

# Skills in England 2003

# Volume 2

Research Report



Learning+Skills Council

Report prepared for the Learning and Skills Council by

Institute for Employment Research  
University of Warwick  
Coventry  
CV4 7AL

Tel: 024 7652 3530

Fax: 024 7652 4241

Email: [t.hogarth@warwick.ac.uk](mailto:t.hogarth@warwick.ac.uk)  
[r.a.wilson@warwick.ac.uk](mailto:r.a.wilson@warwick.ac.uk)

Edited by Terence Hogarth and Rob Wilson  
with contributions from D.L. Bosworth, A.P. Dickerson,  
P. Elias, A.E. Green, C. Hasluck and IFF Research  
January 2004

The Skills in England 2003 report has been produced in association with the Department for Education and Skills (DfES), Sector Skills Development Agency (SSDA), and the Regional Development Agencies ((RDAs) - represented by North West RDA).

department for  
**education and skills**  
creating opportunity, releasing potential, achieving excellence

**skills**  
FOR BUSINESS  
Sector Skills Development Agency

Table of Contents	Paragraph Number
<b>Acknowledgements</b>	
<b>Preface</b>	
<b>Contributors</b>	
<b>Chapter 1: Introduction</b>	<b>1.1</b>
What's New?	1.1
Developments in Policy	1.4
Skills Supply and Demand	1.8
Supply and Demand Mismatches	1.13
Skill Needs in the Future	1.16
Skills and Organisational Performance	1.19
Active Labour Market Policy	1.22
Social Exclusion and Equality of Opportunity	1.24
Conclusion	1.27
<b>Chapter 2: The Policy Context</b>	<b>2.1</b>
Introduction	2.1
Mapping the Skills Policy Terrain	2.4
Delivering Skills Policy	2.7
At the national level	2.8
At the regional level	2.17
At the local level	2.19
Strategic Policy Developments	2.21
The National Skills Task Force	2.23
Towards a national skills strategy	2.28
Education and skills	2.32
A new framework for delivering skills	2.40
Key Themes in the New Skills Agenda	2.45
<b>Chapter 3: The Demand for Skills</b>	<b>3.1</b>
Introduction and Summary	3.1
Drivers of Skill Demand	3.9
Overall Trends in Employment and the Demand for Skills	3.18

<b>Table of Contents</b>	<b>Paragraph Number</b>
Industry trends	3.21
Occupational trends	3.26
Regional/local trends	3.36
Qualifications of the Employed Workforce	3.40
Recent Survey Evidence on the Demand for Skills	3.55
Skills Surveys 1997 and 2001	3.58
Employer Perspectives Survey 2002	3.69
International Evidence on Skill Demand	3.73
<b>Chapter 4: The Supply of Skills</b>	<b>4.1</b>
Introduction and Summary	4.1
Objectives and targets	4.6
Qualifications Held by the Labour Force	4.17
Trends in qualifications held	4.18
Demographics	4.23
Regional/local patterns	4.29
Participation in Post-compulsory Education	4.33
Workplace Training	4.38
Employer provision of training	4.38
Employee receipt of training	4.43
International Evidence on Educational Attainment	4.44
<b>Chapter 5 : Mismatches in Supply and Demand</b>	<b>5.1</b>
Introduction and Summary	5.1
Measuring Earnings Differentials	5.5
The Returns on High-level Qualifications	5.10
Qualifications and Occupations	5.18
Results for the National Employers Skills Survey	5.22
Definitions	5.24
Summary of findings	5.31
Recruitment problems in detail	5.35
Occupational characteristics of recruitment problems	5.38

<b>Table of Contents</b>	<b>Paragraph Number</b>
Recruitment problems and size of establishment	5.41
Recruitment problems by industrial sector	5.43
Regional and local patterns of recruitment problems	5.48
Extent of skills gaps	5.51
Skill characteristics of skills gaps	5.53
Occupational character of skills gaps	5.54
Skills gaps by size of establishment	5.59
Skills gaps by industrial sector	5.62
Local and regional patterns of skills gaps	5.64
Causes of skills gaps	5.70
Impact of skill deficiencies	5.72
Implications of recruitment problems	5.73
Implications of skills gaps	5.76
Conclusion	5.79
 <b>Chapter 6: Future Skill Needs</b>	 <b>6.1</b>
Introduction and Summary	6.1
Macroeconomic Trends	6.18
Detailed Changes in Employment Structure	6.24
Employment Status and Gender	6.26
Occupational Trends	6.31
More Detailed Occupational Projections	6.51
Replacement Demand	6.59
Changes in the Demand for Qualifications	6.69
Trends in Skill Requirements	6.75
Regional Variations in Future Skill Needs	6.80
Sectoral prospects by region	6.82
Occupational prospects by region	6.84
Prospects for the Supply of Skills	6.103
Future Skill Imbalances and Deficiencies	6.118

Table of Contents	Paragraph Number
<b>Chapter 7: Skills and Organisational Performance</b>	<b>7.1</b>
Introduction and Summary	7.1
Cutting the Cake: Who Receives the Rewards from Increased Skills?	7.11
Empirical Evidence Linking Skills and Performance	7.16
Rates of return on education	7.16
Labour quality, productivity and wages	7.19
Human resource and high-performance work practice investments and their impact on performance	7.23
Product Market Strategy, Skills and Dynamic Performance	7.27
Evidence Linking Skills, Product Market Strategies and Dynamic Performance	7.32
Research and Development, Innovation and Skills	7.40
New Ventures and Skills	7.44
Business Survival, Skills and Competencies	7.48
Low-skills Trajectories and Low-skills Equilibrium	7.52
Low-skills trajectories	7.57
Changing Strategies	7.63
<b>Chapter 8: Skills and Active Labour Market Policy</b>	<b>8.1</b>
Introduction and Summary	8.1
Labour Market Disadvantage and Skills	8.4
Active Labour Market Policy in the UK	8.6
International Comparisons	8.10
Training Under New Deal	8.15
The New Deal programmes	8.16
The scale of training under New Deal	8.20
Issues relating to training under New Deal	8.24
Work-based Training	8.28
Work-based learning for adults	8.29
Work-based learning for young people	8.38
Other Training-based Initiatives	8.48
Conclusion	8.58

## Table of Contents

## Paragraph Number

<b>Chapter 9: Equal Opportunities, Social Inclusion and Skills</b>	<b>9.1</b>
Introduction and Summary	9.1
What are Social Inclusion and Exclusion?	9.5
Where is Social Exclusion Concentrated?	9.12
Population sub-groups	9.13
Regional/local areas	9.17
How can Skills and Training Combat Social Exclusion?	9.25
Skills, Qualifications and Being in Work – the Most Disadvantaged	9.40
Age profile	9.41
Gender profile	9.53
Ethnic group profile	9.57
People with disabilities	9.65
Skills and Qualifications over the Life Course	9.75
Education and Skills Issues Facing Disadvantaged Groups	9.82

## References

**List of tables and figures**

<b>Tables</b>	<b>Page Number</b>
Table 3.1: Employment change by sector and region, England 1982–1992 and 1992–2002	33
Table 3.2: Changing industrial employment patterns by region, 1992–2002	38
Table 3.3: Occupational structure, selected industries, England 1992 and 2002 (percentage employed in each occupation)	48
Table 3.4: Occupational structure within industries, England 1992 and 2002	49
Table 3.5: Occupational change within regions, 1992–2002	56
Table 3.6: Qualifications composition of employment, England 1993 and 2003 (000s and percentage shares)	58
Table 3.7: Qualification level by occupation, England 1993 and 2003 (000s and percentage in each occupation)	59
Table 3.8: Mean levels of generic skills by occupation	66
Table 3.9: Mean levels of generic skills by qualification and by gender	67
Table 3.10: Centrality and complexity of computing usage	69
Table 4.1: LSC objectives and targets to 2004	76
Table 4.2: Highest qualification held by workforce, England 2003	80
Table 4.3: Qualifications of the workforce, England 2003	82
Table 4.4: Employer provision of job-related training	86
Table 4.5: Percentage of individuals in receipt of training in the last 13 weeks	88
Table 4.6: International differences in educational attainment	90
Table 5.1: Changes in the relative gross weekly earnings of full-time employees, by SOC sub-major groups, 1981–1983, 1991–1993 and 2001–2003	97
Table 5.2: Variations in the earnings premium for a degree, inter-cohort comparisons	101
Table 5.3: A classification of graduate occupations (based upon the 1990 Standard Classification of Occupations)	102
Table 5.4: Percentage of employed 21–35-year-olds and 40–54-year-olds who hold degrees, 2001–2003	106
Table 5.5: Overall incidence of skill deficiencies in England, 2003 and 2001	114
Table 5.6: Density of recruitment problems by occupation	118



**List of tables and figures**

<b>Tables</b>	<b>Page Number</b>
Table 5.7: Recruitment problems by size of establishment	119
Table 5.8: Density of recruitment problems and skills gaps by industry	122
Table 5.9: Vacancies and HtFVs as a proportion of employment by region, size and sector	124
Table 5.10: Density of recruitment problems and skills gaps by local LSC area	125
Table 5.11: Commentary on density of recruitment problems by local LSC area	128
Table 5.12: Incidence of skills gaps and size of establishment	133
Table 5.13: Incidence of skills gaps by industrial sector	135
Table 5.14: Incidence of skills gaps by region	136
Table 5.15: Incidence of skills gaps by local LSC area	138
Table 6.1: Expected future changes in employment in England by broad sector: 2002–2012	156
Table 6.2: Occupational change, SOC sub-major group, England, 2002–2012	167
Table 6.3: Replacement demand by SOC sub-major group, England, 2002–2012	174
Table 6.4: Replacement demand by occupation by region, 2002–2012	176
Table 6.5: Replacement demand by occupation by sector, England, 2002–12	179
Table 6.6: Projected change in demand for qualifications in England, 1999–2010 (000s)	183
Table 6.7: Projected employment levels by broad sector, 2002–2012 (000s)	187
Table 6.8: Employment shares by broad sector, 2002–2012 (column %)	188
Table 6.9: Projected employment changes by broad sector, 2002–2012	189
Table 6.10: Projected employment levels by industry, England, 2002–12 (000s)	190
Table 6.11: Employment shares by industry, England, 2002–12 (column %)	192
Table 6.12: Projected employment change by industry, England, 2002–2012	194
Table 6.13: Projected employment levels by occupation, 2002–2012 (000s)	198
Table 6.14: Employment shares by occupation and region, 2002–2012 (column %)	200
Table 6.15: Projected employment changes by occupation and region, 2002–2012	202
Table 6.16: Projected employment levels by SOC sub-major group, by region, 2002–12 (000s)	204

**List of tables and figures**

<b>Tables</b>	<b>Page Number</b>
Table 6.17: Employment shares by SOC sub-major group, by region, 2002–12 (column %)	208
Table 6.18: Projected employment changes by occupation, 2002–2012	212
Table 6.19: Projected changes in occupational structure by region	216
Table 8.1: Expenditure of training-based measures by selected OECD state	244
Table 9.1: Employment rates for working age population by qualification level and region, 2003	267
Table 9.2: Population aged 16–74 years with no qualifications, 2001	268
Table 9.3: Proportion of adults with no qualifications by ethnic group and age, 2001	282
Table 9.4: Employment and inactivity rates for those suffering limiting long-term illness by local LSC area, 2001	287

## List of tables and figures

Figures	Page Number
Figure 2.1: Agencies responsible for skills and development strategy, funding or delivery	11
Figure 2.2: Responsibilities for delivery of the Skills Strategy	23
Figure 3.1: Employment trends by sector, England 1982–2002	35
Figure 3.2: Sectoral structure of employment, England 1982, 1992 and 2002	36
Figure 3.3: Changes in employment by industry, England 1982–1992 and 1992–2002	42
Figure 3.4: Rates of employment growth by industry, England 1982–1992 and 1992–2002	43
Figure 3.5: Occupational profiles, England 1982–2002	44
Figure 3.6a: Changing occupational structure of employment, England 1992 and 2002 (000s in employment)	45
Figure 3.6b: Changing occupational structure of employment, England 1992 and 2002 (percentage shares of total employment)	45
Figure 3.7: Occupational change by SOC sub-major group, England 1992–2002	46
Figure 3.8: Proportion of employment in managerial, professional and associate professional occupations by sector, England 1992 and 2002	53
Figure 3.9: Proportion of employment in managerial, professional and associate professional occupations by industry, England 1992 and 2002	54
Figure 3.10: Qualifications of individuals in employment, England 1993 and 2003	60
Figure 3.11: Percentage of employees with no qualifications by occupation, England 1993 and 2003	61
Figure 3.12: Percentage of employees qualified to NVQ Level 3 and above, by occupation, England 1993 and 2003	62
Figure 3.13: Changes in the use of generic skills, 1997–2001	69
Figure 4.1: Highest qualification held by economically active population, England 1993, 1998 and 2003 (percentages)	78
Figure 4.2: Percentage of individuals of working age with no qualification, NVQ Level 3+ and NVQ Level 4+ by region	84
Figure 4.3: Participation of all 16-19-year-olds in full-time education, England 1992–2003	85
Figure 4.4: Highest completed level of education, OECD 2001	91
Figure 4.5: Expected years of schooling, OECD 2001	92
Figure 5.1: Participation by young people in higher education, Age Participation Index (API) Great Britain, 1975-76 to 2000-01	100

