surveys carried out by academics about people's working lives.

5.2 Interview Length

Interviews for the survey began on 25 January 1997 and continued until 7 May 1997. However, around half (48%) of the interviews were carried out in February and five-sixths (84%) were completed before the end of March.

The survey was carried out subject to SCPR's standard quality control procedures. Interviewers were accompanied by field supervisors at regular intervals and approximately one in ten interviews were 'back checked' by telephone or post to ensure that interviews were conducted properly and to respondents' satisfaction.

The CAPI system requires that interviews log start and finish times for interviews. Interview duration can then be derived from this information. However, this information is not wholly reliable for a number of reasons. Interview times sometimes include breaks

[9] This figure is derived from [2,467/(3,676 + 231)] X 100.

5.3 Data Processing

Nearly all the questions asked in the Skills Survey were pre-coded. The main exceptions were the descriptions of current jobs and, where different, jobs held five years previously. From open-ended questions about the firm/organisation for which the respondent worked in the previous week, SCPR were able to allocate each respondent to a particular industry according to a two-digit Standard Industrial Classification, 1992 (SIC92) code.[10] Likewise, respondents were asked to give the name or title of their job as well as information about the kind of work they did most of the time and the materials/equipment they used. From this respondents were allocated to a two-digit Standard Occupational Classification, 1990 (SOC).[11]

CAPI has a considerable advantage over the more traditional pen and paper questionnaire in that routing is automatically built into the questionnaire. Even so, interviewers were encouraged to add notes to the data they collected. SCPR data processing teams reviewed each of these to determine whether any of the data needed to be recoded as a result. In the event, very few revisions to the data were required and only a small number of additional codes were created after the interviews had been carried out. Each of these five codes was relatively minor and only applied to a handful of respondents.

5.4 Weighting

The nature of the sample selection techniques ensured that once the data were collected it would need to be reweighted. The chief reason for this was the fact that only one dwelling unit per address was selected from which only one eligible person was then selected for interview. This meant that the probability of respondents being selected for interview was unequal. For example, those living in households with more than one

[10] SIC92 is broken down into 17 main alphabetical sections, 14 sub-sections, 60 divisions, 222 groups, 503 classes and 142 sub-classes. The two-digit level is the division, the three-digit level is the group and the four-digit level is the class. The UK has termed the five-digit level the sub-class.

[11] SOC is broken down into three categories: the major groups (one-digit); the minor groups (two-digit); and the constituent unit groups (three-digit). At the most detailed level of classification 374 unit groups are distinguished, each with a three-digit classification. Each occupation unit group is allocated to a minor group (two-digit), of which there are 77 and a major group (one-digit) of which there are 9. The major group structure is a set of broad occupational categories which are designed to be useful in bringing together unit groups which are similar in terms of the qualifications, training, skills and experience required.

employment in Britain. This ensured comparability with the scope of the Skills Survey sample. In addition, the QLFS sample was weighted according to the population weight supplied with the data set, which takes into account estimates of institutional populations not surveyed as well as differential response rates. The Skills Survey was weighted by the Kish weight supplied by SCPR. Table 5.3 shows the results.

The results show that Skills Survey is broadly comparable to the picture one would get of 20-60 years in paid work in Britain in Spring 1997 according to the QLFS. Skills Survey appears broadly representative in terms of age, employment status, ethnicity, working time, industry and occupation. However, there appears to be a slight over-representation of employees in the Skills Survey sample (+1.8%) and of clerical and secretarial grades (+2.5%), but an under-representation of managers (-2.8%) and of full-time workers (-1.4%). As regards industrial spread, the differences between Skills Survey and QLFS are small – the largest difference is just 0.5 percentage points. The only appreciable bias in the Skills Survey sample concerns the sex of respondents with women being over-represented by several percentage points (+4.3%). Accordingly, a second weighting factor was added to the data set to down-weight women and up-weight men so as to produce the proportions found in the QLFS Spring 1997. These sex weights are 1.085 for men and 0.913 for women.[12] By multiplying the sex weight by the Kish weight provided by SCPR we derived a new weight to be applied to our analysis. Its application to the data serves to narrow the gap still further between the picture presented by Skills Survey and QLFS. So, the proportion of employees and part-timers in the sample is reduced, while the proportion of managers and clerical staff is increased. This new weight is used for deriving the results presented in Sections 7 and 8 of this Report.

[12] Sex weight = (proportions recorded for QLFS Spring 1997)/(proportions recorded for Kish weighted SKILLS SURVEY). For men, sex weight = 55.1/50.8 = 1.085; for women, sex weight = 44.9/49.2 = 0.913.

you think it is to possess *those* qualifications to *do* your job competently?' This can be used to tease out the necessity of the qualifications required to carry out the work tasks involved in the job.

Indicators such as the training time required for particular types of work and the time required to do it well may reflect different ability levels and knowledge inherent in different types of work. Skills Survey respondents were, therefore, asked: 'Since completing full-time education, have you ever had, or are you currently undertaking, training for the type of work that you currently do?' If 'yes', 'How long, in total, did (or will) that training last?' They were also asked: 'How long did it take for you after you first started doing this type of job to learn to do it well?' If answered 'still learning' they were asked: 'How long do you *think* it will take?' The significance of learning time is open to a degree of ambiguity. Our basic expectation was that the more skilled jobs would take longer to learn. But it might be argued that, since a better educated person could learn to do some jobs well more quickly than a person with less education, a high learning time would be a negative rather than a positive indicator of skill. Alternatively, if the job called for manual dexterity, then perhaps the better educated would be slower learners since they may have put more emphasis on the development of cognitive abilities at the expense of manual skills. Our subsequent analysis confirmed our basic expectation, in that learning time was highly positively correlated with other skills indicators.

Autonomy and variety constitute separate but related aspects of work skill. Autonomy is seen as a skill, in part because if employees are to act without close supervision they must know what tasks are to be done and how to do them. Autonomy is also a reflection of trust by the line manager in the conformity of the employee to appropriate effort norms. For these reasons, autonomy has been an important focus for sociological enquiry since at least the work of Braverman (1974) and subsequently Friedman (1977) and Spenner (1990). Skills Survey respondents were asked two questions relating to autonomy. First, they were asked: 'How much choice do you have over the way in which you do your job?' and second, they were asked: 'How closely are you supervised in your job?' The analysis which follows concentrates on the extremes at either end of the four item response scale. That is, for the choice question 'a great deal of

6.2 Importance of 'Key Skills'

The problem with any self-report methodology for assessing skills is that 'social desirability' may undermine the reliability of the data. This problem was expected to be most troublesome in the Competence section of the questionnaire, where many respondents might mis-judge how 'good' they were at various skills. The survey attempted to counter this problem by using a carefully constructed question that avoided the phrase 'how good?'. Also, the scale was stretched at the top end so as to discourage all respondents from choosing the extreme category, and thereby achieve some reasonable variation in the responses. However, the main approach, emphasised by introducing it fairly early in the interview, was to assess the skills requirements of respondents' jobs ie, the JA questions. This approach limits social desirability effects because being asked to describe one's job is much less closely bound up with an individual's self-esteem than being asked to evaluate one's own level of competence. This Job Analysis[13] approach to skills measurement, the central and most innovative part of the Skills Survey, underlies the empirical constructs used in this Report and elsewhere (Ashton and Felstead, 1998; Green, 1998).

Respondents were thus asked a series of questions about what their job comprises. They were asked about a number of job activities. This section of the questionnaire was prefaced by the following: 'You will be asked about different activities which may or may not be part of your job. At this stage we are only interested in finding out what types of activities your job involves and how important these are'. Respondents were asked: 'in your job, how important is [a particular job activity]'. The response scale offered was: 'essential', 'very important', 'fairly important', 'not very important' and 'not at all important or does not apply'. Examples of the activities included caring for others, dealing with people, using a computer, analysing complex problems and planning the activities of others. The questionnaire focused on 36 activities designed to cover the tasks carried out in a wide range of jobs.

[13] In commercial usage, Job Analysis is normally applied in specific settings. Moreover, while job holders are a major source of information to consultant psychologists about the nature of jobs, other sources of information such as peers and line managers are usually available too. This approach would have been prohibitively expensive to adopt for a national survey.

6.3 Importance of Particular Types of Task

Another approach is to cast the net even wider by subjecting all the 35 JA questions (excluding the one related to computer use which was further embellished by a question relating to the sophistication of usage) to Principal Components analysis (see Table 6.2). This has the advantage of minimising the problem of multi-colinearity between variables, while also reducing 35 variables to a smaller and more manageable number of components which explains a 'large' proportion of the variation. However, the main drawback of this technique is that there is no single objective criterion for deciding the number of components to extract: the choice of components has to be guided both by the data and by theoretical sense, that is, the interpretability of the components. The objectives are to identify underlying components of skill and to derive indices which can be used for subsequent analysis.

In order to render the activity variables suitable for Principal Components analysis it is necessary to transform the ordinal scale of 'importance' for each variable into an increasing cardinal scale, running from 0 (meaning 'not at all important') to 4 (meaning 'essential') as outlined in Section 6.2. This assumption of linearity is commonly made in Principal Components analysis, in situations which are not strictly justifiable.[14] To ascertain whether a data reduction technique such as Principal Components is suitable, it is appropriate initially to examine the correlation matrix of variables. To conserve space, we refrain from reporting the full matrix. Suffice to say, the matrix shows evidence of many high correlations between variables, though none are above 0.9. The overall Kaiser-Meyer-Olkin measure of sampling adequacy is 0.9304, and the Bartlett test of sphericity has a value of 49,354 with a p-value of 0.0000. Moreover, for most variables the individual KMO measure of sampling adequacy was above 0.9; only three fell below 0.8, while the lowest value was 0.67. These are strong indications that the sample data is suitable for a Principal Components analysis, and that all the variables should be included.

The next and main step was to make appropriate choices about how many components to extract, and the method of rotation of the initial solution to arrive at an

[14] Multi-dimensional scaling is a technique which does not depend on the linearity assumption, but this technique is not suitable for the number of variables and potential components in this analysis.

interactions and written communication. Though no prior structure was imposed, it was reasonable to expect that different types of communication skill would be evident in the way that the variables grouped into components. Communication skills apply differently to employees at different levels of the hierarchy. In particular, the communication skill of a manager may involve the ability to lead, and to persuade subordinates to do things, while horizontal communication between workers might require different skills. Moreover, communication between workers and clients or customers is likely to involve yet further differentiated activities. In the event, it was possible to identify these three predominant forms of communication from the data, which are classified as 'client communication skill', 'horizontal communication skill' and 'professional communication skill'. The first of these involves communicating across the interface between worker and client or customer. The second, horizontal communication skill, involves relating and communicating with other people with whom one is working. Finally, professional (and managerial) communicational skill involves activities like making presentations, persuading or influencing people, and writing long reports. This classification has a plausible intuitive appeal, but the differences in the types of communication skill are obviously not precise in all cases; moreover, the questions asked in this section of the questionnaire do not go far enough in the exploration of managers' communication skills. A range of further questions specifically for the managers in the survey are providing additional findings on managers' skills in ongoing analysis.

Second, there was a set of questions concerned with various forms of knowledge, but unsurprisingly these did not group under any one component. One type of knowledge, that concerned with tools and equipment, was a complement of manual skills. Another type of knowledge, that concerned with particular products or services, loaded strongly onto the client communications component. Other types of knowledge were not so strongly loaded onto any of the components, though knowledge of one's organisation appears to be linked to problem-solving skills.

As a further test of the adequacy of our interpretation, the sample was divided on the basis of sex. The principle here was that even though men and women might possess different levels of work skills, the underlying types of skills should be the same for both sexes. The procedure came up with the same number (eight) of factors for men and for

used to form the 'Key Skills' scores outlined above (see Section 6.2), questions on the importance of computing and the level of computer usage as well as questions on manual skills. Problem-solving and computing skills are both said to be increasingly required by incoming technology. Furthermore, if workers are being increasingly given more scope, being empowered, or required to take on multiple tasks, problem-solving again becomes important. Similarly, with the delayering of management it is frequently argued that workers have to communicate more with other workers, or with clients or suppliers. In all these cases, it is hypothesised that increased skills are required. By contrast, in parallel with the decline in manual occupations, it is arguable that with increasing automation there is a decreasing need for manual skills. From this, we are able to track skill trends for those in work by simply subtracting the importance rating respondents gave in 1997 from the rating they gave for the job they were in five years previously. However, given the nature of the questioning and hence the data, the analysis has to be limited to those in work five years ago (this excludes 15.4% of our sample).

A number of industries can be regarded as lowly skilled in terms of qualifications held. Those working in the hotel and restaurant industry or the wholesale and retail trade, for example, appeared particularly poorly qualified with 30% or more reporting no qualifications compared to an average figure of 19% (see Table 7.3). At the other end of the scale, some industries comprise a highly qualified workforce – 40% of those working in education, for example, and 29% of those working in real estate and other business activities (including computing, accountancy and management consultancy) held degrees.

7.1.2 Qualifications Required

While a useful first step in the measurement of skills, qualifications held do not indicate, except indirectly and with possible inaccuracy, the skills demanded at work. Furthermore, the qualification level of the British workforce is tracked by much larger, and regular surveys such as the Quarterly Labour Force Survey. A better measure of the skill demanded of job holders is the qualification level that new recruits are required to have to get respondents' jobs. Existing data sets such as the QLFS do not provide this kind information. However, the Skills Survey was designed to plug just such a gap in our current knowledge.

One of the most notable features about these data is the fact that almost a third (32%) of Skills Survey respondents reported that their current jobs required no qualifications on entry, yet only around a fifth (19%) reported having no qualifications at all (see Tables 7.1 and 7.4). Thus the overall supply of qualifications appears to outstrip the demand by a comfortable margin. The imbalance is evident for men, women full-timers, and for ethnic minorities, but is most striking in the case of women part-timers. Around a quarter (28%) of women part-timers, for example, held no qualifications; but in a half (48%) of those jobs held by women part-timers, no qualifications of any sort were reportedly required. The imbalances between qualifications held and required were greatest at Level 2 and Level 3. This finding is consistent with the conclusions of those commentators who have argued that skills deficiencies are often attributable to low levels of demand (eg, Keep and Mayhew, 1996).

job itself. From this one can derive an indication of the utility of the qualifications demanded by employers for recruitment purposes. Around three-quarters of respondents reported that required qualifications are 'essential' or 'fairly necessary' to do the job competently. While this leaves one in four job holders judging that qualifications requirements are excessive in relation to their jobs, the link between the qualifications demanded by employers and their use in employment appears to be a relatively strong one. A striking finding is that there is relatively little difference between groups regarding the necessity of qualifications, though women part-timers appear to draw greatest use from the qualifications demanded on recruitment (see Table 7.7). A little more variation is evident when the data are examined by occupation and industry but small cell sizes make the relability of the data more suspect.

7.1.4 Training and Learning Time

So far we have concentrated on various qualification-based measures of skill. The Skills Survey also allows us to examine skill from a number of other angles. These include the time spent training for the type of work respondents do and the time spent learning to do the job well. The response sets for each of these questions consisted of a range of time-bound options. For the purposes of presentation we examine the proportions reporting 'short' and 'long' training/learning times ie, the extremes of the spectrum. Table 7.8 displays the results of a focus on both of these measures. By and large this shows much the same picture as presented by the other skill measures. A third of men, for example, reported training periods in excess of two years compared to only a quarter of women with part-time women workers receiving even less. Learning times, too, exhibited a similar pattern.

Training and learning times by occupation also confirms a familiar story: those towards the top of the SOC hierarchy enjoyed 'long' training and learning times, while those at the bottom were more likely to have shorter training periods and learn their jobs more quickly. However, it is notable that those working in craft occupations appear, on this measure, to be *more* skilled than their position in the SOC schema would seem to suggest, while those in clerical and secretarial jobs would appear to be *less* skilled (see Table 7.9).

autonomy (only 39% reporting a great deal of choice, only 15% not at all closely supervised), and relatively low job variety (only 24% reporting a great deal of job variety, only 5% who never do repetitive work).

7.2 Importance of 'Key Skills'

Policy-makers have placed much emphasis in recent years on the development and promotion of 'Key Skills'. The Skills Survey dataset gives us a unique opportunity to examine their distribution among the employed population in Britain. For this purpose, particular attention is focused on the following: the greater use of problem-solving skills and an ability to utilise them in the context of a wider knowledge of the organisation as a whole; teamworking skills, that is the ability to operative collaboratively in pursuit of a common objective; and finally, the ability to communicate effectively with colleagues and clients. By deriving a composite skills score for each of these 'Key Skills' we can examine their distribution (cf. Section 6.2).

The first thing to note is that while *all* the other measures so far considered has recorded women as lower skilled than men, by examining the content of jobs a different picture emerges. The importance of problem-solving skills are greater in men's jobs than in women's. However, while men and women recorded similar scores for communication and social skills, women reported that teamworking was more important in their jobs than in men's. Comparing women in full-time work with men closes the problem-solving gap considerably, while also suggesting that women's full-time jobs demand higher communication skills and more teamworking (see Table 7.14).

The data suggest an association between the level of qualification workers hold and the level of skills demanded by jobs. So, problem-solving and communication skills score rise with the level of qualification held. The same is also true of teamworking, although here the strength of the association appears weaker. Much the same can be said of the 'Key Skills' scores and occupation – for problem-solving scores range from 3.26 to 1.69 and for communication from 2.83 to 1.33, but for teamworking the range is narrower (3.30 to 2.45).

comparisons at least give some reassurance that the indices portray a pattern broadly consistent with the more conventional measures of skill and notions of what jobs entail.

7.4 Computing Skills

The debate on skill has been frequently associated with technological change (eg, Wood, 1989; Gallie, 1996). This coupled with the increased policy interest in skill shortages in Information Technology makes the results on computing skills worthy of separate examination.

The first panel of Table 7.16 shows the importance in respondents' jobs of 'using a computer, PC, other computerised equipment'. Overall, around three in every ten respondents said that computing played no part in their jobs, while a similar proportion reported that it was 'essential' in theirs. The differences between men and women show that women were more likely to regard computing as 'essential', but similar proportions reported that their jobs demanded no computing skills at all. However, comparison of men and women appears to mask more striking differences between women full-timers and their part-time counterparts. For example, only a fifth of women full-timers did *not* call on computing skills, whereas for part-timers this reached almost a half.