**List of tables and figures**

<b>Figures</b>	<b>Page Number</b>
Figure 5.2: The returns on a first degree, full-time employees aged 21–25 on 1 January 1993, by gender	100
Figure 5.3: Graduate occupations as proportions of all employees, Great Britain 1975–2000	102
Figure 5.4: Growth of ICT-related occupations in England and Wales, 1991–2003	105
Figure 5.5: Highest qualification and economic status, March–May 2003	109
Figure 5.6: Occupation and economic status	110
Figure 5.7: Occupational status and economic status, 1993–2003	111
Figure 5.8: Skills found difficult to recruit	115
Figure 5.9: Share of employment, vacancies and recruitment problems by occupations	117
Figure 5.10: Distribution of employment, vacancies and recruitment problems by industrial sector	122
Figure 5.11: Skills characteristics of skills gaps	130
Figure 5.12: Distribution of skills gaps by occupation	131
Figure 5.13: Skills gaps as a percentage of employment within each occupation (density of occupational skills gaps)	132
Figure 5.14: Cause of skills gaps	140
Figure 5.15: Impact of SSVs	142
Figure 5.16: Employers' responses to SSVs	143
Figure 5.17: Impact of skills gaps	144
Figure 5.18: Responses to skills gaps	145
Figure 6.1: Employment change by broad sector	156
Figure 6.2: Historical and projected changes in employment by detailed sector, England (000s)	158
Figure 6.3: Historical and projected changes in employment by detailed sector, England (%)	159
Figure 6.4: Changing patterns of employment by gender and status, England % shares, 2002	161
Figure 6.5: Occupational change by gender and status, England, 2002–12 (000s)	165
Figure 6.6: Occupational change, SOC sub-major group, England, 2002–2012	169
Figure 6.7: Net requirements and expansion demand by SOC 2000 sub-major group, England, 2002–2012	175
Figure 6.8: Employment change by region, 1992–2012	186

## List of tables and figures

<b>Figures</b>	<b>Page Number</b>
Figure 8.1: Expenditure on all active labour market measures as percentage of GDP, selected OECD states	243
Figure 8.2: Activities on NDYP, March 2003	247
Figure 8.3: Activities on ND25plus IAP, March 2003	247
Figure 8.4: Activities on NDLP, March 2003	248
Figure 8.5: Numbers on WBLA training, April 2001–March 2003	251
Figure 8.6: Job entry rates from WBLA, by region, April 2001-December 2002	252
Figure 8.7: Numbers on WBLYP, 1999/00 to 2002/03, by programme	254
Figure 9.1: Percentage of the population aged 16–74 years with no qualifications by local authority area, 2001	270
Figure 9.2: Economic position by gender and highest qualification level, 2002	280
Figure 9.3: Percentage of the population from minority ethnic groups by local authority area, 2001	281
Figure 9.4: Economic position of disabled and non-disabled people	286

## Acknowledgements

Many people have contributed to *Skills in England 2003*. The Steering Group comprised:

Susan Fox	<i>LSC National Office</i>
Marc Bayliss	<i>LSC National Office</i>
Joyce Findlater	<i>LSC National Office</i>
Anne Greaves	<i>LSC National Office</i>
Keith Bartlett	<i>LSC National Office</i>
Lauren Sadler	<i>LSC National Office</i>
Michael Spayne	<i>LSC Cumbria</i>
Isabel Palmer	<i>LSC West of England</i>
Angela Scale	<i>LSC Coventry and Warwickshire</i>
Sean Perera	<i>LSC Bedfordshire and Luton</i>
Andrew Heydeman	<i>NWDA</i>
Carol Stanfield	<i>SSDA</i>
Geoffrey Shoemith	<i>DfES</i>

Over the course of the study the Steering Group gave many helpful comments. In particular Susan Fox at the LSC, who was overall project manager, provided much help in keeping the study on track. She was assisted by Lauren Sadler, LSC National Office.

*Skills in England 2003* is a joint production by the University of Warwick Institute for Employment Research (IER) and Cambridge Econometrics (CE).

At IER, Lynne Conaghan formatted the document with her customary rigour and attention to detail, for which many thanks are due. Andrew Holden and Peter Millar provided computing assistance.

At CE, text writing, data gathering and processing were undertaken by Simon Hallam, Sasha Thomas and Harriet Livesey, and editing was undertaken by Richard Lewney. Other assistance was provided by Katerina Homenidou, who was the main CE contributor to the Employment Projections study carried out for the SSDA from which many of the data estimates used in the LSC report were obtained.

The authors of the report remain solely responsible for the content of the report (including any remaining errors) and the opinions expressed.

## Preface

*Skills in England 2003* is presented in four volumes this year. *Volume 1* provides key messages and an overview of the research findings in the other three volumes. *Volume 2* is the main research report and this year, as well as containing the same core of information as in previous years - separate chapters on skills supply, skills demand, mismatches between demand and supply, and future skill needs - also contains other chapters that look at issues which are particularly topical this year. To this end a chapter is contained on the latest developments in policy given the publication of several important policy documents since last year's *Skills in England* report. Given the emphasis in policy on stimulating the demand for skills, a chapter is presented on the links between investments in skills and training and organisational performance.

It is also important to recognise that the benefits of economic growth and investments in training and skills do not affect everyone equally. There are groups in society who fail to obtain advantage from training and skills development and to illustrate this a chapter on social exclusion and equality of opportunity has been included this year. An important element of combating social exclusion has been the use of labour market programmes such as New Deal. Labour market programmes often contain a large element devoted to training of one kind or another and have been an important tool of labour market policy in many European countries. Arguably there is much more emphasis on active labour market policy in Britain today than hitherto with programmes such as New Deal, so a chapter has been devoted to this aspect of skills development. Finally, *Volumes 3* and *4* provide evidence related to industrial sector and regional/local trends respectively.

Terence Hogarth

Rob Wilson

Joint editors *Skills in England 2003*

## Contributors

**Professor Derek Bosworth**, Associate Fellow, Institute for Employment Research, University of Warwick (author of Chapter 7, Volume 2)

---

**Dr Andy Dickerson**, Principal Research Fellow, Institute for Employment Research, University of Warwick (author of Chapters 3 and 4, Volume 2)

---

**Professor Peter Elias**, Institute for Employment Research, University of Warwick (joint author of Chapter 5, Volume 2)

---

**Anne Green**, Principal Research Fellow, Institute for Employment Research, University of Warwick (author of Chapter 9, Volume 2)

---

**Simon Hallam**, Cambridge Econometrics (author of Volume 3)

---

**Chris Hasluck**, Principal Research Fellow, Institute for Employment Research, University of Warwick (author of Chapters 2 and 8, Volume 2)

---

**Terence Hogarth**, Principal Research Fellow, Institute for Employment Research, University of Warwick (overall joint editor and joint author of Volume 1, and Chapters 1 and 5, Volume 2)

---

**Harriet Livesey**, Cambridge Econometrics (joint author of Volume 4)

---

**Jan Shury**, Director, IFF Research Ltd (joint author of Chapter 5, Volume 2)

---

**Sasha Thomas**, Cambridge Econometrics (joint author of Volume 4)

---

**David Vivian**, Project Manager, IFF Research Ltd (joint author of Chapter 5, Volume 2)

---

**Dr Rob Wilson**, Institute for Employment Research, University of Warwick (overall joint editor, joint author Volume 1, and author of Chapters 1 and 6 in Volume 2)

---

**Mark Winterbotham**, Director, IFF Research Ltd (joint author of Chapter 5, Volume 2)

---



Skills in England 2003

Volume 2

Chapter 1: Introduction



## Chapter 1: Introduction

### What's New?

1.1 2002-03 has proved to be an eventful period in the development of the skills debate in England. Several white papers and other key policy documents have been produced, the most notable being the DfES's *21<sup>st</sup> Century Skills - Realising Our Potential* (referred to from herein as the Skills Strategy), but there have been a number of others too that have helped move the debate along including:

- the Cabinet Office's *In Demand: Adult Skills in the 21st Century (Part 2)*; and
- the DTI's *Full and Fulfilling Employment: Creating a Labour Market of the Future*.

Very much in evidence in all the official policy documentation is a shift in emphasis from the supply to the demand side. Whereas employers were previously expected to respond to changes in skills supply - if more skills were available employers would use them - the stress is now upon trying to stimulate employers to shift their demand for skills to a higher level.

1.2 As well as developments in policy, new data sources have become available that allow a much more detailed insight into the labour market's operation than hitherto. These include:

- the Learning and Skills Council's (LSC) *National Employers Skill Survey 2003* (NESS2003) of 72,100 workplaces in England that allows a detailed picture at an industrial, occupational and local level to be developed;
- the projections of employment by occupation and industry commissioned by the Sector Skills Development Agency (SSDA) and the LSC; and
- the *Census of Population 2001*.

Compared with previous *Skills in England* reports, a far richer set of data is available for analysis. This has permitted much greater analysis at a local and sectoral level.

1.3 While there is much new to report the emphasis is also upon continuity with *Skills in England 2001* and *Skills in England 2002* respectively. Viewed as a series, *Skills in England* begins to provide a measure or indication of progress in the formation and deployment of skills in England. Why the UK's labour productivity is below that of its main competitors - as it has been for many years - is one of the key policy issues with which Government currently grapples. The *Skills in England* series provides a summary of how successfully that issue is being tackled.

*2002-03 has proved to be an eventful period with the publication of several important policy documents.*

*New data sources are now available, including the Census of Population 2003, New Employment Projections, and the National Employers Skill Survey 2003.*

## Developments in Policy

- 1.4 Chapter 2 addresses the latest developments in policy and makes two key points. First, it draws attention to the potential for overlap between the various departments and agencies of Government that are now charged with a responsibility for skills and training. This issue has been recognised in the *Skills Strategy* and other documents as well. Chapter 2 maps out the current institutional arrangements for the delivery of skills and training.
- 1.5 Second, Chapter 2 describes the shift in policy towards a more demand-side oriented approach to raising the level of skills deployed in the workplace. Both the Strategy Unit's *Adult Skills in the 21<sup>st</sup> Century* and the DfES's *Skills Strategy* laudably promote the need to raise employers' demand for skills if, for instance, competitiveness is to be improved. But what is also apparent is the paucity of policy levers available to achieve this end. Both documents stress the importance of promoting and communicating best practice of how organisations can achieve higher value-added markets through investment in workforce development. Yet, despite the primacy ascribed to this aim the actual mechanisms to achieve it tend to be indirect. Time will tell, however, as these are early days in the creation of a demand-side policy.
- 1.6 Running through the policy debate is concern that England has settled into a low-skills equilibrium. That full, or near full employment, has been achieved more through the creation of low-skilled jobs than ones requiring a substantial input of skill from their incumbents. *Full and Fulfilling Employment* was the title of the DTI's White Paper that addressed this issue: the need to create jobs that provide a good level of interest, satisfaction and remuneration to those that fill them.
- 1.7 Twenty, even ten years ago, most policy makers would have settled for the high levels of employment and low levels of unemployment currently observed. Now the aim is to create a better-educated, better-qualified and better-skilled workforce to bring about a relatively high-waged economy. This theme runs throughout the report: how employers' product market strategies can be sufficiently raised so that they increasingly compete in high-value markets and create high-wage jobs.

## Skills Supply and Demand

- 1.8 Chapters 3 and 4 look at the demand for and supply of skills respectively. They provide the statistical information that allows the reader to discern trends and consider their underlying causes.
- 1.9 Demand-side trends reveal continuing and substantial change over the 1990s and 2000s. These trends may be summarised thus:
- substantial sectoral change, with a continued growth in marketed services and a decline in the number of jobs in the manufacturing and primary sectors;
  - a continued rapid growth in the absolute numbers and shares of managerial, professional and associate professional occupations;

*Chapter 2 of this report reviews developments in policy and the emphasis now placed on the demand for skills.*

*An enduring concern of policy is that England has settled into a low-skills equilibrium.*

*That said, the current high level of employment and low level of unemployment is a successful achievement.*

*Chapters 3 and 4 look at the demand and supply of skills respectively.*

*On the demand side, skills requiring higher-level skills and qualifications are increasing.*

- more modest growth in personal service and sales occupations; and
- a fall in employment in skilled trades, operatives and elementary occupations.

1.10 Chapter 3 looks at and asks questions about high-paid, high-skilled jobs in high-value-added sectors. In what parts of the country are they being created and to what extent? What are the skills and qualification profiles of these jobs? These are the jobs that Government policy is trying to stimulate, but the extent to which they are created in the private sector outside of the South East is a moot point.

1.11 The targets for educational attainment and qualification achievement in the labour force - set by the DfES and the LSC - drive the supply side. Setting targets at any given level ought to have a rationale for doing so. The rationale is set out in the context of creating a strong, socially inclusive economy in the DfES's *Education and Skills: A Strategy for 2006* paper. Target setting has played a role in the supply of skills in the workforce increasing, as Chapter 4 outlines. Over time the data reveal that more workers are now qualified, and to higher levels, and a higher proportion of the workforce participates in some form of formal training every year than hitherto.

1.12 But there remain problems in the system.

- Older adults are much more likely to have no qualifications and have little participation in training although this is likely to be a cohort effect that will diminish over time.
- Concern has been expressed regarding the actual qualifications achieved - both academic and vocational - by young people, and there is a debate regarding the standards being achieved.

Britain still falls behind its major competitors with respect to educational attainment overall and especially with regard to intermediate and vocational qualifications.

## Supply and Demand Mismatches

1.13 There are various means available to measure the extent to which there is a mismatch in the supply of and demand for skills:

- a comparison of the skills available amongst the unemployed and inactive with those that employers say they require;
- analysis of earnings differentials since relative increases and decreases in wages can reflect whether supply is outstripping demand or vice versa;
- whether employees report that they required a specific qualification to obtain a job, and whether they are using the skills they acquired in obtaining a qualification in that job; and
- employers' reports of SSVs and skills gaps.

*On the supply-side the evidence points to improvements in educational attainment.*

*Chapter 5 outlines mismatches between skills supply and demand.*

There is some dispute about the level of mismatch between skills supply and demand. While employer surveys provide evidence of SSVs, some of which prove to be damaging to organisational performance, there is little evidence at an aggregate level of wage inflation.

- 1.14 In a functional labour market one would expect the level of mismatch to be modest. To find otherwise would suggest a largely dysfunctional labour market where the educational and training system had fundamentally failed to meet the needs of the economy.
- 1.15 NESS2003 provides detailed information on the levels of recruitment problems and skills gaps in the economy. While recruitment problems affect a modest number of establishments, where they occur they can have a substantial impact on organisational performance. Skills gaps are more common than recruitment problems and again can have a substantial impact on how an organisation performs.

### Skill Needs in the Future

- 1.16 Important for policy is an understanding of what, given current economic conditions and trends, the future holds in store. The SSDA/LSC projections of employment by occupation and industry are presented in Chapter 6. The evidence presented here suggests that the scale and nature of expected future skill needs will be a great challenge for Government and public agencies, as well as for individuals and employers.
- 1.17 The challenge for policy makers relates to the major structural change in employment that is projected to continue over the medium term, with further decline in manufacturing and primary sector employment, offset by expansion of employment in the service sector. Further changes in the occupational structure of employment are expected. These changes will require new skills and qualifications from the workforce.
- 1.18 Between 2003 and 2012 around 1.3 million extra new jobs are projected in England. But the story is not all about additional, new jobs. It is crucial to recognise that there will be many job openings, and important education and training requirements, for many occupations where employment levels are expected to fall. These arise because of the need to 'replace' the existing skills that will be 'lost' as a result of retirements and other aspects of the normal process of labour turnover. The scale of replacement demand is projected to substantially outstrip the scale of expansion demand.

### Skills and Organisational Performance

- 1.19 To return to a theme running through *Skills in England 2003* - how to increase employers' labour demand for higher/intermediate level skills - consideration is given in Chapter 7 to the relationship between organisational performance and skills. This considers the research evidence based on data from individual companies, relating high performance to the deployment of skills.

*Where an organisation lacks the skills it requires, this can have a major impact on how well that organisation performs. In other words, skills matter.*

*Chapter 6 looks at future skill needs, and suggests that the scale and nature of future skill needs will be a major challenge for policy makers.*

*Replacement demand is one of the main challenges: how to attract people into industries that are in long-term decline.*

*Chapter 7 addresses the evidence linking skills to performance in the workplace.*

- 1.20 The relationship is not a simple one. Great importance is attached to management setting challenging, dynamic product market strategies that will sustain market share in an existing high-value-added market and develop new markets as well. Considerable importance therefore is attached to developing management skills especially in relation to the management of change. In many respects, high performance is concerned with spotting market opportunities and putting in place the resources to capture them. While in the first instance this might be concerned with issues such as raising investment capital, skills are a vital element too.
- 1.21 Developing high-performance organisations is not just about developing management's skills, but also having in place the skills necessary at every level of the workplace to meet the needs of what is, essentially, a process of on-going change. The key question, of course, is the extent to which messages that emanate from high-performance organisations can be applied across organisations that perform less well. Chapter 7 suggests some generic skill messages.

### Active Labour Market Policy

- 1.22 Compared with many countries in the European Union, the UK has expended a relatively low share of GDP on active labour market policy. That is, policy that seeks to provide people (typically the unemployed and inactive) with the qualities necessary to obtain a job and remain in work. While the share of GDP spent on these policies in the UK is still well behind countries such as Denmark or Germany, it has increased substantially over recent years, especially so as a consequence of the introduction of the New Deal programmes.
- 1.23 There are now a variety of programmes, including New Deal, that can be considered active labour market policy. Much of this is concerned with providing training to equip individuals not only to find a job but to keep it and progress in the labour market. This is what is often meant by the term *employability*. The evidence presented in Chapter 8 suggests that active labour market policy has been successful in equipping individuals - especially those at the margins of society - with the skills to participate in the labour market. In this respect it has not only stimulated labour/skill supply, but has been an important instrument to foster social inclusion.

### Social Exclusion and Equality of Opportunity

- 1.24 Should it be possible to create the much-desired aim of the high-wage, high-skill economy, that would still be an insufficient end in itself. Creating a socially inclusive society requires at the very least an equality of opportunity to participate in, and benefit from, the creation of a successful, dynamic economy. Even as the economy has neared full employment, it is apparent that some social and demographic groups have benefited from this much less than others. Creating a socially inclusive society is a formidable challenge in which education, skills and training have important roles to play, as Chapter 9 outlines.

*Chapter 8 looks at the relationship between active labour market policy and skills.*

*Much active labour market policy has training at its core. Moreover, the scale of active labour market policy has expanded over recent years.*

*Chapter 9 looks at those at risk of being marginalised or insufficiently included in the growth and development of a knowledge-based economy underwritten by a commitment to maintaining full employment.*

- 1.25 Lack of participation in the labour market is a key indicator of social exclusion. People with low or no skills are disproportionately concentrated amongst the socially excluded, as are older people, those from certain ethnic minority groups, those with disabilities, and those in areas of relatively low labour demand.
- 1.26 Chapter 9 demonstrates the links between worklessness, poor skills and social exclusion. Education and training facilitate social inclusion through the acquisition of formal qualifications and 'soft' skills. Possession of basic literacy and numeracy skills provides some protection against unemployment. While education and training alone cannot substantially reduce social exclusion, because it is a multi-dimensional problem, the evidence indubitably points to them being an important part of the solution.

## Conclusion

- 1.27 The description above provides a flavour of the analysis in this year's *Skills in England* designed to whet the appetite of the reader so that they might go on and read each chapter in turn. While at face value one might not expect to find much change from last year's report, there have been a number of substantial policy developments. These put the available statistical information in a new light; interpretation of these statistics now needs to be made with regard to the revised aims of policy.

*While education and training alone cannot substantially reduce social exclusion, the evidence indubitably points to them being an important part of the solution.*



Skills in England 2003

Volume 2

Chapter 2: The Policy Context



## Chapter 2: The Policy Context

### Introduction

2.1 Concern about the comparatively poor education and training of its workforce has been a long-standing issue in the United Kingdom. Despite this, it is probably true to say that the importance attached to skills issues has never been greater than in the past two decades. There has been a consensus within successive governments and on both sides of industry (for instance, the Confederation of British Industry and the Trade Union Congress) that skill deficiencies represent a significant weakness that is damaging UK economic performance. Poor skills and constraints on access to learning also limit the ability of individuals to gain stable employment and high wages. This consensus is founded on a mass of evidence from research relating to the links between skills and productivity, the economic returns to skill acquisition and the impact that low or obsolete skills have on long-term employability and labour market participation.

2.2 As a consequence of this consensus, skills issues and workforce development have moved increasingly towards the centre stage of UK policy. While this trend has been evident for several decades, the pace of change has quickened since 1997. Since that date there have been significant reforms of both policy and the institutions charged with delivery. The effects have been felt across the board, not only in the most obvious areas such as education and training but also in industrial, regional and economic development policy, urban and rural policy, business support, social welfare and many other aspects of Government activity.

The 'market' for skills and workforce development has become increasingly complex with many different agencies being involved in the delivery of policy. The most recent policy developments - notably the *In Demand* report from the Strategy Unit (Strategy Unit, 2002) and the *2003 Skills White Paper* (DfES, 2003c) - have been aimed at providing more effective policy by adopting a more demand-led approach and consolidating, reforming and streamlining education, training and skills policy and its delivery at national, regional and sectoral levels.

2.3 This chapter provides a review of skills and workforce development policy, as a context within which to place subsequent discussion of skills needs in England. The chapter does not provide a comprehensive historical account of the ebbs and flows of skills and related policy but, instead, concentrates on recent policy developments and the emerging new institutional framework for delivery.

### Mapping the Skills Policy Terrain

2.4 Like many aspects of social and economic life in the UK, Government policy relating to skills has evolved in an organic fashion. The scope and form of policy, and the institutions responsible for delivery, have changed over time reflecting the political and economic circumstances of the moment. Significant intervention by Government in response to labour and skills

*There is a broad consensus that deficiencies in the skills of the workforce represent a significant weakness that is damaging to UK economic performance.*

*Skills issues have moved to the centre stage of policy.*

*The 'market' for skills and workforce development has become increasingly complex.*

*This chapter reviews skills policy as a context for the assessment of skills needs in England.*

*Skills policy has evolved over time...*

... and by 2000 had become a complex patchwork of policy initiatives and institutions.

Who is responsible for skills policy?

Many different bodies are involved in developing and delivering skills policy.

shortages probably dates from the early 1960s when the *Industrial Training Act 1964* provided a statutory basis for measures to address failures in the market for training and introduced Industrial Training Boards (ITBs). During the 1980s much of this statutory framework was dismantled and the ITBs abolished in all but a few instances. Since 1997 the policy pendulum has swung back towards a greater emphasis on skills issues, although this continues to be within a voluntary framework. By the beginning of 2000, the skills and workforce development policy framework had evolved into a complex patchwork of policy initiatives and institutions.

- 2.5 Who then, is responsible for the development of skills policy and accountable for its delivery? The answer, in the past, has been far from straightforward. In a revealing case study of the delivery of the skills and economic development agenda published in 2002, the Better Regulation Task Force attempted to map out accountability and responsibility for delivering policy (Better Regulation Task Force, 2002). They asked various stakeholders to identify the organisations, agencies and initiatives with which they worked. Figure 2.1 summarises their findings (for the purpose of this chapter only organisations and agencies are shown and initiatives excluded).
- 2.6 Despite the many organisations and agencies identified in Figure 2.1, the map is by no means complete. Numerous organisations and agencies are involved in activities that touch upon skills issues and workforce development, especially at the local and community level. While many of these are bodies set up under the auspices of one of the bodies identified in Figure 2.1, many others are independent organisations with their own mission but working in partnership with those bodies identified. One Regional Development Agency reported to the Task Force that they had identified 52 bodies with whom they needed to work.

Figure 2.1: Agencies responsible for skills and development strategy, funding or delivery

Department with main responsibility	Department for Education and Skills "Raise skills for national competitiveness"	Department for Trade and Industry (DTI) "Economic development and regeneration of regions in a sustainable way"										
Other departments with a role	Department for Work and Pensions	Department for Environment, Food and Rural Affairs			Office of the Deputy Prime Minister							
National	National Learning and Skills Council	University for Industry	Invest UK	Jobcentre Plus	Small Business Service	Regional Coordination Unit	Neighbourhood Regeneration Unit	Sector Skills Development Agency	Sector Skills Councils			
Regional	Regional Assemblies		Regional Development Agencies		Government Offices for the Regions		Countryside Agency		Farming and Rural Conservation Agency			
Sub-regional and local	Local Learning and Skills Councils	Investors in People	Universities	Connexions	Local Authorities	Local Strategic Partnerships	Business Link	Information, Advice and Guidance Partnerships	Learning Partnerships	Further Education Colleges	Training providers	Jobcentre Plus

Source: Adapted from Better Regulation Task Force, Local Delivery of Central Policy, Cabinet Office, July 2002, Page 21, Figure 1.

## Delivering Skills Policy

2.7 As Figure 2.1 clearly illustrates, the responsibility for the development of policy and its implementation in England is diffuse and spread across many different bodies. The principal responsibilities for the development of policy at national level lie with the Department for Education and Skills (DfES), the Department for Trade and Industry (DTI) and, because of the regional dimension, the Office of the Deputy Prime Minister (ODPM). Responsibility for delivery of policy lies at a variety of levels: national, regional and sub-regional or local level.

### At the national level

2.8 The DfES is responsible for the task of building a competitive workforce by developing the education and skills of people of all ages. In particular, the DfES is responsible for education and training policy. The DfES delegates responsibility for delivery of education to Local Education Authorities in the case of primary and secondary education. Prior to 2001, delivery of post-16 tertiary education was managed by the Further Education Funding Council (FEFC) and the Higher Education Funding Council for England (HEFCE), while the delivery of work-related training was devolved to 79 local Training and Enterprise Councils (TECs) contracted to deliver under DfES contracts. Although devolving policy implementation to the local level, this arrangement made it difficult to achieve a coordinated approach to post-16 education and training, as it split responsibility between the FEFC and the TECs.

2.9 Following a proposal in the *Learning to Succeed - a new framework for post-16 learning* White Paper, a National Learning and Skills Council for England (LSC), operating via 47 local LSCs, was created in April 2001. This new arrangement brought together the budgets of the former TECs and FEFC and facilitated a more coordinated approach to planning and delivering learning to the post-16 age group. The new LSC was charged with providing strong leadership in learning and skills issues and ensuring that education and training provision was driven by customer needs and took account of changes in the labour market. The LSC plays a pivotal and crucial role in the delivery of the new Skills Strategy set out in the 2003 White Paper (discussed in greater detail in the following section on strategic developments).

2.10 The LSC works alongside Jobcentre Plus, the Small Business Service, Connexions, the Sector Skills Development Agency (SSDA) and Sector Skills Councils (SSCs), further education and sixth-form colleges, and representatives of community groups to understand, define and then meet training and education needs. With a budget of over £8 billion (2003-04) the work of the LSC covers:

- further education;
- work-based training and young people;
- school sixth forms;
- workforce development;

*Skills policy is designed, managed and delivered at national, regional and local levels.*

*The DfES is responsible for the task of building a competitive workforce and economy by developing the education and skills required by people of all ages.*

*The LSC is a key agency through which the DfES delivers skills policy.*

*The LSC will play a key role in delivering the new Skills Strategy.*

*The LSC works closely with a number of partners...*

*...to deliver learning to the post-16 age group.*

- adult and community learning;
- information, advice and guidance for adults; and
- education-business links.

2.11 The LSC has the remit to take the lead on the skills agenda; to provide effective coordination and planning of learning provision; and to drive up standards for post-16 learning. The key objectives of the LSC are:

- to extend participation in education, learning and training;
- to increase the engagement of employers in workforce development;
- to raise the achievement of young people;
- to raise the achievement of adults; and
- to raise quality and learner satisfaction.

2.12 A key vehicle for delivering on LSC corporate aims is the *Workforce Development Strategy* (WDS) which sets out a framework for actions by the LSC. The WDS proposes actions to:

- raise informed demand for employment-related skills amongst individuals and employers;
- support improvements in the responsiveness and flexibility of the supply side; and
- contribute to the development of an underpinning framework of better skills and labour market intelligence, responsive vocational qualifications and improved links to the wider educational agenda.