Among those who used computers at all, the Skills Survey questionnaire also allows us to examine the level of sophistication of computer usage. The results are shown in the second panel of Table 7.16. The most eye-catching finding here is that even when women part-timers used computing skills in their jobs it was at a far lower level of sophistication. Over half of the women part-timers who used computing skills were using computers in a straightforward manner such as printing out an invoice in a shop, whereas under a third of women full-timers were using computers in a similar fashion. Women full-timers were more likely than women part-timers to be using computers for word-processing/the production of spreadsheets/communication (ie, 'moderate users') or analysing information/designing products (ie, 'complex user') or programming using computer syntax and formulae (ie, 'advanced user').

SECTION 8:

THE PATTERN OF SKILL CHANGE, THE VALUATION OF SKILLS AND THEIR LINKS WITH COMPANY POLICIES

The procedures adopted in the Skills Survey provide, we believe, a way forward for measuring skill in a way that captures several of its dimensions, that is congruent with the theoretical concepts that economists, sociologists and psychologists deal with, and that for a comparatively modest budget allows an estimate of the skills actually being used at work in Britain. The potential for tracking changes over time in skills is clear.

Nevertheless, it is not the only way to measure work skills. For example, since the inception of this project, the Office for National Statistics (ONS) has released findings from a study of 'literacy skills' in Britain, part of a multi-country study entitled International Adult Literacy Survey (IALS), conducted under the auspices of the Organisation for Economic Co-operation and Development (OECD) (see Carey *et al.*, 1997). This study was able to test respondents directly about a limited range of particular skills – 'prose', 'document' and 'quantitative' literacy skills – as well as question them about the frequency with which these skills were used at work (a job analysis approach). Though the range of skills examined is far smaller than in the Skills Survey, the objective tests of a survey like IALS constitute an obvious attraction, despite the costs and difficulties involved.[16] In future surveys without unlimited budgets, there are likely to be trade-offs between breadth of coverage of skills, richness of supporting variables and whether or not to enlist respondent compliance with objective tests. Nevertheless, as stated above, the research evidence is that self-reported analyses of jobs can prove a reliable means of information collection. In addition, the option of retaining existing approaches will allow a proper examination of changes over time, which will remain an important research objective.

By way of conclusion, this section will briefly describe some selected conclusions from some more in-depth analyses of the Skills Survey data so far completed,

[16] At the time of writing the OECD is also planning a new survey of 'Life Skills' aimed at testing a wider range of skills, though the methodology is yet to be proven in the field.

8.1 Skills Trends

Whether Britain's workforce is moving on average to a higher skill level is of obvious relevance to labour market analysts and to policy makers. Knowledge of whether any changes in the skills distribution are contributing to changes in the wage distribution can help in the analysis of inequality, social exclusion and associated policies. The data allow two ways to address these issues in a manner superior to any previous analyses. The analysis does not rely on either qualifications held or on occupation as the measure of skill (Felstead *et al.*, 1999; Green *et al.*, 1998; 1999).

First, as broad measures of skill we utilise the required qualification, the learning time and the training time needed for the job, and make direct comparison with the 1986 SCELI survey. It is shown that:

- With all three measures there has been an increase in skills in Britain from 1986 to 1997
- In terms of the qualification level that new recruits would now be required to have, there has been a small but significant increase in work skills. Whereas 62% of jobs required at least some qualifications in 1986, by 1997 this had risen to 69%. For 'High Level' qualifications (anything above A-level) the proportion rose from 20% to 24%.
- There has been a notable decrease from 66% to 57% in the proportion of workers whose type of work required only short (less than three months) training, and an increase from 22% to 29% in the proportion with long training requirements (over two years). There has been a fall from 27% to 21% in the proportion of jobs which respondents judge take only a short time (less than a month) to 'learn to do well'.
- Another measure of skills 'used' in a job is whether a degree qualification is both required of new recruits and considered either 'essential' or 'fairly necessary' to do the job. On this score, there has also been a significant increase in skills: the proportions in jobs 'using' a degree (in this sense) rose significantly from 7.7% to 10.8%.

Until further data is available it will not be possible to examine the change in the premium; however, it is possible to examine whether the skills carry a positive premium. If skills do carry a positive premium, this is consistent with the view that they are costly to acquire and/or that they are currently earning a quasi-rent due to technological and organisational change. At least according to some economists, indeed, a skill is something which virtually by definition has some scarcity value.

In Green (1998), the valuation of core skills is investigated with an analysis using hedonic wage equations. The main new findings are that:

- Computer skills are highly valued in the current British labour market. Even at 'moderate' levels of complexity, for example using word-processing packages, male workers using computers earn an average premium (after controlling for other job skills) of some 21 per cent, female workers 22 per cent, compared to those who do not use computers at all. When many other personal and job characteristics are also controlled for, the premium for both sexes remains at 13 per cent. Although causation is by no means established, the magnitude of the conditional association of computer usage complexity with pay is consistent with the possibility that IT is having some impact on wage inequality. Particularly at the higher level there are persistent reports of shortages and poaching of specialists. It seems unlikely that all these workers with computer skills would have benefited as much from their unobserved other skills, in the absence of IT.
- Professional communication and problem-solving skills are also highly valued. A one-standard-deviation increase in either type of skill raised women's pay by around 5 per cent, men's by 6 per cent, after allowing for all the controls.
- To a lesser extent, verbal skills also carry a pay premium for women. The skills of reading and writing short documents are important. But planning, and client and horizontal communication skills, have little independent association with pay. With client communication, the positive value of persuading and influencing appears to be offset by a negative value for counselling and caring skills and for selling skills. Numerical skills also have no conditional link with pay, other than through being linked with more complex computer usage.

Ashton and Felstead (1998) provide some new insights into these questions. They find that:

- A fifth of employees work in organisations which have, at most, only one of the following features: a quality circle to which the respondent belongs; commitment to or recognition as an Investor in People; a formal system of appraisal; meetings where management informs workers about the organisation's progress and its future plans; management organised meetings where all workers can express their views; and an active suggestion scheme. These are termed 'traditional' organisations. At the other end of the scale, around one in three workers are in organisations which have most of these features in place – referred to as 'modern' organisations.
- Certain groups are more likely to be found in 'modern' organisations than others: men, those in their forties, the better qualified, married individuals, some ethnic minorities and trade unionists. Similarly, analysis by employment characteristics reveals that certain types of employment have above average proportions of workers who experience the benefits of working in a 'modern' organisation and vice versa. Those higher up the occupational hierarchy, for example, are more likely to report the presence of organisational features typical of 'modern' organisations than those lower down.
- Bivariate comparisons suggest that the importance of 'Key Skills' – communication, problem-solving and teamworking – in respondents' jobs rises with the movement from 'traditional' to 'modern' organisations. This is in line with the literature which suggests that 'modern' organisational characteristics encourage and promote particular types of skills.
- Regressions which include a host of control variables suggest that there is a strong and statistically significant association between organisational characteristics and 'Key Skills'. Moreover, the association is robust to changes in specification of the model.
- There is also some evidence – albeit limited – that organisational features can help to explain patterns of skill change over time with those working in 'modern' organisations reporting greater increases in the skills demanded of them over the previous five years than those working elsewhere.

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FIGURE 4.1

SELECTION LABEL FOR DWELLING UNITS/ELIGIBLE INTERVIEWEES: AN EXAMPLE

Person/DU:	1	2	3	4	5	6
Select:	1	1	2	3	2	6
Person/DU:	7	8	9	10	11	12
Select:	3	4	7	10	9	8

TABLE 3.1:
SKILLS SURVEY TOPIC LIST

A. Eligibility

In paid work;
Gender;
Aged 20 to 60 inclusive.

B. Job Details

Number of jobs;
Industry (SIC92);
Occupation (SOC90);
Employment status;
Supervisor/managerial duties;
Self-employed with or without employees;
Permanency of job;
Full-time vs part-time;
Shift working;
Size of establishment;
Teamworking;
Quality Circles;
Investors in People;
Appraisal;
Briefings, consultation and suggestion schemes;
Sector;
Ownership;
Exposure to noise, bad weather, heat or cold;
Job security;
Qualifications now required for the job;
Usefulness of those qualifications;
Learning time;
Importance of factors in doing job;
Work intensity;
Attitudinal questions about the job;
Choice;
Variety;
Supervision;
Responsibilities;
Self-definition of skill;
Gender mix;
Training time;
On-the-job training;
Off-the-job training.

TABLE 4.1:
SUB-REGIONS IN ENGLAND AND WALES

Devon and Cornwall
Somerset and Dorset
Avon and Wiltshire
Gloucestershire and Gwent
Oxfordshire and Berkshire
Hampshire and West Sussex
Kent and East Sussex
Surrey and the London Borough of Kingston-upon-Thames
Rest of the Outer London Boroughs
Inner London Boroughs
Essex and Hertfordshire
Suffolk and Norfolk
Buckinghamshire and Bedfordshire
Cambridgeshire and Northamptonshire
Warwickshire and Hereford & Worcester
West Midlands Metropolitan Area
Shropshire and Staffordshire
Mid Glamorgan and South Glamorgan
West Glamorgan and Dyfed
Powys, Clywd and Gwynedd (including Anglesey)
Leicestershire and Lincolnshire
Notttinghamshire and Derbyshire
Cheshire
Merseyside
Greater Manchester
Lancashire
South Yorkshire
West Yorkshire
North Yorkshire and Humberside
Cleveland and County Durham
Tyne and Wear
Northumberland and Cumbria

TABLE 5.1:
FIELDWORK RESPONSE

	N	%	%	%	%
Issued PAF addresses	8,500	100.0			
'Deadwood' total	911	10.7			
- Empty/derelict/not yet built	424	5.0			
- Business/industrial	270	3.2			
- Not traced	89	1.0			
- Weekend/holiday home	66	0.8			
- Other 'deadwood'	62	0.7			
In scope of screening	7,589	89.3	100.0		
Not screened	449		5.9		
- No contact with any adult	154		2.0		
- Refusal (including refusal to office)	238		3.1		
- No. of DUs not estimated	57		0.8		
Screened	7,140		94.1	100.0	
No-one aged 20-60	2,282			32.0	
No-one aged 20-60 in paid work	1,182			16.6	
Selected eligible respondent	3,676			51.5	100.0
No contact with selected respondent	104				2.8
Personal refusal	689				18.7
Proxy refusal	164				4.5
Broken appointment	103				2.8
Other unproductive (including away, ill, inadequate English)	149				4.1
Productive interviews	2,467				67.1

TABLE 5.3:
COMPARISON OF SS WITH QLFS SPRING 1997

Key Characteristics	Skills Survey	QLFS, Spring 1997[1]
Sex		
Male	50.8	55.1
Female	49.2	44.9
Age		
20-29	22.6	24.1
30-39	31.4	29.9
40-49	26.9	26.1
50-60	19.1	19.9
Employment Status		
Employee	89.3	87.5
Self-Employed	10.7	12.5
Ethnicity		
White	95.3	95.0
Black	1.5	1.4
Asian	2.1	2.3
Other	1.1	1.3
Working Time		
Full-time	76.9	78.3
Part-time	23.1	21.7
Industry (SIC92)		
Agriculture, Hunting & Forestry	1.5	1.5
Fishing	0.1	0.1
Mining & Quarrying	0.3	0.4
Manufacturing	19.9	19.4
Electricity, Gas & Water Supply	0.7	0.7
Construction	6.3	7.1
Wholesale & Retail Trade	14.4	14.3
Hotels & Restaurants	3.7	4.0
Transport	7.3	6.8
Financial Intermediation	4.3	4.8
Real Estate	8.8	10.2
Public Administration	6.9	6.1
Education	8.0	7.8
Health & Social Work	12.4	11.3
Other Community	4.4	4.9
		0.5

TABLE 6.1
'KEY SKILLS': ACTIVITY VARIABLES

Question Number[a]	Job Activity
	Problem-Solving Skills
19	Spotting problems or faults
20	Working out the causes of problems or faults
21	Thinking of solutions of problems or faults
23	Analysing complex problems in depth
	Communication and Social Skills
2	Dealing with people
3	Instructing, training or teaching people
4	Making speeches or presentations
5	Persuading or influencing others
6	Selling a product or service
7	Counselling, advising or caring for customers or clients
	Teamworking
8	Working with a team of people
9	Listening carefully to colleagues

Source: Skills Survey, 1997.

TABLE 6.3:
PRINCIPAL COMPONENTS ANALYSIS: PATTERN MATRIX

Question Number[a]	Verbal	Manual	Problem-Solving	Numerical	Planning	Client Communication	Horizontal Communication	Professional Communication
1			0.53					
2						0.58		
3							0.42	0.46
4								0.60
5						0.34		0.40
6						0.85		
7						0.67		
8							0.87	
9							0.77	
10		0.87						
11		0.86						
12		0.71						
13		0.58	0.32					
14						0.53		
15			0.36					
16								
19			0.78					
20			0.75					
21			0.62					
23			0.34					0.41
24			0.74					
25			0.76					
26					0.79			
27					0.37		0.32	0.39
28					0.80			
29					0.66			
30	0.78							
31	0.81							
32	0.75							
33	0.80							
34	0.75							0.36
35	0.59							
36				0.88				
37				0.91				
38				0.82				

Note:

a. See Table 6.2 for job activity variable list.

Source: Skills Survey, 1997.

TABLE 7.1:
QUALIFICATIONS HELD IN BRITAIN BY SELECTED CHARACTERISTICS

Qualification Level[a]	Highest Qualification Held (% of all workers with particular characteristics, column percentages)					
	All	Men	Women	Women Full-Time	Women Part-Time	Ethnic Minorities
High Level	25.1	26.7	23.0	29.5	14.4	33.2
of which:						
degree	12.6	12.9	12.2	16.3	6.7	19.8
sub-degree	12.5	13.8	10.8	13.2	7.7	13.3
Level 3	18.1	20.7	14.9	16.7	12.5	13.6
Level 2	29.6	26.0	33.9	32.6	35.6	24.8
Level 1	8.6	8.8	8.4	7.4	9.6	6.0
No Qualifications	18.6	17.7	19.8	13.8	27.8	22.4

Notes:

a. Highest qualification level, ranked by NVQ equivalents. 'High Level' refers everything above (NVQ level 3, ie A-level); sub-degree means any of: HNC/HND, SHNC/SHND, or a nursing qualification (eg, SRN, SEN), or a teaching or oth professional qualification (eg, law, medicine). Level 3 is roughly equivalent to A-lev Level 2 roughly equivalent to GCSE grades A-C, and Level 1 to GCSE grades D a below. All qualifications were precisely matched between surveys.

TABLE 7.3:
QUALIFICATIONS HELD IN BRITAIN BY INDUSTRY

Standard Industrial Classification (SIC92)[a]	Highest Qualification Held (% of all workers in industry, row percentages)[b]					
	Degree	Sub-degree	Level 3	Level 2	Level 1	No Qualification
Manufacturing	11.0	10.8	18.9	29.4	8.9	21.0
Construction	2.0	13.6	29.6	31.3	5.9	17.7
Wholesale	4.2	3.4	14.1	38.0	11.2	29.1
Hotels	2.0	7.1	14.6	32.5	106	33.2
Transport	6.1	6.8	18.5	29.9	17.7	21.0
Finance	14.6	13.2	27.2	34.5	6.0	4.5
Real Estate	28.6	17.6	14.9	21.8	2.6	14.5
Public Administration	14.6	10.9	25.7	35.1	7.4	6.4
Education	40.3	21.4	10.9	16.6	4.4	6.4
Health	9.1	22.4	14.9	26.3	8.7	18.8
Other Community	11.0	14.9	20.6	28.0	5.8	19.7

Note:
a. Industries with less than 90 valid observations have been excluded from the analysis.
b. See Table 7.1 for explanation of column headings.
Source: Skills Survey, 1997.

TABLE 7.5:
QUALIFICATIONS REQUIRED IN BRITAIN BY OCCUPATION

Standard Occupational Classification (SOC)	Highest Qualification Now Required to Get Current Job (% of all workers in each occupation, row percentages)[a]					
	Degree	Sub-degree	Level 3	Level 2	Level 1	No Qualification
Managers	25.7	14.0	15.5	14.9	8.4	21.5
Professionals	57.1	26.3	9.5	4.1	1.9	1.2
Associate Professionals & Technicians	27.9	28.6	16.5	8.8	7.8	10.4
Clerical & Secretarial Occupations	5.9	4.5	11.9	52.9	6.2	18.6
Craft & Related Occupations	1.9	7.3	32.9	24.3	5.9	27.7
Personal & Protective Service	0.9	5.8	10.8	25.9	15.7	40.9
Sales Occupations	4.7	1.5	6.6	16.1	8.9	62.4
Plant & Machine Operatives	0.5	1.6	8.3	12.9	19.3	56.9
Other Occupations	0.0	0.0	1.6	7.5	11.3	79.7

Note:
a. See Table 7.1 for explanation of column headings.
Source: Skills Survey, 1997.

TABLE 7.7:
NECESSITY OF POSSESSING REQUIRED QUALIFICATIONS IN BRITAIN BY SELECTED CHARACTERISTICS

Required Qualification Level[a]	Required Qualification is 'Fairly Necessary' or 'Essential' to Do the Job Competently[b] (% of all workers in each group at each job qualification level)					
	All	Men	Women	Women Full-Time	Women Part-Time	Ethnic Minorities
High Level	76.9	73.7	81.4	80.3	84.7	80.6
of which:						
degree	75.3	73.2	78.3	77.4	81.5	82.5
sub-degree	79.2	74.2	86.9	85.1	90.9	77.5
Level 3	74.1	75.0	72.0	71.7	72.5	64.5
Level 2	71.7	69.2	73.6	73.5	73.7	72.5
Level 1	77.2	78.6	74.7	69.9	79.5	74.3
Any Qualifications	74.8	73.7	76.2	75.4	77.7	74.1

Notes:

a. See Table 7.1 for explanation of highest qualification hierarchy.
b. Where respondents indicated that qualifications were required of recruits to their current job, they assessed whether those qualifications were 'essential', 'fairly necessary', 'not really necessary' or 'totally unnecessary' to do the job competently.

Source: Skills Survey, 1997.

TABLE 7.9:
TRAINING AND LEARNING TIMES IN BRITAIN BY OCCUPATION

Standard Occupational Classification (SOC)	Reported Times (% of all workers in each occupation, row percentages)			
	Length of training for the type of work		Time taken to learn to do the job well[a]	
	Less than 3 months	More than 2 years	Less than 1 month	More than 2 years
Managers	51.8	32.4	5.8	39.5
Professionals	32.2	54.1	5.7	51.5
Associate Professionals & Technicians	34.4	43.9	5.7	36.7
Clerical & Secretarial Occupations	65.2	17.1	19.6	9.4
Craft & Related Occupations	42.1	45.3	7.3	41.1
Personal & Protective Service	55.5	23.4	30.3	14.1
Sales Occupations	81.7	11.9	44.5	3.5
Plant & Machine Operatives	77.8	15.5	38.3	13.3
Other Occupations	89.4	7.2	58.9	6.0

Note:
a. See Table 7.10.
Source: Skills Survey, 1997.