2.13 The DTI is charged with increasing economic competitiveness and scientific excellence in order to create higher levels of economic growth and productivity. The department delivers its policy through a number of bodies, in particular Regional Development Agencies (RDAs). The DTI is also responsible for business support of which the Small Business Service (SBS) and its associated Business Link network are important vehicles for developing enterprise and their associated skills.

2.14 While not so central to the development of skills policy as the DfES and the DTI, the ODPM is part of the policy development process being responsible for Government Offices for the Regions, the Regional Coordination Unit (RCU), as well as local and regional government, housing, planning and regeneration.

2.15 Other Government departments also have roles in delivering skills policy, in particular the DWP, which is responsible for delivering advice and support - including training - to people of working age, pensioners, families and disabled people to help them enter work and reduce poverty. Much of this activity is delivered through Jobcentre Plus and its network of local Jobcentre Plus offices. While initiatives such as New Deal have their roots in the high levels of unemployment of the mid-1990s, they provide vehicles to tackle low skill

*The key priorities of the LSC are to raise participation, increase demand, raise skill levels, improve quality, and improve effectiveness.*

*The LSC Workforce Development Plan...*

*...aims to raise demand for learning and support a flexible supply while linking to the wider educational agenda.*

*The DTI is charged with increasing competitiveness and economic growth and is responsible for RDAs, SBS and Business Link.*

*The ODPM is also partly responsible for skills policy...*

*... as is the DWP working through Jobcentre Plus.*

and poor employability amongst client groups. The DWP is also responsible for the operation of important labour market information systems (Job Points, Jobseeker Direct and Jobsbank) and the benefits regime. These functions help people to find jobs that can use their skills and to ensure that such jobs are financially worth taking.

2.16 Industry or sectoral approaches to skills issues have a chequered history. Industrial Training Boards were established in 1964 but abolished in the 1980s and replaced by Industrial Training Organisations (ITOs). In 1997, ITOs were replaced by National Training Organisations (NTOs). NTOs provided a sector-based approach to identifying skill needs and delivering workforce development. An increasing emphasis on sector-based approaches to skills issues, together with the deficiencies of some NTOs, led to further reform. After consultation (DfEE, 2001a), the Government set up the Sector Skills Development Agency (SSDA) in April 2002 giving it responsibility for establishing a Skills for Business Network (SfBN) and for licensing individual Sector Skill Councils (SSC) (DfEE, 2001b). This employer-Government partnership with sectors is designed to reduce the deficit in specialist trade or higher technical skills and links skills development to wider competitiveness and productivity issues. Five Trailblazer SSCs were established in order to learn lessons for the future:

- in the retail sector;
- in apparel, footwear and textiles;
- in audio-visual industries;
- in the oil, gas, refining and chemical sector; and
- in environmental and land-based industries (SSDA, 2003).

A number of SSCs are now fully licensed, and it is planned that around 25 SSCs will be licensed by June 2004 (as compared with the 73 previous NTOs).

### **At the regional level**

2.17 Implementation of Government policy at the regional level and delivery of regional economic assistance is the responsibility of Government Offices (GO) in the regions. GOs are specifically responsible for Local Strategic Partnerships and Neighbourhood Regeneration. The nine GOs were established in 1994 (covering the eight English regions plus London) and bring together eight Government departments. The role of GOs in relation to skills policy is that of providing a degree of 'joining up' of policy at regional level. Despite this, the Better Regulation Task Force concluded that the role of GOs was unclear to many stakeholders while overlapping responsibilities (mainly with the Regional Development Agencies) was fertile ground for conflict and confusion about policy.

*NTOs have been replaced...*

*...by the SSDA and SSCs.*

*SfBN links skills development to competitiveness and productivity issues.*

*GOs are responsible for overseeing the implementation of policy at local level.*



2.18 There are nine Regional Development Agencies (RDAs) in England. They have the role of coordinating regional economic development and regeneration in order to improve regional competitiveness and to reduce inequalities and imbalances within, and between, regions. As part of this role, RDAs must develop skills strategies for the region, setting out priorities for the development of skills in the region and working with partners to achieve such regional development. One mechanism for achieving this is the Framework for Regional Employment and Skills Action (FRESA). These are drawn up by individual RDAs and their partners, to facilitate effective links between activities in order to increase skills, enterprise and innovation in the region.

*RDAs coordinate regional economic development and must develop skill strategies for their region.*

*FRESAs facilitate links between agencies and activities in the regions.*

### **At the local level**

2.19 As already suggested above, there are many bodies involved in one way or another in delivering skills and workforce development policy at the local level. In many instances these are simply the local office or delivery arm of bodies operating at the national or regional level. Prime examples of such bodies are local LSCs, Jobcentre Plus offices and Business Link. Other bodies are local in nature and range from local authorities, further education colleges and training providers.

*Skills policy is delivered by local arms of national and regional bodies.*

2.20 An important recent development in the delivery of policy has been the emergence of local bodies delivering skills and workforce development as local partnerships involving many different organisations. Learning Partnerships are examples of this type of approach. Learning Partnerships are voluntary groupings of local learning providers and others (such as Connexions, trade unions, employers and faith groups). Since 1999 more than 100 Learning Partnerships have formed. *Local Strategic Partnerships* are of a similar nature, bringing together parts of the public sector with business, community and voluntary sectors so that different initiatives and services support each other and work together.

*Local partnerships play an increasingly important role in managing and delivering skills policy.*

## **Strategic Policy Developments**

2.21 Despite the evident growth of organisations and agencies involved, there continues to be compelling evidence of skill deficiencies in the workforce. This evidence was reviewed in earlier *Skills in England* reports (SIE, 2002) and elsewhere (DfES, 2003b). Particular issues have been identified in regard to the large proportion (one in five) of adults who have difficulty with basic literacy and numeracy, the third of adults who lack even an NVQ Level 2 qualification, the incidence of skills shortages in skilled trades and intermediate skill level occupations, the low incidence of proficiency in mathematics, and the high incidence of enterprises that report that not all their managers are fully proficient (DfES, 2003b).

*Despite past policy, evidence of skills deficiencies remains.*

2.22 The apparent failure of the education and training system to address the weaknesses of the English workforce led the Secretary of State for Education and Employment (David Blunkett) to appoint a National Skills Task Force (NSTF) in 1998 charged with advising the Government on the development of a National Skills Agenda. The NSTF opened up a wide-ranging debate about skills issues and policy, defining the issues to be addressed, collecting evidence

*The NSTF was charged with advising the Government on developing a Skills Agenda.*

from a wide range of sources and providing an analysis of the situation and recommendations for policy. The NSTF represents a watershed in skills policy as it provided, probably for the first time, a comprehensive and coherent review of the issues.

### The National Skills Task Force

2.23 In its first report (NSTF, 1998), the NSTF highlighted the changes taking place in industry and the economy. These included the growth of global competition and opening up of world markets, the rapid pace of technological change (especially information and communications technology), the scale of industrial re-structuring and the resultant changes in the nature of employment, organisation of the workplace and the skills required by the workforce. In this and subsequent reports, the NSTF provided an assessment of the main skills gaps and shortages and the steps necessary to address them.

2.24 A key conclusion of the NSTF was that policy needed to address the demand side of the market for skills. This refers to the willingness and capacity of individuals to engage in learning and for employers to provide it. While support for, and reform of the supply of learning and training was important, it was not seen as sufficient.

2.25 The NSTF recommended a number of priorities to strengthen demand. These included:

- a more coherent system of information and guidance for learners;
- the promotion of greater and more informed demand for learning;
- strengthening commitment from employers to promote learning and support their employees to raise their skill levels;
- the creation of an effective planning, funding and management regime;
- targeted action to address unanticipated sectoral or occupational skill shortages when they occur; and
- coordinated and integrated action by all key organisations to deliver agreed priorities and targets (NSTF, 2001).

2.26 While increasing the demand for learning was seen as the critical issue to be addressed, unless the education and training system were capable of meeting such demand as existed, the impact of policy would be reduced. The NSTF therefore recommended a number of changes to the education and training system. These were:

- more effective delivery of key skills;
- a broad curriculum at upper secondary level promoting the study of mathematics; an entitlement for all young people (up to 25) to achieve their first NVQ Level 3 qualification;

*The NSTF collated a wide range of evidence about skill issues.*

*A key NSTF conclusion was the need to strengthen the demand for learning and training...*

*...by means of a number of measures.*

*The NSTF also recommended changes to the education and training system.*

- a high-quality vocational route delivered through both further and higher education and work-based training with clear ladders of progression to higher education;
- flexible opportunities for developing IT skills backed by clear standards and qualifications;
- a system backed by entitlement to allow adults who missed out on learning to upgrade their skills;
- a strengthening of the National Training Organisation network;
- support for mobility amongst unemployed;
- encouragement for economically inactive people to return to work; and
- measures to ensure equality of opportunity across all sections of society (NSTF, 2001).

2.27 The NSTF was concerned that its agenda for skills be implemented and to that end it set out a strategy for implementation. First, priorities were identified. These were:

- low-skilled adults;
- a high-quality foundation learning system; and
- support for small employers.

### **Towards a national skills strategy**

2.28 The remit of the NSTF was to help establish a National Skills Agenda. One of the key recommendations of the NSTF was that the Government should develop a Skills Strategy to implement and deliver that agenda. Since the final report of the NSTF, and indeed during the life of the NSTF, the Government put in place many of the parts of the skills policy jigsaw puzzle. These have included reforms in relation to education and in the area of training and workforce development. More recently, the 2002 Spending Review set out new targets for skills, including a commitment to reduce by 40 per cent the number of adults in the workforce lacking NVQ Level 2 qualifications.

2.29 The Government also commissioned the Performance and Innovation Unit (PIU) to develop proposals for a strategic framework for adult workforce development. The PIU reported at the end of 2001 and proposed a strategy for a demand-led system for workforce development that would shift the emphasis of policy making from increasing supply to stimulating demand from employers and individuals (PIU, 2001). A later report from the PIU (now renamed the Strategy Unit) mapped out an action plan for the development of workforce development up to 2010 (Strategy Unit, 2002). The action plan identified three broad strategic aims:

- to raise employer and individual demand;
- to meet demand with high-quality provision; and
- to develop the right framework.

*NSTF saw a need for a skills strategy giving priority to low-skilled adults, foundation learning and support for SMEs.*

*The work of the NSTF and other policy developments have provided a foundation to support the 2003 Skills Strategy.*

*In 2001 the PIU set out a strategic framework for adult workforce development.*

*In 2002 the Strategy Unit set out an action plan for workforce development to 2010.*

2.30 Actions to be taken in support of the strategic framework for adult workforce development included:

- promoting the benefits of skills;
- providing relevant and timely information and advice;
- breaking down the barriers to participation;
- leading change in Government and the public sector;
- reforming the funding system;
- improving the quality of workforce development;
- building capacity;
- establishing clear accountabilities;
- using labour market intelligence more strategically;
- enabling qualifications to be more responsive; and
- reconsidering the role of regulation.

2.31 The various reforms and policy initiatives set in place since 1997, together with the strategic visions set out by the NSTF and the PIU/SU In Demand action plan provided the groundwork and foundation for development of a national skills strategy. This important strategic development was set out in the 2003 Skills Strategy White Paper *21<sup>st</sup> Century Skills: Realising Our Potential*.

### Education and skills

2.32 Often the root cause of low skills can be traced to poor achievement at school or even earlier. The Government's vision for education and skills policy is set out in *Education and Skills: Delivering Results* (DfES, 2002a). This strategy statement identifies the future priorities of the DfES as being to:

- provide high-quality early education and childcare for more children;
- transform secondary education;
- develop a flexible 14-19 phase of education;
- transform the school workplace;
- reform further education and training;
- strengthen and support excellence in higher education and improve access and participation; and
- develop the skills of the workforce - particularly the basic skills of adults.

*The recommendations of the NSTF and the PIU/SU provided the foundation for the national skills strategy announced in 2003.*

*The DfES has set out its policy priorities for education and basic skills.*

2.33 It is an aim of current policy to ensure that there is a nursery education place for all three- and four-year-olds whose parents want one. This has the joint benefit of ensuring good early years support for learning while helping those parents who wish to work, to do so. A range of initiatives are designed to deliver this policy outcome and these include the National Childcare Strategy to secure complimentary childcare, Sure Start to provide better services to parents living in disadvantaged areas and Neighbourhood Nurseries and Children's Centres to provide access to a wide range of services to children.

*Nursery education is a priority.*

2.34 It has been part of Government policy since 1997 to transform the education system. The priority up to 2006 will be to transform secondary education. The policy aims to intervene to turn around failing schools, to deal more effectively with truancy and to reform the curriculum in a variety of ways. The policy provides a focus on improving standards for 11-14-year-olds at Key Stage 3 through a national strategy aimed at improving standards across the whole curriculum.

*As is the transformation of secondary education.*

2.35 It is priority for policy to provide more support for the 14-19-year-old age group. Young people in this age range will be encouraged to continue in learning beyond 16 by means of financial incentives such as the Education Maintenance Allowance and the Connexions Card and advice and guidance from Connexions and the LSC.

*14-19-year-olds to receive more support in career and learning choice and encouragement to remain committed to learning.*

2.36 Reforms designed to improve the responsiveness of the supply of learning and training to employers were set out in *Success for All*, which was launched at the end of 2002 (DfES, 2002b). *Success for All* was a response to perceived issues of poor provision in much of the further education sector and a lack of attention to the quality of teaching. *Success for All* also argued that the learning and skills sector needed to engage more effectively with local and regional businesses in order to contribute to improvements in productivity and business performance.