TABLE 7.11:
AUTONOMOUS WORKING AND JOB VARIETY IN BRITAIN BY SELECTED CHARACTERISTICS

	All	Men	Women	Women Full-Time	Women Part-Time	Ethnic Minorities
Choice in Carrying Out Work						
A great deal of choice	46.2	50.7	44.1	44.4	35.8	36.4
No choice at all	6.1	6.2	6.0	4.2	8.4	8.2
Closeness of Supervision						
Not at all closely	27.0	27.7	26.2	26.0	26.5	19.4
Very closely	6.0	5.9	6.1	5.9	6.4	9.9
Job Variety						
A great deal	34.8	38.9	29.7	34.8	22.7	28.3
None at all	4.6	7.6	10.4	2.8	8.1	12.0
Frequency of Carrying Out Short Repetitive Tasks						
Never	10.3	11.6	8.9	7.2	11.0	5.1
Always	16.4	14.8	18.3	14.1	24.0	20.1

Source: Skills Survey, 1997.

TABLE 7.13:
AUTONOMOUS WORKING AND JOB VARIETY IN BRITAIN BY INDUSTRY

Standard Industrial Classification (SIC)[a]	Choice		Supervision		Job Variety		Frequency of Repetitive Work	
	A great deal	None at all	Not at all closely	Very closely	A great deal	None at all	Never	Always
Manufacturing	52.3	9.1	26.6	6.5	29.4	6.5	8.4	3.6
Construction	54.9	5.5	34.6	5.1	44.8	1.1	10.1	8.1
Wholesale	42.6	6.5	25.4	6.9	27.0	5.5	9.2	21.8
Hotels	45.3	3.2	32.3	7.0	30.0	7.9	10.0	21.9
Transport	32.9	12.2	25.6	7.3	25.1	6.5	10.0	27.6
Finance	38.8	3.2	15.4	7.6	24.0	1.6	5.5	3.9
Real Estate	50.6	2.4	27.7	4.4	35.7	4.3	13.7	11.2
Public Administration	38.6	4.6	15.1	4.1	40.9	3.0	9.2	9.7
Education	49.1	0.9	24.6	2.7	54.7	0.9	16.0	9.4
Health	39.9	5.5	26.7	2.7	40.1	3.6	14.7	20.6
Other Community	59.8	5.4	41.3	7.8	43.8	5.3	8.4	14.7

Note:
a. Industries with less than 90 valid observations have been excluded from the analysis.
Source: Skills Survey, 1997.

Occupation			
Managers & administrators	3.21	2.83	3.33
Professional	3.26	2.80	3.28
Associate professional & technical	3.11	2.55	3.30
Clerical & secretarial	2.62	1.94	3.06
Craft & related	3.03	1.75	2.97
Personal & protective services	2.47	2.22	3.26
Sales	2.19	2.47	2.86
Plant & machine operatives	2.40	1.45	2.71
Other	1.69	1.33	2.45
Industry[b]			
Manufacturing	2.90	1.81	2.98
Construction	2.99	2.18	2.93
Wholesale	2.47	2.31	2.91
Hotels	2.41	1.98	2.98
Transport	2.46	2.03	2.77
Finance	2.92	2.52	3.20
Real Estate	2.87	2.20	2.92
Public Administration	2.85	2.25	3.26
Education	2.81	2.67	2.29
Health	2.63	2.27	3.36
Other Community	2.51	2.23	3.11

Notes:

a. These Skills Scores are derived from a sub-set of the 36 Job Analysis questions (see Section 6.2 for details).
b. Industries with less than 90 valid observations have been excluded from the analysis.

Source: Skills Survey, 1997.

ional	0.690	-0.463	0.163	0.550	0.600	0.131	0.317	0.884
Associate Profess-ional & Technician	0.402	-0.325	0.317	0.062	0.316	0.217	0.166	0.431
Clerical & Secretarial	0.202	-0.598	0.157	0.085	-0.149	-0.178	0.075	-0.523
Craft & Related	-0.228	1.026	0.463	-0.025	-0.232	-0.272	-0.333	0.067
Personal & Protective Service	-0.055	0.190	0.490	0.611	0.072	0.016	0.386	-0.186
Sales	-0.389	-0.272	-0.374	-0.008	-0.461	0.924	-0.232	-0.587
Plant & Machinery	-0.506	0.638	-0.043	-0.287	-0.568	-0.591	-0.354	-0.363
Other	-0.936	0.397	-0.919	-0.878	-0.630	-0.680	-0.490	-0.355
Industry[b]								
Manufact-ring	-0.177	0.346	0.358	0.228	-0.304	-0.364	-0.156	0.079
Construct-ion	0.030	0.749	0.233	-0.052	0.172	-0.047	-0.207	0.019
Wholesale	-0.301	0.063	-0.145	0.290	-0.211	0.532	-0.176	-0.387
Hotels	-0.461	0.347	-0.294	0.076	-0.266	0.145	-0.041	-0.251
Transport	-0.081	0.064	-0.226	-0.098	-0.305	-0.035	-0.169	-0.260
Finance	0.364	-0.760	0.256	0.570	0.061	0.330	0.073	0.065
Real Estate	0.228	-0.506	0.108	0.141	0.188	0.006	-0.113	0.235
Public Administra t-ion	0.462	-0.473	0.113	-0.137	0.218	-0.048	0.357	-0.085
Education	-0.311	0.363	-0.285	0.040	0.598	-0.027	0.532	0.597
Health	0.284	-0.011	-0.270	-0.612	0.218	-0.002	0.458	-0.069
Other Community	-0.312	0.031	-0.080	-0.977	-0.018	0.139	-0.200	0.131

Notes:

a. The Skills Scores are derived from Principal Components analysis of the Job Analysis questions (see Section 6.3).

b. Industries with less than 90 valid observations have been excluded from the analysis.

Source: Skills Survey, 1997.

PAID WORK IN BRITAIN

(Skills Survey of the Employed British Workforce)

Universities of Leeds and Leicester

with Social and Community Planning Research

QUESTIONNAIRE

January, 1997

Serial
Serial
Range : 1..8500

A1
Can I just check, did you do any paid work in the last seven days?

IF ON HOLIDAY IN THE LAST 7 DAYS RECORD STATUS IN THE 7 DAYS IMMEDIATELY BEFORE GOING ON HOLIDAY.
IF TEMPORARILY SICK IN LAST 7 DAYS, RECORD STATUS IN THE 7 DAYS IMMEDIATELY BEFORE GOING OFF SICK.
IF ON GOVERNMENT SCHEME @IONLY@I CODE @INot employed@I .
1 Inwork "In paid work"
2 Notemp "Not employed"

IF (A1=Notemp) THEN
A1a
INTERVIEWER: This person appears INELIGIBLE. YOU MUST NOW...
CHECK - has (s)he done even ONE hour of ANY type of paid work(in the last 7 days). IF YES, code 'PERSON IS ELIGIBLE' and proceed on the basis of that job.
CHECK - is (s)he is only on HOLIDAY or TEMPORARILY SICK. IF YES, code 'PERSON IS ELIGIBLE' and proceed on the basis of usual job.
CHECK - was (s)he in work in the 7 days BEFORE you made the SELECTION? IF YES, code 'PERSON IS ELIGIBLE' and proceed on the basis of that job, as though s(he) was still in it.

IF NO TO ALL THREE CHECKS - code @INOT ELIGIBLE@I .
1 Pers "PERSON IS ELIGIBLE"
2 Npers "NOT ELIGIBLE"

IF A1a=Npers THEN
A1b
INTERVIEWER: You have entered that the person is NOT eligible. That is, they are definitely NOT IN WORK.

HALT INTERVIEW WITH CURRENT PERSON!

A2
INTERVIEWER: ENTER SEX OF RESPONDENT

B3b
What kind of work do you do most of the time?
What materials/equipment do you use?
Text : Maximum 120 characters

B3SOC
B3SOC
Range : 0..999

B4
Are you an employee or self-employed?
INTERVIEWER: IF NOT SURE/DOES NOT KNOW, ENTER EMPLOYEE
1 Employe "Employee"
2 SelfEmp "Self-employed"

IF B4 = Employe THEN
B5
Do you supervise other employees or have managerial duties?
1 Supervis "Yes, supervise other employees"
2 Manager "Yes, have managerial duties"
3 NoManag "No, neither"

IF (B5 = Supervis) or (B5=Manager) THEN
B6a
How many people do you supervise/manage;**?**
Range : 0..9997

IF B4 = SelfEmp THEN
B6b
Do you have others working for you?
1 Yes "Yes"
2 No "No"

IF B6b = Yes then
B6c
How many people?
Range : 0..9997

B7y
IF (B4 = SelfEmp) THEN
' How long have you been self-employed in this job?'
ELSEIF (B4=Employe) THEN
' How long, in total, have you been working for your current employer?'

INTERVIEWER: RECORD YEARS HERE AND MONTHS AT THE NEXT QUESTION.
IF YEARS IS 5 OR MORE - NO NEED TO GIVE MONTHS.
Range : 0..90

B7m
INTERVIEWER: RECORD MONTHS (00 IF LESS THAN 2 WEEKS IN THE JOB)...
Range : 0..11

IF B4 = Employe THEN
B8
Leaving aside your own personal intentions and circumstances, is your job... READ OUT...
1 Perm "...a permanent job"
2 Temp "...or, is there some way that it is NOT permanent?"

B17c
Do you have a formal appraisal system at your workplace?
INTERVIEWER: IF NECESSARY, ADD : An appraisal system is a formal arrangement whereby an individual's work performance is discussed by the individual and his or her line manager.
1 Yes "Yes"
2 No "No"

IF B17c=Yes THEN
B17b
Have you been formally appraised at work in the last twelve months?
1 Yes"Yes"
2 No "No"

B17dn1
At your workplace, does management organise meetings where you are informed about what is happening in the organisation?
1 Yes "Yes"
2 No "No"

B17dn2
At your workplace, does management hold meetings in which you can express your views about what is happening in the organisation?
1 Yes "Yes"
2 No "No"

B17dn3
Over the last year have you ever made suggestions to the people you work with, or to your managers, about ways of improving the efficiency with which work is carried out?
IF YES: 'Is that once or more than once in the last year?'
1 Yesm "Yes, more than once"
2 Yeso "Yes, once"
3 No "No"

IF B4 = Employe THEN
B18
Is your organisation a private sector organisation such as a company, or a public sector body such as local or national government, schools or the health service, or a non-profit organisation such as a charity?
1 Private "Private sector"
2 Public "Public sector"
3 Nonprof "Non-profit organisation"

IF B18=Private THEN
B19
Is this organisation UK or foreign-owned?
1 WholeUK "Wholly UK-owned"
2 PartUK "Partly UK, partly foreign-owned"
3 NoneUK "Wholly foreign-owned"

ALL
B20a
When at work, are you ever exposed to risk of serious injury?
1 Yes "Yes"
2 No "No"

B22a

SHOW CARD D.

If they were applying today, what qualifications, if any, would someone need to @lget@l the type of job you have now?

INTERVIEWER: CODE @lALL@l MENTIONED.

1 None	"None/no qualifications"
2 GCSEDG	"CSE (other than Grade 1) or GCSE D-G"
3 GCSEAC	"GCE 'O' Level or Grade 1 CSE or GCSE A-C or School Certificate of Matriculation or GNVQ Intermediate"
4 Alevel	"GCE 'A' Level or GNVQ Advanced"
5 SCESUPE	"SCE 'O' Level, or Lower Grade SLC (Scottish Leaving Certificate) or SUPE (Scottish Universities Preliminary Exam) or GNVQ Intermediate"
6 SCEHigh	"SCE Higher, or SLC/SUPE Higher Grade or GNVQ Advanced"
7 CertSix	"Certificate of Sixth Year Studies"
8 NVQtwo	"City and Guilds or S/NVQ level 2"
9 NVQthree	"ONC/OND (Ordinary National Certificate or Diploma),or SNC/SND(Scottish) or S/NVQ level 3"
10 NVQfour	"HNC/HND (Higher National Certificate or Diploma, or SHNC/SHNC (Scottish) or S/NVQ level 4"
11 UniCert	"University Certificate/Diploma (@lNot@l Degree) or S/NVQ level 4"
12 SCOTVEC	"SCOTVEC National Certificate"
13 SCOTBEC	"SCOTBEC/SCOTEC Certificate/Diploma"
14 Cleric	"Clerical and Commercial (eg typing, shorthand or book-keeping)"
15 Nurse	"Nursing (eg SRN/SEN)"
16 Teach	"Teaching"
17 OthProf	"Other Professional (eg law, medicine)"
18 Degree	"University or CNAA Degree"
19 TradeApp	"Completion of Trade Apprenticeship"
20 ProfNoEx	"Professional qualification without sitting exam"
21 Other	"Other"

Multicoded, number of allowed choices : 21

IF Other IN B22a THEN

B22b

INTERVIEWER: RECORD DETAILS OF OTHER QUALIFICATION(S)

Text : Maximum 100 characters

IF (B22a=RESPONSE) AND (NOT(None IN B22a)) THEN

B23

SHOW CARD E.

How necessary do you think it is to possess @lthose@l qualifications to @ldo@l your job competently?

1 TotUnnec	"Totally unnecessary"
2 NotRNec	"Not really necessary"
3 FairNec	"Fairly necessary"
4 Essen	"Essential"

ALL

B24

How long did it take for you after you first started doing this type of job to learn to do it well?

INTERVIEWER: IF ANSWERS 'STILL LEARNING' ASK: 'How long do you @lthink@l it will take?'

1 Less1Wk	"Less than 1 week"
2 Less1Mth	"Less than 1 month"
3 Less3Mth	"1 month, up to 3 months"
4 Less6Mth	"Over 3 months, up to 6 months"
5 Less1Yr	"Over 6 months, up to 1 year"
6 Less2Yrs	"Over 1 year, up to 2 years"
7 Over2Yrs	"Over 2 years"

B26
SHOW CARD G.
Which, if any, of the things on this card are important in determining how hard you work in your job?
INTERVIEWER: CODE @IALL@I MENTIONED

1 Machine	"A machine or assembly line"
2 Clients	"Clients or customers"
3 Boss "	A supervisor or boss"
4 Colleag	"Your fellow workers or colleagues"
5 Self	"Your own discretion"
6 Money	"Pay incentives"
7 Appraise	"Reports and appraisals"
8 None	"None of these"

Multicoded, number of allowed choices : 7

B27
How much effort do you put into your job @Ibeyond@I what is required? Is it ...READ OUT...

1 ALot	"...A lot,"
2 Some	"...Some,"
3 Little	"...Only a little,"
4 None	"...or None"

B28
'My job requires that I work very hard'.
Do you strongly agree, agree, disagree, or strongly disagree with this statement?

1 StrAgree	"Strongly agree"
2 Agree	"Agree"
3 Disagree	"Disagree"
4 StrDisag	"Strongly disagree"

Bc40
SHOW CARD H.
How often is the following statement true of you at work:
'I work long hours.'?

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

Bc42
SHOW CARD H.
And how often is the following statement true of you at work:
'I take pride in doing my job as well as I can.'?

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

Bc44
SHOW CARD H.
(And how often is the following statement true of you at work):
'I am determined to do well in the job.'?

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

B34f
Maintaining output or services?
1 Yes "Yes"
2 No "No"

B34g
And do you have any responsibility for meeting official or professional standards for quality and reliability?
1 Yes "Yes"
2 No "No"

B35a
INTERVIEWER: SHOW CARD J.
How much influence do @Iyou personally@I have on how hard you work?
1 GrtDeal "A great deal"
2 FrAmount "A fair amount"
3 NotMuch "Not much"
4 None "None at all"

B35b
INTERVIEWER: SHOW CARD J.
How much influence do @Iyou personally@I have on deciding what tasks you are to do?
1 GrtDeal "A great deal"
2 FrAmount "A fair amount"
3 NotMuch "Not much"
4 None "None at all"

B35c
INTERVIEWER: SHOW CARD J.
Deciding how you are to do the task?
1 GrtDeal "A great deal"
2 FrAmount "A fair amount"
3 NotMuch "Not much"
4 None "None at all"

B35d
INTERVIEWER: SHOW CARD J.
And how much influence do @Iyou personally@I have on deciding the quality standards to which you work?
1 GrtDeal "A great deal"
2 FrAmount "A fair amount"
3 NotMuch "Not much"
4 None "None at all"

B29
How often do you come home from work exhausted...
INTERVIEWER: READ OUT...
1 Always "...always,"
2 Often "...often,"
3 Sometime "...sometimes,"
4 HardEver "...hardly ever,"
5 Never "...or never ?"

B36
Do you consider your current job to be skilled?
1 Yes "Yes"
2 No "No"

IF B40 = Yes THEN

B41

Was this on-the-job training...

INTERVIEWER: READ OUT...

1 CurrJob "... mainly during your current job,"
2 PrevJob "...mainly during a previous job or jobs,"
3 NotEmp ". or mainly while you were not employed, for example, on a Government scheme?"
4 Mixture "OR CODE: TRAINING DONE EQUALLY IN MORE THAN ONE OF THESE SITUATIONS"

IF B38 = Yes THEN

B42

Has any of your training been 'off the job', that is learning away from job pressures? This might involve sessions at your workplace or a college or training centre, or might mean teaching yourself through videos, books or computers.

1 Yes "Yes"
2 No "No"

IF B42 = Yes THEN

B43

Was this off-the-job training ...READ OUT..

1 CurrJob "...mainly during your current job,"
2 PrevJob "...mainly during a previous job or jobs,"
3 NotEmp "...or mainly while you were not employed, for example, on a Government scheme?"
4 Mixture "OR CODE: TRAINING DONE EQUALLY IN MORE THAN ONE OF THESE SITUATIONS"

IF B38 = Yes THEN

B44

Who paid the fees for this training?

INTERVIEWER: CODE AS MANY AS APPROPRIATE.

1 Employer "Employer"
2 Govt "Government"
3 Self "Self or family or relative"
4 Other "Other"
5 NoFee "No fees"

Multicoded, number of allowed choices : 4

B45

Was this training undertaken in ...

INTERVIEWER: READ OUT...

1 WorkHrs "... normal working hours,"
2 OwnTime "...your time,"
3 Both "...or both?"

IF (B45 = WorkHrs) OR (B45=Both) THEN

B46

While you were receiving this training did your employer pay your basic wages ...