*Reform of further education is also needed.*

2.37 The aims of *Success for All* reforms were four-fold. These were:

- to meet needs and improve choice through improving the responsiveness and quality of provision in each area to meet learner, employer and community needs;
- to establish a new Standards Unit to identify and disseminate best practice that will guide learning and training programmes;
- to set new targets for college lecturers to be qualified and to develop leadership and management through a new leadership college; and
- to develop a framework for quality and success in the form of a planning, funding and accountability system based on partnership and three-year funding agreements.

The LSC has been charged with driving forward the implementation of *Success for All*, and is undertaking a series of Strategic Area Reviews to review current learning provision and need at the local level.

*While higher education also has a contribution to make.*

*Basic skills are a high priority.*

*A recent review of evidence...*

*... found that previous skill deficiencies were still very much evident in the UK workforce.*

- 2.38 Higher education was not spared reform either. The 2003 Higher Education White Paper set out proposals designed to increase participation in higher education and improve standards. The White Paper included proposals to expand Foundation Degrees (first proposed in 2000 and providing a more explicitly vocational form of higher education), encourage knowledge transfer from higher education to business (particularly through 20 Knowledge Exchanges), develop New Technology Institutes (regional consortia to develop higher-level skills in ICT and other specialisms alongside existing support for small businesses), and introduced initiatives such as the Higher Education Reach Out to Business and Higher Education Innovation Fund.
- 2.39 The NSTF attached a high priority to addressing deficiencies in basic skills. To address issues of literacy and numeracy, a national strategy, Skills for Life, was launched in 2001 (DfEE, 2001b). The DfES is working with a number of agencies and organisations to encourage adults to improve their basic skills. In collaboration with the LSC, it is leading a campaign to ensure that 750,000 adults improve their literacy and numeracy skills by 2004. It is also working with the University for Industry's **LearnDirect** service and will be supporting the work of the SSCs (when established) to address sector specific issues of basic skills.

### **A new framework for delivering skills**

- 2.40 As preparation for the development of its skill strategy, the DfES reviewed the evidence relating to workforce skills in England (DfES, 2003c). The review found the situation largely unchanged since that reported earlier by the NSTF.
- Employers felt they are not getting recruits with the right skills.
  - Skills gaps persisted in:
    - a. basic skills (including literacy, language, numeracy and computer skills);
    - b. intermediate skills (associate professional, apprenticeship, technician, or skilled craft or trade level);
    - c. mathematics; and
    - d. leadership and management skills.
  - There were mismatches between what employers and individuals wanted, and the courses and qualifications available through publicly funded colleges and training providers.
  - Many organisations experienced a 'low-skills equilibrium', producing low-value-added products and services and lacking international competitiveness.
  - Many individuals do not see the link between better skills and qualifications and their personal goals (better jobs and higher wages, support for their families and communities, or personal fulfilment).
  - There is a widespread belief that the Government and its agencies do not approach skills and productivity issues coherently, making it difficult for employers and learners to understand what support is available and how to access it.

- There is a lack of clarity about the respective roles and responsibilities of Government, employers and individuals in terms of paying for, and organising, training and qualifications.

2.41 The 2003 Skills Strategy White Paper, *21<sup>st</sup> Century Skills: Realising Our Potential*, sets out the Government policies intended to address the issues identified above. It is a key claim of the Skills Strategy that it is not predominantly about new initiatives but is much more about making sense of what policy initiatives already exist, integrating such policy and focusing it more effectively. The key features of the Skills Strategy are as follows.

- It is demand-led. The strategy proposes an approach that gives employers more support in accessing the training they need, and more influence in deciding how that training is provided.
- It promotes longer-term business success through a strengthening of the sectoral approach. The strategy is intended to help employers who want to increase productivity to upgrade to higher-value-added products and services, to set up new, higher-value businesses, or to secure the higher-level skills needed to achieve those ambitions.
- It supports and motivates learners. The strategy offers a new entitlement to learning so that everybody who wants them to gain at least the foundation skills for employability can do so, while young adults will be helped to gain more advanced craft, technician and associate professional qualifications.
- It increases the responsiveness of colleges and training providers to employers' and learners' needs. The learning and training system - the framework for planning, funding, monitoring - needs to be reformed in order to give incentives to learning providers to support active, effective reach-out to meet local needs.
- It creates joint Government action in a new Skills Alliance that will link up the work of key Government departments involved with economic and skills issues - the DfES, DTI and DWP, the Treasury, and key economic partners including the CBI, SBS and TUC. The same collaborative approach will be applied at regional level, between the RDAs, the LSC and their partners.

2.42 The 2003 Skills Strategy White Paper explicitly addresses the criticism that the institutional framework for delivering skills policy is uncoordinated and confusing. The Skills Strategy sets out a number of partnership arrangements designed to improve delivery in this regard. These partnerships will bring departments and agencies with responsibility for skills and business support together at the national level and encourage regional and local cooperation between organisations so that the planning and funding of learning and training is more effective. Specifically, it is proposed to:

- build a new Skills Alliance to ensure that Government departments and agencies work together to implement the Skills Strategy;

*The Skills Strategy is not about new initiatives but about making existing policy more effective.*

*It supports learners.*

*It increases the responsiveness of supply...*

*...and it creates joint Government action by means of a Skills Alliance*

*The Skills Strategy seeks better coordination of skills policy through:*

*(i) a new Skills Alliance;*

(ii) *sector Skill Agreements;*

(iii) *joint working at regional and local level;*

(iv) *cross-Government collaboration; and*

(v) *Government to set an example to other employers.*

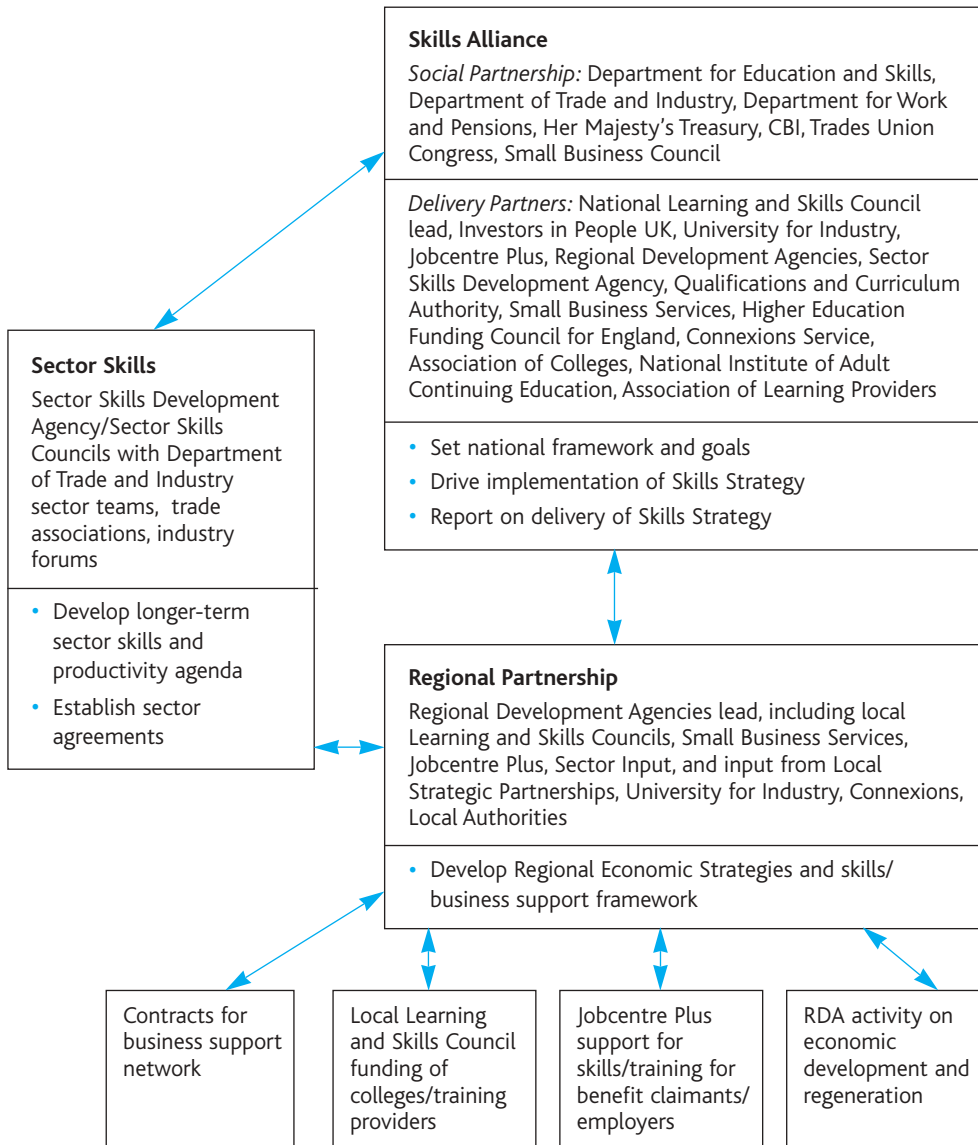
*The Skills Strategy requires a new and more coordinated structure of responsibilities.*

- ensure national sectoral priorities are delivered through Sector Skill Agreements, which SSCs are charged with developing jointly with the DfES, DTI, LSC and RDAs;
- organise joint working at regional and local level between the Skills for Business Network, the RDAs, the LSC, the SBS and Jobcentre Plus (the form of such collaboration to be agreed by the regional partners);
- ensure cross-Government collaboration in three specific areas relevant to skills:
  - a. between the DfES and the DTI in carrying forward an Innovation Review;
  - b. between the DfES and the DWP in joining up the work of Jobcentre Plus and the LSC; and
  - c. between the DfES and the Home Office in strengthening skills and training in prisons; and
- set a good example, with Government departments investing in skills to improve public services.

2.43 Figure 2.2 describes the new, reformed institutional relationships proposed for delivering the Skills Strategy. While most of the same bodies appear in the organisational chart, the relationship between these bodies has changed significantly. Crucially, the respective roles of the LSC, the RDAs and the SSSA appear to be much clearer, with each taking the lead on delivery at the national, regional and sectoral levels (respectively). Nonetheless, it is evident that the new Skills Strategy places the LSC at the forefront as the lead organisation for delivering the Skills Strategy.



**Figure 2.2: Responsibilities for delivery of the Skills Strategy**



**Source:** 21st Century Skills - Realising Our Potential, Department for Education and Skills, Cm 5810, July 2003.

2.44 The new institutional structure provides clearer remits for organisations and is intended to promote a more 'joined up' approach and avoid confusion, overlaps and conflict in respect of skills policy. The respective roles are:

*Learning and Skills Council:*

- at a national level, to set the strategic policy for local LSC planning and funding activities and to work with the SfBN on sector skills agreements;
- at regional level, to participate in regional skills partnerships; and
- at local level, to plan and fund the supply of training, skills and qualifications in the light of sectoral, regional and local skill needs;

*The new structure clarifies skills policy roles.*

*The role of the LSC;*

*Regional Development Agency:*

- to develop a Regional Economic Strategy to meet employer needs and regional priorities;
- to fund regional regeneration and economic development programmes;
- to coordinate regional skills partnership to ensure the regional partners agree skills and business support needs to meet the Regional Economic Strategy; and
- to work with the SfBN in developing Sector Skills Agreements;

*Sector Skills Development Agency:*

- to manage the setting up, coordination and development of SfBN;
- to coordinate across the SfBN the development of skills and productivity analysis and the Sector Skills Agreements; and
- through a newly developed regional network, to ensure the views and interests of the SSC are represented to regional partners in England;

*Sector Skills Councils:*

- to define occupational standards for skills in each sector as a basis for designing qualifications and courses;
- to act as the national lead source of expertise on skills and productivity trends, skills needs and labour market analysis for each sector;
- at national and regional levels, to develop Sector Skills Agreements with key agencies where appropriate;
- to work with the LSC on designing national skills programmes; and
- to work with regional skills partnerships to shape local training supply;

*Small Business Service:*

- at national level, to set the framework for performance management of Business Link; and
- at regional level, to participate in skills partnership to agree regional objectives for business support services that best serve the Regional Economic Strategy;

*Jobcentre Plus:*

- at national level, to set a framework for performance management of Jobcentre Plus local operations, including skills and training; and
- at regional level, to participate in skills partnerships to agree objectives for Jobcentre Plus activities to support the Regional Economic Strategy and its skill needs.

*the role of the RDAs;*

*the role of the SSDA;*

*the role of the SSCs;*

*the role of the SBS;  
and*

*the role of Jobcentre  
Plus.*

## Key Themes in the New Skills Agenda

2.45 Looking across recent developments in skills policy, it is possible to discern a number of key themes. These themes are:

- individual choice and responsibility;
- voluntarism;
- need to develop the demand for learning;
- need to ensure the supply side is responsive to employer demands;
- the need to clarify responsibility for delivery; and
- partnership.

2.46 Both the NSTF and subsequent policy White Papers have emphasised the importance of choice by individuals and employers. Current skills policy stresses the primacy of employers in deciding what skills they need their workforce to possess and for individuals to decide on the form and level of skills to which they aspire. Individuals are expected to take responsibility for reviewing their skills and initiating action to keep their skills up to date. They are expected to cooperate with their employer in job-specific training and should expect to bear the costs of transferable learning that improves their employability. Employers are expected to plan and deliver the skills necessary for their business and to collaborate with one another.

2.47 The emphasis on choice and individual responsibility has implications for both Government and training providers. Government should provide the infrastructure of information, advice and guidance to help people to make informed choices. Government should ensure that there are equitable opportunities for people to access learning and contribute towards the costs of learning according to economic priority or economic need. Training providers should be responsive to informed demand for learning in terms of time, mode, pace and place of learning.

2.48 This vision of a free and competitive market for learning provides only minimum scope for compulsion or statutory requirement. It can be argued that such a voluntary approach has consistently failed to deliver the training necessary to create the skilled workforce required. A statutory framework (where there were statutory obligations to train or obtain qualifications) might, it has been said, ensure that the necessary skills were acquired. Such an approach would force the pace of skill acquisition, have a direct impact on employers and make the task of communicating the purpose of the policy to all concerned more straightforward. This approach was rejected, both by NSTF and the DfES, on the grounds that it would be bureaucratic and costly, would place a burden on business, and would necessitate a national approach that would make it difficult to meet the various needs of different sectors and localities. Statutory obligations to train might also risk creating an antipathy to training activity, rather than winning 'hearts and minds'.