INTERVIEWER: READ OUT...

1 Full "... in full,"
2 Part "...in part,"
3 NotAtAll "...or not at all?"

ALL

JA1

Firstly, in your job, how important is paying close attention to detail?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA2

In your job, how important is dealing with people?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA3

(And how important is) Instructing, training or teaching people, individually or in groups?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA4

How important is making speeches or presentations?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA5

(And how important is) Persuading or influencing others?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA6

(And how important is) Selling a product or service?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA14
(And how important is)
Knowledge of particular products or services?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA15
(And how important is)
Specialist knowledge or understanding?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA16
(And how important is)
Knowledge of how your organisation works?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA17
(And how important is)
Using a computer, 'PC', or other types of computerised equipment?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA19
(In your job, how important is)
Spotting problems or faults?
The problems or faults could be with your own work, someone else's work or equipment.

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA20
(And how important is)
Working out the cause of problems or faults?
The problems or faults could be with your own work, someone else's work or equipment.

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA28
(And how important is)
Organising your own time?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA29
In your job, how important is
thinking ahead?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA30
(And how important is)
Reading written information such as forms, notices or signs?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA31
(And how important is)
Reading short documents such as short reports, letters or memos?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

IF NOT((JA30=NotAtAll) AND (JA31=NotAtAll)) THEN

JA32
(And how important is)
Reading long documents such as long reports, manuals, articles or books?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA33
In your job, how important is
writing material such as forms, notices or signs?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

JA34
(And how important is)
Writing short documents (for example, short reports, letters or memos)?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

Section M

IF (SectionJ.JA17 IN [Essntl..NotVImp]) THEN

M1

Which of the following best describes your use of computers or computerised equipment in your job ...

INTERVIEWER: SHOW CARD M AND READ OUT...

1 Simple "...straightforward (for example, using a computer for straightforward routine procedures such as printing out an invoice in a shop),"

2 Moderate "...moderate (for example, using a computer for word-processing and/or spreadsheets or communicating with others by 'email'),"

3 Complex "...complex (for example, using a computer for analysing information or design, including use of computer aided design or statistical analysis packages),"

4 Advance "...or Advanced (for example, using computer syntax and/or formulae for programming)?"

IF (SectionB.B6b = Yes) OR (SectionB.B5 = Supervis) OR (SectionB.B5=Manager) THEN

M2a

SHOW CARD H.

In your role as supervisor/manager/leader of others, I'd like you to consider some statements and tell me how often each statement is true of you.

Firstly, 'I agree clear goals with my staff.'

1 Always "Always"
2 NrAlways "Nearly always"
3 Often "Often"
4 Sometime "Sometimes"
5 HardEver "Hardly ever"

M2b

SHOW CARD H.

I monitor the performance of my staff.

1 Always "Always"
2 NrAlways "Nearly always"
3 Often "Often"
4 Sometime "Sometimes"
5 HardEver "Hardly ever"

M2c

SHOW CARD H.

I motivate my staff.

1 Always "Always"
2 NrAlways "Nearly always"
3 Often "Often"
4 Sometime "Sometimes"
5 HardEver "Hardly ever"

M2d

SHOW CARD H.

And how often is this statement true of you: 'I get the best out of my staff'?

1 Always "Always"
2 NrAlways "Nearly always"
3 Often "Often"
4 Sometime "Sometimes"
5 HardEver "Hardly ever"

M3c

SHOW CARD A.

I find that my values and the organisation's values are very similar.

1 StrAgree	"Strongly agree"
2 Agree	"Agree"
3 Disagree	"Disagree"
4 StrDisag	"Strongly disagree"

M3d

SHOW CARD A.

And to what extent do you agree that 'this organisation really inspires the very best in me in the way of job performance'?

1 StrAgree	"Strongly agree"
2 Agree	"Agree"
3 Disagree	"Disagree"
4 StrDisag	"Strongly disagree"

M3e

SHOW CARD A.

I am proud to be working for this organisation.

1 StrAgree	"Strongly agree"
2 Agree	"Agree"
3 Disagree	"Disagree"
4 StrDisag	"Strongly disagree"

mB17e

SHOW CARD A.

How much do you agree or disagree with the following statement: 'I would take almost any job to keep working for this organisation'.

1 Stron	"Strongly agree"
2 Agr	"Agree"
3 Dis	"Disagree"
4 Strod	"Strongly disagree"

mB17f

SHOW CARD A.

How much do you agree or disagree with the following statement: 'I would turn down another job with more pay in order to stay with this organisation'.

1 Stron	"Strongly agree"
2 Agr	"Agree"
3 Dis	"Disagree"
4 Strod	"Strongly disagree"

C3
When your job involves
working hard even when not being supervised,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA2 IN [Essntl..NotVImp]) THEN

C4
When your job involves
dealing with people,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA28 IN [Essntl..NotVImp]) THEN

C5
When your job involves
organising your own time,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA37 IN [Essntl..NotVImp]) THEN

C6
When your job involves
carrying out calculations using decimals, percentages or fractions
(using a calculator or computer if necessary),
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA8 IN [Essntl..NotVImp]) THEN

C7
When your job involves
joining in a team effort,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA16 IN [Essntl..NotVImp]) THEN

C14

When your job involves
having knowledge or understanding of how the organisation works,
are you able to do this effectively...

1 Always "always,"
2 NrAlways "nearly always,"
3 Often "often,"
4 Sometime "sometimes,"
5 HardEver "or hardly ever?"

IF (SectionJ.JA13 IN [Essntl..NotVImp]) THEN

C15

When your job involves
knowing how to use/operate the tools/equipment/machinery required in the job,
are you able to do this effectively...

1 Always "always,"
2 NrAlways "nearly always,"
3 Often "often,"
4 Sometime "sometimes,"
5 HardEver "or hardly ever?"

IF (SectionJ.JA11 IN [Essntl..NotVImp]) THEN

C16

When your job involves
having enough physical stamina to carry out physical activities for long periods,
are you able to do this effectively...

1 Always "always,"
2 NrAlways "nearly always,"
3 Often "often,"
4 Sometime "sometimes,"
5 HardEver "or hardly ever?"

C17

When your job involves
acting without being prompted,
are you able to do this effectively...

1 Always"always,"
2 NrAlways "nearly always,"
3 Often "often,"
4 Sometime "sometimes,"
5 HardEver "or hardly ever?"

IF (SectionJ.JA17 IN [Essntl..NotVImp]) THEN

C18

When your job involves
using a computer, PC or other types of computerised equipment,
are you able to do this effectively...

1 Always "always,"
2 NrAlways "nearly always,"
3 Often "often,"
4 Sometime "sometimes,"
5 HardEver "or hardly ever?"

IF (SectionJ.JA32 IN [Essntl..NotVImp]) THEN

C24

When your job involves
reading and understanding long documents such as long reports, manuals, articles or books,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

C25

When your job involves
handling problems with little guidance,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA33 IN [Essntl..NotVImp]) THEN

C26

When your job involves
writing notes or filling in forms with correct spelling and grammar
(for example, forms, notices or signs),
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA36 IN [Essntl..NotVImp]) THEN

C27

When your job involves
adding, subtracting, multiplying or dividing numbers correctly,
(Using a calculator or computer if necessary),
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

C28

When your job involves
being relied upon to get the work done,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA4 IN [Essntl..NotVImp]) THEN

C35

When your job involves
making effective speeches or presentations,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA7 IN [Essntl..NotVImp]) THEN

C36

When your job involves
counselling, advising or caring effectively for others,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA26 IN [Essntl..NotVImp]) THEN

C37

When your job involves
planning your own activities,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA27 IN [Essntl..NotVImp]) THEN

C38

When your job involves
planning the activities of others,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA6 IN [Essntl..NotVImp]) THEN

C39

When your job involves
selling a product or service,
are you able to do this effectively...

1 Always	"always,"
2 NrAlways	"nearly always,"
3 Often	"often,"
4 Sometime	"sometimes,"
5 HardEver	"or hardly ever?"

IF (SectionJ.JA1 IN [Essntl..NotVImp]) THEN

C48

When your job involves
paying close attention to detail,
are you able to do this effectively...

1 Always "always,"
2 NrAlways "nearly always,"
3 Often "often,"
4 Sometime "sometimes,"
5 HardEver "or hardly ever?"

IF (SectionJ.JA3 IN [Essntl..NotVImp]) THEN

C49

When your job involves
instructing, training or teaching people,
are you able to do this effectively...

1 Always "always,"
2 NrAlways "nearly always,"
3 Often "often,"
4 Sometime "sometimes,"
5 HardEver "or hardly ever?"

IF (SectionJ.JA31 IN [Essntl..NotVImp]) THEN

C50

When your job involves
reading and understanding short documents such as short reports, letters or memos,
are able to do this effectively...

1 Always "always,"
2 NrAlways "nearly always,"
3 Often "often,"
4 Sometime "sometimes,"
5 HardEver "or hardly ever?"

IF (SectionJ.JA9 IN [Essntl..NotVImp]) THEN

C51

When your job involves
listening carefully to colleagues,
are you able to do this effectively...

1 Always "always,"
2 NrAlways "nearly always,"
3 Often "often,"
4 Sometime "sometimes,"
5 HardEver "or hardly ever?"

Cend

IF CCOMP = CResp THEN
' THANK YOU. That is the end of the section.'
' Please return the computer to the interviewer.'