*Key themes in recent skills policy have included...*

*...an emphasis on individual choice and responsibility.*

*A voluntary system is needed to avoid costs and to win 'hearts and minds'.*

*There is a need to bolster and support demand for learning because individuals and employers undervalue the benefits of skill acquisition.*

*Previous policy allowed suppliers of learning to have too much control over provision and allowed the proliferation of overlapping and sometimes conflicting responsibilities.*

*The Skills Strategy is designed to provide clear responsibilities for policy and facilitate a more joined-up approach.*

*There is a strong emphasis on partnership as a way of improving responsiveness and effectiveness.*

- 2.49 While a voluntary approach might be the preferred option, recent policy statements have acknowledged that complete laissez faire in the market for learning is inefficient and ineffective. The inefficiency arises from the inability of individuals and employers to recognise the benefits of learning and skills, or their inability to convert any latent demand into a real demand in the market for some reason. Recent skills policy has thus placed much greater emphasis than hitherto on measures to encourage and support the demand side of the market for skills.
- 2.50 The 'market' for learning is also inefficient because supply is largely within the public sector and not subject to effective competition. Suppliers have a degree of monopolistic control over the supply of learning and this has resulted in a lack of flexibility and responsiveness by learning providers, particularly in further education, to the needs of learners and employers. The Skills Strategy seeks to remedy this. Moreover, until recently, Governments have been reluctant to admit that institutional change in the past has been haphazard and is often confusing and inefficient. The rapid growth in the number of skill-related initiatives has created a proliferation of agencies and organisations with overlapping or even conflicting responsibilities. Public understanding of the organisations and agencies concerned and their respective responsibilities is often low. Some instances have resulted in duplication of effort while in others 'gaps' in provision have resulted. The Skills Strategy is, perhaps, the first real recognition by Government that there is a need to provide a system that is better coordinated and more efficient.
- 2.51 Finally, there is a strong emphasis on 'partnership' in current policy. FRESAs represent a particularly good example of the type of approach that brings together the work of different agencies and partners in the region to share local and sectoral knowledge and expertise to the benefit of all. Partnerships address several concerns about the skills policy of the past. First, while there is a consensus that skills are important, even crucial, there has been a growing awareness that learning and skill acquisition cannot be dealt with in isolation from other aspects of economic life, particularly where these act as constraints on access to learning. Secondly, partnership is a means to ensure that scarce resources are used effectively so that different agencies support the work of one another. Partnership may also provide a means of ensuring that a wide range of interests are taken into account in the planning and delivery of training, thus helping to ensure that provision matches the needs of demand.

Skills in England 2003

Volume 2

Chapter 3: The Demand for Skills



## Chapter 3: The Demand for Skills

### Introduction and Summary

- 3.1 This chapter reviews evidence relating to the demand for skills in England. It highlights the rapid growth in employment in the 1990s and the implications this has had for skills demand. Within this overall growth in employment, there have been significant shifts in the fortunes of particular sectors with important implications for the occupational structure of employment and, therefore, the kinds of skills required.
- 3.2 The trends in the sectoral structure of employment have continued into the current decade, albeit on a less dramatic scale than witnessed in the 1990s. This has resulted in further growth in the number and proportion of people employed in the financial and business services sector, distribution, hotels and catering services, and non-marketed services such as education and health. In contrast, the manufacturing and primary sectors have witnessed a continued decline in employment.
- 3.3 Over and above these net sectoral changes, there is also a need to replace the workers retiring from the labour force or leaving for alternative sectors. This 'replacement demand' is typically of a much greater magnitude than any sectoral shifts, and thus serves to exacerbate demand in the expanding sectors and temper the decreases in employment in the declining sectors. The result is that even in declining sectors, there is still typically a need for positive recruitment.
- 3.4 These trends have contributed to significant changes in the occupational structure of employment. This has involved a continued rapid growth in the absolute numbers and shares of managerial, professional and associate professional occupations. Personal service and sales occupations have also grown, but to a lesser extent. Employment in skilled trades, operatives and elementary occupations has fallen.
- 3.5 The average level of formal qualifications held by employed people has increased markedly over the 1990s. This provides one important piece of evidence about an overall increase in the demand for skills throughout the economy. But it is important to note that it also reflects the considerable increase in the supply of qualifications as described in Chapter 4 and there have been some voices of concern about over-qualification in some areas.
- 3.6 These patterns of changes in skill requirements, as measured by changes in sectoral employment, occupations and qualifications, are repeated in broad terms across most regions, though the pace and extent of change varies very considerably. This reflects the dominant patterns of specialisation by sector. There has been particularly strong growth in managerial, professional and associate professional/technical jobs in London and the South East.

*Strong employment growth has increased the demand for skills.*

*Sectoral and other structural changes have changed the patterns of employment...*

*...in favour of high-level non-manual occupations and at the expense of traditional manual jobs.*

*The average level of formal qualifications held has also risen sharply.*

*These broad patterns are common across all regions but there are significant regional differences, often linked to the underlying economic structure.*

*Skill requirements within occupations are also increasing...*

*...with higher qualifications, greater generic skill needs and longer training times needed.*

*The demand for skills is derived from the demand for goods and services.*

*Government has placed greater emphasis on sectoral involvement in assessing skill needs.*

- 3.7 Occupations and qualifications provide only a partial picture of changing skill needs. Employers set great store on other aspects including key and generic skills. The increasing importance of such skills is explored, based on information provided by recent surveys.
- 3.8 Detailed investigations of the skills needed to undertake most jobs suggest a general increase in skill requirements. Most jobs need more training and more learning time, as well as high formal qualifications. Higher levels of technical and (particularly) generic and IT skills are also required.

### Drivers of Skill Demand

- 3.9 The demand for skills is driven by the demand for goods and services which people are employed to provide. In assessing the demand for skills it is important, therefore, to consider the various influences on the changing pattern of demand for goods and services.
- 3.10 Recent changes in Government policy have placed an increasing emphasis on involving employers and individuals in the assessment of changing skill needs in their sectors (see Chapter 2). This demand-orientated approach to skills represents a significant change from the supply-side dominated strategies of the past. Evidence suggests that part of the explanation for the UK's poor productivity performance compared with its international competitors lies in its poor workforce skills. While this has been long recognised, there is an increasing realisation that stimulating the demand for skills from employers as well as the supply of skills is necessary if the economy is to avoid/escape the 'low-skills equilibrium' (Finegold and Soskice, 1988; Keep and Mayhew, 1999). This is a situation in which the supply of low-skilled individuals encourages employers to adopt production techniques requiring less-skilled workers. This in turn reinforces the demand for low-skilled rather than high-skilled workers, compounding low-added-value business strategies.
- 3.11 The new approach is probably best summarised in the report from the Performance and Innovation Unit (2001) *In Demand: Adult Skills in the 21<sup>st</sup> Century*, and the follow-up report published by the Strategy Unit (2002). The latter identifies the following key drivers for workforce development.
  - **Employers** demand higher skills to enable them to meet business objectives more effectively. In the private sector, this will include developing new products and enabling growth into new markets as well as increasing profitability. For the public sector, the objectives will centre on the efficiency and quality of service provision.
  - **Individuals** demand skill development for a number of reasons primarily related to economic benefits and personal satisfaction. This demand may be met independently or through their employers.
  - **Society and Government** demand skills to correct particular market failures or in support of specific policy objectives such as social inclusion.



- 3.12 The greater attention on the demand for skills following decades of an almost singular emphasis on the supply of skills is a relatively recent phenomenon, and it is far too early to discern any notable effects resulting from this marked change in strategy. Volume 3 and Volume 4 of *Skills in England 2003* reviews the evidence base that they have compiled at the sectoral and local level.
- 3.13 A detailed review of the evidence about developments in a range of sectors, based on the research carried out by or on behalf of various sectoral organisations highlights that, while there are issues that are specific to each sector, the broad trends identified are common to all sectors (see Volumes 3 and 4 of this report).
- 3.14 The sectoral review also provides greater insight into the key drivers of changing skill requirements. These include:
- **technological change**, especially information and communications technology (ICT), which is affecting both the products and services produced as well as the way they are produced, resulting in increased demands for IT skills;
  - **competition** and changing patterns of consumer demand, which has increased the emphasis on customer handling skills;
  - **structural changes**, including globalisation, sub-contracting and extension of supply chains, emphasising the need for high-quality managerial skills at various levels;
  - **working practices**, such as the introduction of team- or cell-based production in engineering, and call centres in financial services, resulting in increased demand for communication and team working skills; and
  - **regulatory changes**, as well as increased concern about environmental issues, which have made important skill demands upon staff for some key sectors, including construction and finance.
- 3.15 Local and regional bodies have also been charged with helping to identify, prioritise and meet skill needs in their areas. In order to meet these aims a large amount of research has been conducted, which has resulted in a growing body of evidence. While much of this simply serves to reinforce and confirm the results from national studies, there are also important insights into the specific problems facing certain localities as well as possible responses to meet these difficulties. Full details of the review at local and regional levels can be found in Volumes 3 and 4 of *Skills in England 2003*.
- 3.16 These local and regional studies tend to show a common emphasis on:
- basic skills: the great majority of jobs now require at least basic levels of literacy and/or numeracy;
  - intermediate skills: skills that are above the routine level, but below

*This has highlighted some of the detailed underlying causes of changing skill needs.*

*Local bodies have also been charged with assessing needs in their own areas.*

*Basic skills, intermediate skills, generic skills, IT skills and management skills are highlighted as priority areas.*

professional skills;

- generic skills: such as problem solving, communication and team working;
- IT skills: ranging from basic keyboard skills to advanced programming; and
- management skills: not just amongst those in managerial occupations, including leadership skills, entrepreneurship, cultural awareness and adaptability to change.

3.17 The remainder of this chapter assesses the current demand for skills in England in three different ways. First, overall trends in employment by industry, occupation and region are examined, and the implications of these trends for the skills composition of the employed workforce are considered. Second, information is presented on the qualifications of the employed workforce as an indication of employers' demand for skills. Third, recent survey evidence on the demand for skills is considered.

### Overall Trends in Employment and the Demand for Skills

3.18 During the 1990s, total employment has continued to grow substantially. Much of this growth has occurred in the South of England. In total, employment increased by 2.4 million between 1992 and 2002, of which over 650 thousand was in London and more than half a million in the rest of the South East (Table 3.1). In part, the overall increase reflects the recovery from the recession of the early 1990 but, even so, it represents an exceptional period of growth for many parts of the country.

*Total demand has risen sharply as the economy has grown.*

Table 3.1: Employment change by sector and region, England 1982-1992 and 1992-2002

	Primary and Utilities		Manufacturing		Construction		Distribution, transport etc.		Business and misc. services		Non-marketed services		All industries	
	1982-92	1992-02	1982-92	1992-02	1982-92	1992-02	1982-92	1992-02	1982-92	1992-02	1982-92	1992-02	1982-92	1992-02
London	-16	-17	-294	-52	-3	-10	-108	179	286	516	-78	49	-213	666
South East	-17	-21	-148	-38	42	10	164	183	270	393	150	35	461	561
East	-17	-34	-97	-34	18	25	100	125	159	177	85	36	248	296
South West	-1	-37	-64	-1	23	6	83	98	120	142	128	81	290	289
West Midlands	-16	-27	-150	-101	10	-2	83	77	81	134	92	86	99	167
East Midlands	-50	-36	-77	-64	36	-4	59	59	79	94	85	86	132	135
Yorkshire and the Humber	-68	-35	-95	-53	14	-3	47	44	108	81	106	73	112	106
North West	-46	-20	-179	-94	4	5	48	66	130	120	85	117	42	194
North East	-42	-6	-71	-33	12	-10	2	-6	48	11	59	20	8	-25
England	-272	-234	-1175	-470	155	18	479	825	1282	1668	711	582	1180	2388

Source: IER estimates, based on Wilson et al. (2003).

*Employment levels are now at an all-time high, although most of the growth has been in part-time employment.*

*The UK has seen substantial structural change in employment in recent years...*

*...reflecting a variety of influences including technological change and globalisation.*

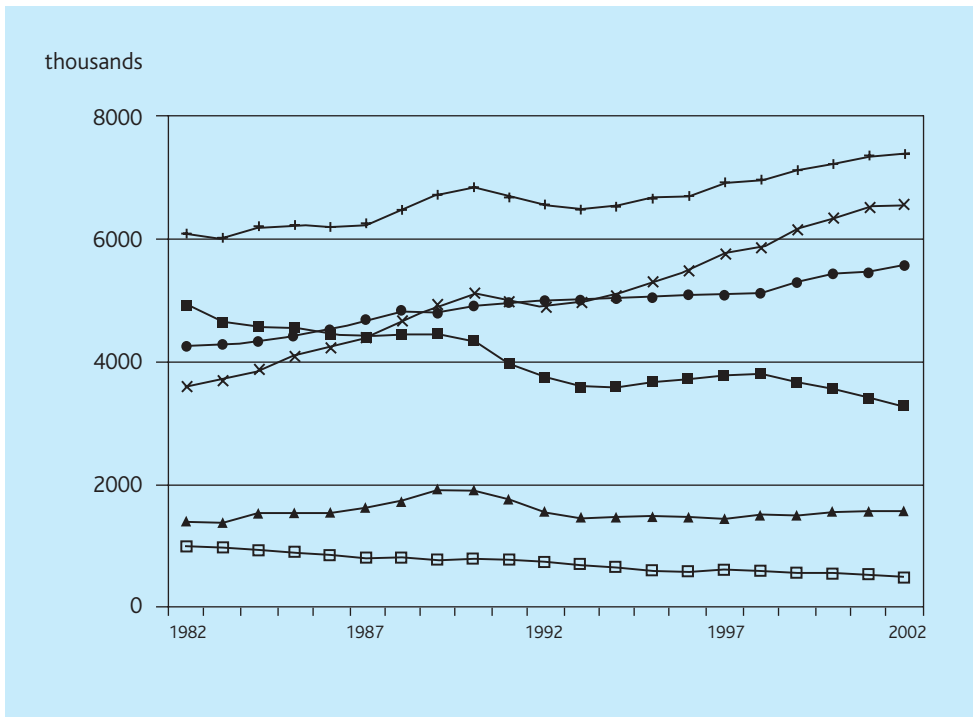
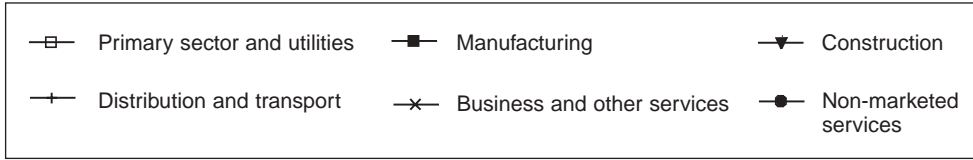
*Many traditional areas of employment have seen large-scale reductions, especially manufacturing and the primary sector (including utilities).*

- 3.19 Total employment levels are now at an all-time high. In contrast, unemployment levels are lower than at any time since 1973. Much of the employment increase has been for part-time jobs. Nevertheless, such large increases clearly represent a significant growth in the demand for labour and hence for skills over this period.
- 3.20 The ways in which the growth in employment breaks down across various different dimensions such as sector and occupation can help to explain which types of skills are in demand as well as those for which demand is declining. The next sub-section begins by examining changes affecting the main economic sectors in which people are employed before turning to assess the more detailed changes by industry. Employment trends by occupational group are considered next. This includes a discussion of changes in occupational structure within sectors. Finally, employment changes by region give an indication of how the demand for skills is changing spatially.

### **Industry trends**

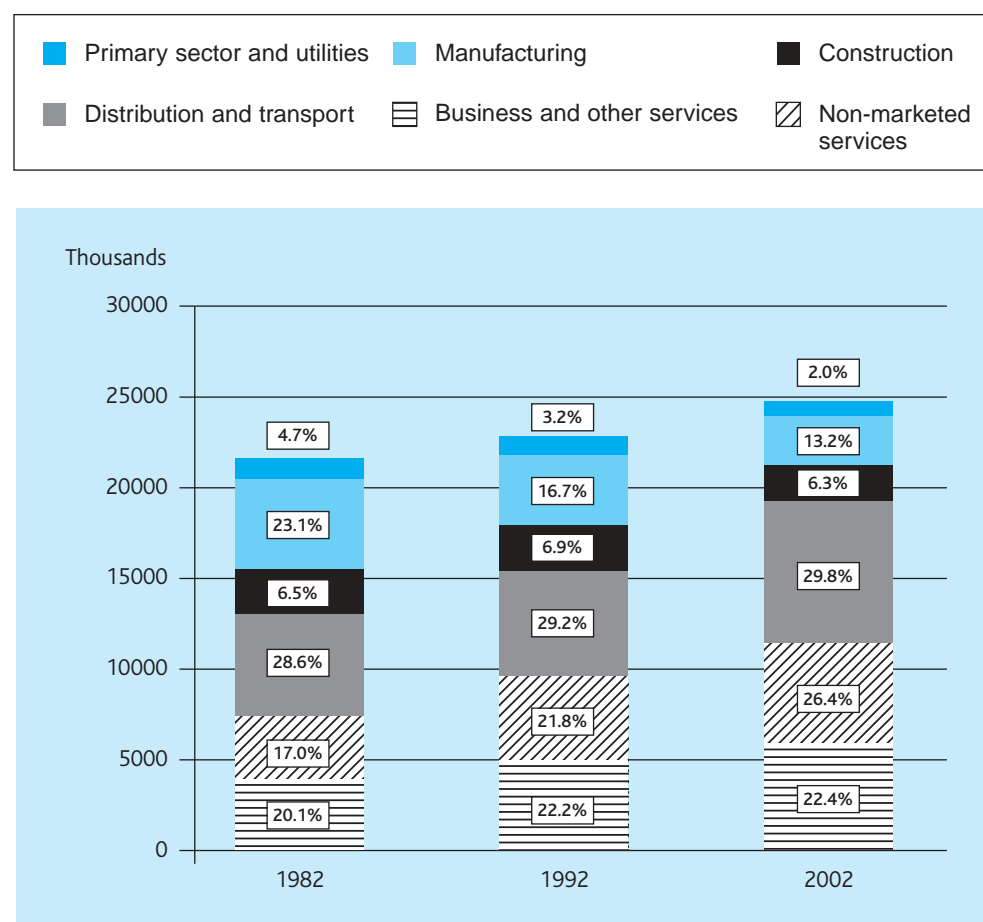
- 3.21 In common with most other developed economies, the UK has seen dramatic changes in the sectoral structure of employment over the last few decades. Table 3.1 and Figures 3.1 and 3.2 summarise the broad patterns by sector for the last two decades.
- 3.22 The changes reflect the influence of a number of inter-related factors including technological change, changes in the patterns of world trade (including globalisation), increasing specialisation and changing patterns of demand for goods and services.
- 3.23 Many traditional areas of employment have witnessed dramatic job losses. This has had a direct impact on the demand for many skills. Large falls in employment have taken place in the primary sector. Agriculture and mining have borne the brunt of these changes although, more recently, the utilities have also seen sharp job losses, especially following privatisation. The decline in employment has been greater still in manufacturing. A combination of pressures of international competition and the continuing process of specialisation and sub-contracting has resulted in severe contraction for many parts of the sector.

**Figure 3.1: Employment trends by sector, England: 1982-2002**



Source: IER estimates, based on Wilson et al. (2003).

**Figure 3.2: Sectoral structure of employment, England 1982, 1992 and 2002**



*Source: IER estimates, based on Wilson et al. (2003).*

*But these job losses have been more than offset by increases elsewhere...*

3.24 These job losses have been more than offset by growth in other areas. A significant part of the growth has reflected the process of specialisation in manufacturing. Many functions previously undertaken within manufacturing companies are now done by specialist service companies: these functions include research, design and development, as well as finance, marketing, cleaning, security and catering. Rising real incomes have also resulted in people spending more of their income on leisure and entertainment, as well as on health care and education. This has all been facilitated by technological developments, especially in the areas of information technology, communications and transport, which have resulted in many new products and services, as well as revolutionising many processes.

3.25 As a consequence of these various factors, the sectoral pattern of jobs growth has seen large increases in employment for business services, distribution and transport and non-marketed services, including health and education. Table 3.2 and Figures 3.3 and 3.4 provide a more detailed analysis. These clearly illustrate the increasing importance of business services as a growth area during the 1990s as well as the deceleration in the rate of job loss in most primary and manufacturing industries as compared with the 1980s.

### Occupational trends

3.26 The main changes observed over the last 20 years have been the increase in the share and number of people employed in managerial, professional and service occupations, and the decline in the share and number employed in lower-level manual and non-manual occupations (see Figure 3.5). This pattern reflects the effects of changing sectoral employment patterns, which have tended to favour service-orientated managerial and professional jobs at the expense of more traditional blue-collar industries. These sectoral trends have been reinforced by shifts of occupational structure within industries, which have also favoured the same groups. Indeed in recent years it is the latter which has been the driving force behind many of the changes observed. Technological change, as well as significant changes to the way work is organised, has reinforced these trends.

3.27 The employment share of managerial, professional and associate professional occupations has increased substantially from a third to more than 40 per cent over the last decade, an increase of more than 2.5 million jobs. In contrast, the share of skilled trades and process, plant and machine operative jobs fell from around a quarter to just under a fifth, with the loss of more than half a million jobs (see Figure 3.6).

3.28 A summary of recent employment change based on the 25 SOC sub-major occupational groups is presented in Figure 3.7. Of the 2.5 million additional managerial, professional and associate professional jobs, over 800,000 have been for corporate managers.

3.29 The most striking decline in job numbers has been amongst manual occupations (both skilled and unskilled), although some job losses have also occurred for less-skilled white-collar workers in administrative and secretarial and related occupations. At the start of the 1990s, around 40 per cent of all jobs were to be found amongst SOC categories 5, 8 and 9 (skilled trades; process, plant and machine operators; drivers and elementary occupations). By 2002 the proportion of employment accounted for by these jobs had fallen to just over 30 per cent.

*...with large job increases in many parts of the service sector.*

*Occupational trends indicate strong growth for managerial, professional and related occupations...*

*...and gradual decline among more traditional blue-collar occupations...*

*...while there have been severe job losses amongst many manual occupations.*

Table 3.2: Changing industrial employment patterns by region, 1992-2002

	London		South East		East		South West		West Midlands	
	000s	%	000s	%	000s	%	000s	%	000s	%
Agriculture	0	-5.4	-8	-10.3	-26	-40.6	-29	-30.5	-18	-31.2
Mining and quarrying; utilities, of which:	-17	-57.0	-12	-35.4	-8	-33.7	-8	-27.5	-10	-37.1
Mining and quarrying	-5	-62.6	2	46.4	-1	-12.0	0	5.2	-5	-68.2
Electricity, gas and water	-12	-55.3	-14	-45.9	-7	-39.4	-8	-37.1	-4	-23.3
Food, drink and tobacco	-1	-4.2	-3	-7.6	-6	-12.6	3	9.5	-4	-10.5
Textiles and clothing	-11	-35.0	-9	-50.7	-7	-36.4	-11	-48.2	-21	-54.0
Wood, paper; printing and publishing, of which:	5	4.9	-10	-11.1	-6	-9.3	1	2.3	-4	-8.8
Wood and paper products	-4	-27.8	-7	-24.3	-4	-17.1	-1	-5.6	0	0.6
Printing and publishing	10	10.3	-3	-4.8	-2	-4.9	2	7.0	-4	-14.6
Chemicals and non-metallics	-14	-32.0	7	8.7	0	-0.3	0	-0.3	-22	-23.6
Metals and metal goods	-12	-37.1	-3	-5.7	-3	-8.1	-1	-3.9	-29	-22.0
Engineering	-15	-27.1	-6	-4.5	-18	-17.4	2	2.7	-20	-16.9
Transport equipment	-2	-11.9	-18	-34.8	1	2.8	2	3.5	-4	-4.7
Manufacturing not elsewhere specified (nes) and recycling	-1	-3.9	3	12.6	6	32.3	4	26.7	3	11.5
Construction	-10	-4.5	10	3.6	25	14.1	6	3.9	-2	-1.3
Sales and maintenance of motor vehicles	-12	-16.2	2	2.0	-4	-5.4	4	6.1	-3	-3.8
Wholesale distribution	28	16.6	52	30.5	16	15.0	6	7.5	12	10.6
Other retail distribution	45	12.9	61	16.2	55	22.9	52	22.8	29	12.6
Hotels and catering	92	45.3	33	15.5	31	24.2	24	14.5	12	8.9
Transport	28	12.4	20	13.4	10	8.9	7	10.2	18	22.6
Communications	-3	-2.3	14	21.6	17	39.5	5	11.7	9	23.7
Banking and insurance	9	2.9	5	3.4	-11	-11.2	-3	-3.3	1	0.8
Professional services	45	45.7	55	61.3	23	42.0	12	25.4	13	32.0



Table 3.2: Changing industrial employment patterns by region, 1992-2002 (continued)

	London		South East		East		South West		West Midlands	
	000s	%	000s	%	000s	%	000s	%	000s	%
Computing and related	84	181.0	79	139.1	31	134.2	24	174.0	20	112.4
Other business services	272	48.7	169	47.6	83	40.4	65	39.2	61	32.5
Public administration	-33	-13.1	-26	-13.5	-7	-6.3	-2	-1.2	-5	-4.6
Education	39	17.4	38	13.9	11	6.1	50	33.1	52	30.6
Health and social work	43	12.9	23	6.1	32	15.0	32	14.0	39	17.7
Miscellaneous services	106	41.7	85	47.9	50	49.1	44	43.1	40	40.9
Total	666	17.4	561	15.5	296	12.8	289	13.3	167	7.0

Source: IER estimates, based on Wilson et al. (2003).