INTERVIEWER: PRESS <1> followed by <ENTER> TO CONTINUE.
1 kool "Key in code <1><ENTER> to Continue"

IF (P2a=DONTKNOW) OR ((P2b=RESPONSE) AND (P2b <> Hour)) THEN

P3

Do you know what is your usual gross hourly rate of pay?

1 Yes "Yes"
2 DKHourly "Does not know gross hourly rate"
3 NoHourly "Not paid by an hourly rate"

IF P3=Yes THEN

P3ghr

What is your usual gross hourly rate of pay?

Range : 0..1000

IF (P2a=DONTKNOW) OR (Guess IN P2d) THEN

P4a

What is your usual @Itake-home@I pay after all deductions for tax, national insurance, and so on, but including overtime, bonuses, commission or tips?
IF NO USUAL PAY, RECORD PAY IN LAST FULL PAY PERIOD.

Range : 0..999997

IF (P4a=RESPONSE) AND (P4a IN [0..999997]) THEN

P4b

How long a period does that pay cover?

1 Week "One week"
2 FourWeek "Four weeks"
3 Month "Calendar month"
4 Year "Year"
5 Other "Other"

IF P4b = Other THEN

P4c

INTERVIEWER: ENTER 'OTHER' PERIOD.

Text : Maximum 41 characters

IF (P4a=RESPONSE) AND (P4a IN [0..999997]) THEN

P4d

INTERVIEWER: CODE ONE OR MORE:

1 NoUsual "No usual pay - recorded pay in last full period"
2 Payslip "Respondent showed/referred to payslip"
3 ReasCert "Respondent knew pay with reasonable certainty"
4 Guess "Respondent guessed or estimated take home pay"

Multicoded, number of allowed choices : 2

IF (SectionB.B11 = 0) AND (P2e=EMPTY) THEN

P4e

About how many hours (per week) do you work?

Range : 0..168

IF SectionB.B4 = SelfEmp THEN

P5a

About how much do you earn @lafter@I all expenses and other deductions but @lbefore@I income tax and national insurance?
IF NO USUAL EARNINGS, PAY IN LAST YEAR OR MONTH.

Range : 0..999997

IF (P5a=RESPONSE) AND (P5a IN [0..999997]) THEN

P5b

How long a period does that pay cover?

1 Week "One week"
2 FourWeek "Four weeks"
3 Month "Calendar month"
4 Year "Year"
5 Other "Other"

P11
Since leaving full-time education, how many years @lin total@l have you been in @lpaid work@l?

INTERVIEWER: RECORD NUMBER OF YEARS IN TOTAL.
DO NOT COUNT ANY BREAKS DUE TO, EG CHILDCARE OR LONG-TERM SICKNESS.
DO NOT COUNT ANY PAID WORK DONE BEFORE LEAVING FULL-TIME EDUCATION.
RECORD TO NEAREST YEAR. IF LESS THAN SIX MONTHS CODE '00'.
Range : 0..50

P12a
Which qualifications do you have, starting with the highest qualifications?
INTERVIEWER: CODE UP TO 3 QUALIFICATION LEVELS FROM THE LIST.

1 None	"None/no qualifications"
2 GCSEDG	"CSE (other than Grade 1) or GCSE D-G"
3 GCSEAC	"GCE 'O' Level or Grade 1 CSE or GCSE A*-C or School Certificate of Matriculation or GNVQ Intermediate"
4 Alevel	"GCE 'A' Level or GNVQ Advanced"
5 SCESUPE	"SCE 'O' Level, or Lower Grade SLC (Scottish Leaving Certificate) or SUPE (Scottish Universities Preliminary Exam) or GNVQ Intermediate"
6 SCEHigh	"SCE Higher, or SLC/SUPE Higher Grade or GNVQ Advanced"
7 CertSix	"Certificate of Sixth Year Studies"
8 NVQtwo	"City and Guilds or S/NVQ level 2"
9 NVQthree	"ONC/OND (Ordinary National Certificate or Diploma),or SNC/SND(Scottish) or S/NVQ level 3"
10 NVQfour	"HNC/HND (Higher National Certificate or Diploma, or SHNC/SHNC (Scottish) or S/NVQ level 4"
11 UniCert	"University Certificate/Diploma (@INot@l Degree) or S/NVQ level 4"
12 SCOTVEC	"SCOTVEC National Certificate"
13 SCOTBEC	"SCOTBEC/SCOTEC Certificate/Diploma"
14 Cleric	"Clerical and Commercial (eg typing, shorthand or book-keeping)"
15 Nurse	"Nursing (eg SRN/SEN)"
16 Teach	"Teaching"
17 OthProf	"Other Professional (eg law, medicine)"
18 Degree	"University or CNAA Degree"
19 TradeApp	"Completion of Trade Apprenticeship"
20 ProfNoEx	"Professional qualification without sitting exam"
21 Other	"Other"

Multicoded, number of allowed choices : 3

IF Other IN P12a THEN
P12b
INTERVIEWER: ENTER DETAILS OF OTHER QUALIFICATION.
Text : Maximum 100 characters

IF Degree IN P12a THEN
P13
Was your degree in ...
INTERVIEWER: READ OUT...
CODE UP TO TWO ANSWERS

1 Eng	"... engineering,"
2 OthSci	"...other sciences,"
3 SocSci	"...social sciences,"
4 ArtHum	"...or arts and humanities,"

Multicoded, number of allowed choices : 2

IF F1 = Job THEN

F8

At that time, were you working full-time or part-time?

1 FullTime "Full-time"
2 PartTime "Part-time"

F9

(At that time,) how many people worked at the place where you worked?
IF DON'T KNOW: your best guess will do.
INTERVIEWER: ENTER NUMBER.
Range : 1..99997

F10

'My job five years ago required that I worked very hard'.
Do you strongly agree, agree, disagree or strongly disagree with this statement?

1 StrAgree "Strongly agree"
2 Agree "Agree"
3 Disagree "Disagree"
4 StrDisag "Strongly disagree"

F11

How much choice did you have over the way in which you did your job ...
INTERVIEWER: READ OUT...

1 GrtDeal "... a great deal of choice,"
2 Some "...some choice,"
3 HardAny "...hardly any choice,"
4 None "...or no choice at all?"

F12

How often did your work involve carrying out short repetitive tasks ...
INTERVIEWER: READ OUT...

1 Never "Never"
2 Rarely "Rarely"
3 Sometime "Sometimes"
4 Often "Often"
5 Always "Always"

F13

Was there much variety in your job ...
INTERVIEWER: READ OUT...

1 GrtDeal "...a great deal,"
2 QuiteLot "...quite a lot,"
3 Some "...some,"
4 Little "...a little,"
5 None "...or none at all?"

Fhead

INTERVIEWER: READ OUT...
The next questions are about the sort of things which may or may not have been part of the job you held five years ago. We are only interested in finding out @Iwhat types of activities your job involved and how important these were@I. If the activity was NOT part of your job, please use number 5 from this card of possible answers.

INTERVIEWER: HAND OVER CARD L AND PAUSE TILL RESPONDENT READS IT.
PRESS 'ENTER' TO CONTINUE.

1 CONTINUE "Press <Enter> to continue"

F22
SHOW CARD L.
Making speeches or presentations?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

F23
SHOW CARD L.
In the job you held five years ago, how important was persuading or influencing others?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

F24
SHOW CARD L.
Selling a product or service?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

F25
SHOW CARD L.
Counselling, advising or caring for customers or clients?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

F26
SHOW CARD L.
Working with a team of people?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

F27
SHOW CARD L.
In the job you held five years ago, how important was using a computer, 'PC', or other type of computerised equipment?

1 Essntl	"Essential"
2 VeryImp	"Very important"
3 FairImp	"Fairly important"
4 NotVImp	"Not very important"
5 NotAtAll	"Not at all important/Does not apply"

Section D

D1
Finally, I would like to ask you a few more questions about yourself.
Are you ....READ OUT...

1 Married	"Married"
2 LiveTog	"Living together as a couple"
3 Single	"Single"
4 Widowed	"Widowed"
5 Separat	"Separated/divorced"

D2a
Do you have any children under the age of 16 who are financially dependent on you? INTERVIEWER: CHILDREN DO NOT HAVE TO LIVE IN SAME HOUSEHOLD AS RESPONDENT, AND DO NOT HAVE TO BE BIOLOGICAL CHILDREN.

1 Yes	"Yes"
2 No	"No"

IF D2a = YES THEN

D2b
How many do you have?
Range : 0..30

D2c
How many are under five years old?
Range : 0..30

D3
SHOW CARD N.
To which of these groups do you consider that you belong?

1 White	"White"
2 BlKCarib	"Black - Caribbean"
3 BlkAfr	"Black - African"
4 BlkOth	"Black - Other"
5 Indian	"Indian"
6 Pakistan	"Pakistani"
7 Banglad	"Bangladeshi"
8 Chinese	"Chinese"
9 Other	"Other"

D4
Are you a registered disabled person?

1 Yes	"Yes"
2 No	"No"

Tph
Is there a telephone in your accomodation which can be used to receive and to make calls?

1 Yes	"Yes"
2 No	"No"

IF Tph=Yes THEN

TPhone
A few interviews on any survey are checked by a supervisor to make sure people are satisfied with the way the interview was carried out. In case my supervisor needs to contact you, it would be helpful if you could let me have your telephone number.

1 Given	"Number given"
2 Ref	"Number refused"