Table 3.2: Changing industrial employment patterns by region, 1992-2002 (continued)

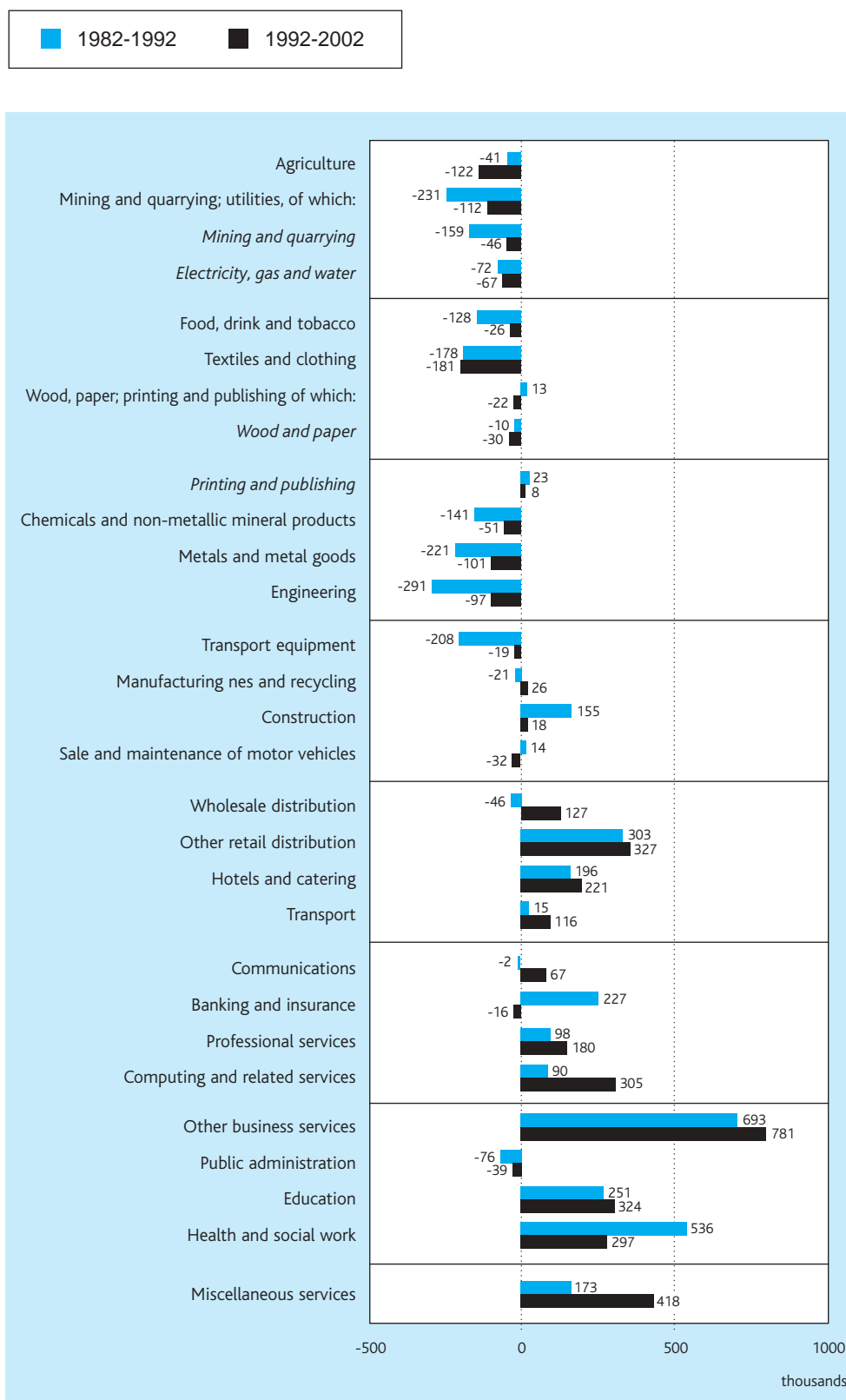
	East Midlands	Yorkshire and the Humber	North West	North East	England
	000s	000s	000s	000s	000s
	%	%	%	%	%
Agriculture	-12	-14	-17	2	-122
Mining and quarrying; utilities, of which:	-24	-21	-4	-9	-112
Mining and quarrying	-17	-14	1	-8	-46
Electricity, gas and water	-7	-7	-5	-1	-67
Food, drink and tobacco	5	-9	-8	-2	-26
Textiles and clothing	-47	-26	-37	-13	-181
Wood, paper; printing and publishing, of which:	-3	2	-5	-2	-22
Wood and paper products	0	-1	-10	-3	-30
Printing and publishing	-2	3	4	1	8
Chemicals and non-metals	-5	0	-11	-5	-51
Metals and metal goods	-10	-18	-13	-11	-101
Engineering	-14	-3	-18	-3	-97
Transport equipment	6	-3	-3	2	-19
Manufacturing not elsewhere specified (nes) and recycling	4	4	1	2	26
Construction	-4	-3	5	-10	18
Sales and maintenance of motor vehicles	-3	-2	-11	-4	-32
Wholesale distribution	6	2	6	-3	127
Other retail distribution	20	29	38	-1	327
Hotels and catering	17	-3	11	4	221
Transport	12	14	12	-6	116
Communications	6	4	10	5	67
Banking and insurance	-6	-6	-7	1	-16
Professional services	5	11	16	1	180

Table 3.2: Changing industrial employment patterns by region, 1992-2002 (continued)

	East Midlands	Yorkshire and the Humber	North West	North East	England					
	000s	%	000s	%	000s					
Computing and related	16	157.9	14	137.1	30	196.1	7	156.0	305	153.9
Other business services	50	39.0	35	21.3	47	18.5	1	0.9	781	37.2
Public administration	10	13.2	15	14.3	10	6.6	-2	-2.9	-39	-3.3
Education	30	22.3	33	20.0	70	34.7	-1	-0.6	324	20.4
Health and social work	46	27.2	24	10.3	37	11.6	23	20.1	297	13.6
Miscellaneous services	29	38.1	25	25.1	35	23.4	2	3.7	418	37.4
Total	135	7.3	106	4.8	194	6.5	-25	-2.3	2388	10.6

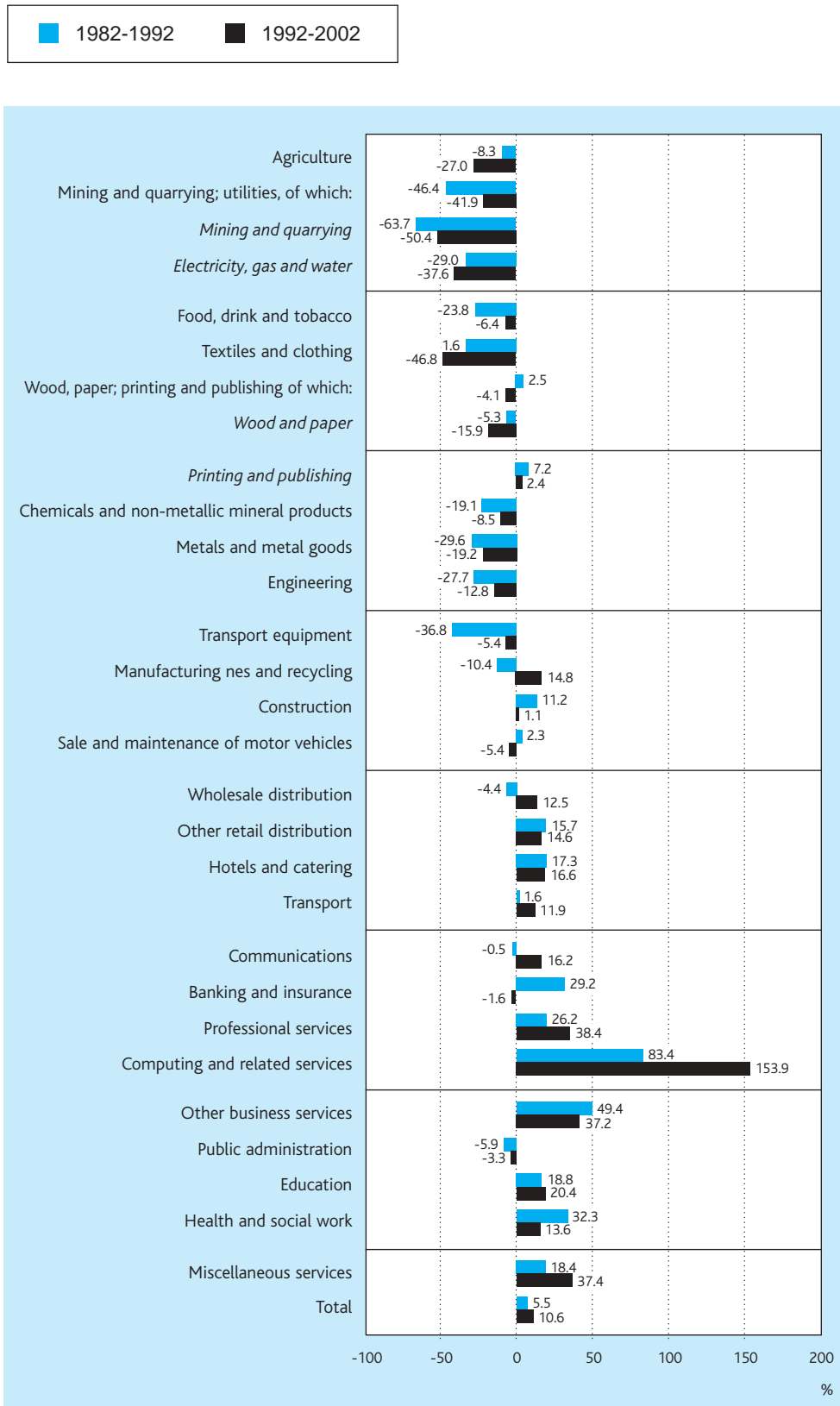
Source: IER estimates, based on Wilson et al. (2003).

**Figure 3.3: Changes in employment by industry, England 1982-1992 and 1992-2002**



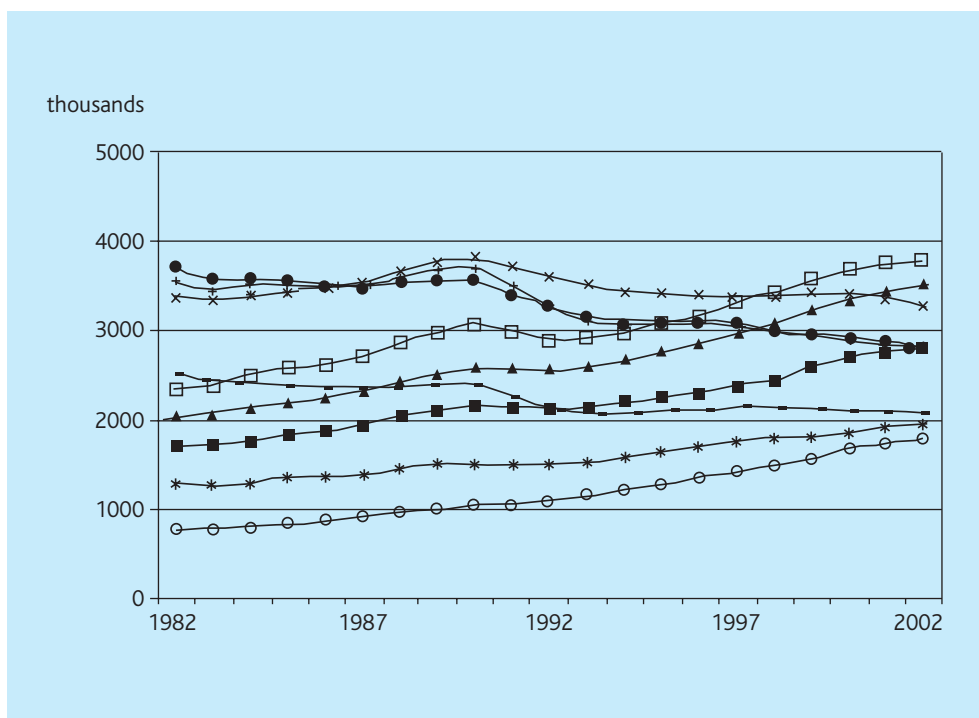
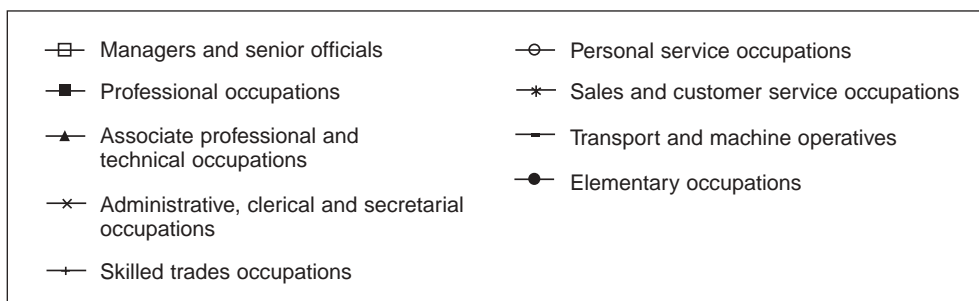
Source: IER estimates, based on Wilson et al. (2003).

**Figure 3.4: Rates of employment growth by industry, England 1982-1992 and 1992-2002**



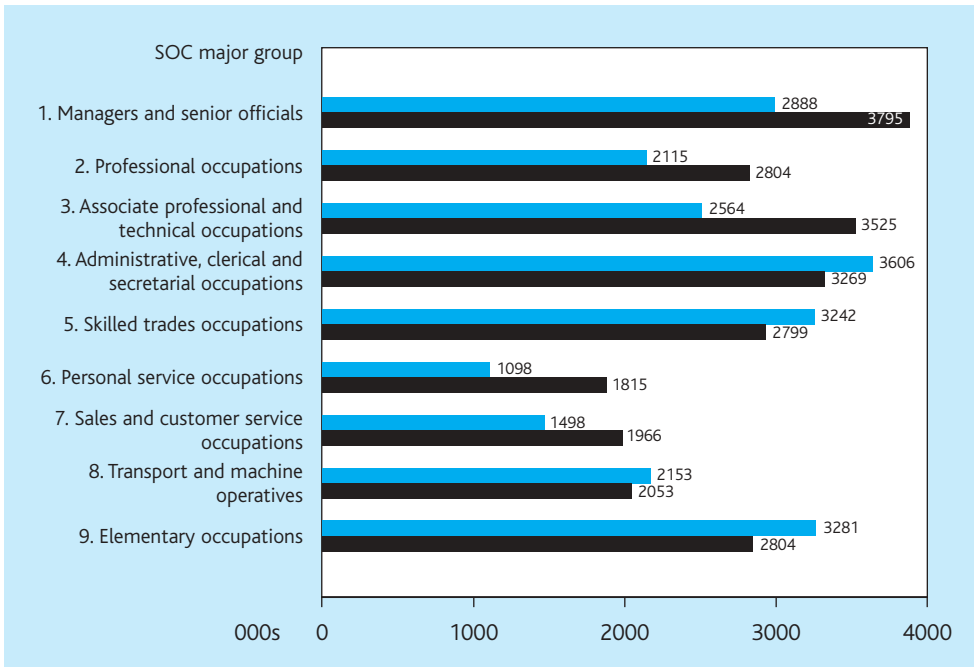
Source: IER estimates, based on Wilson et al. (2003).

**Figure 3.5: Occupational profiles, England 1982-2002**



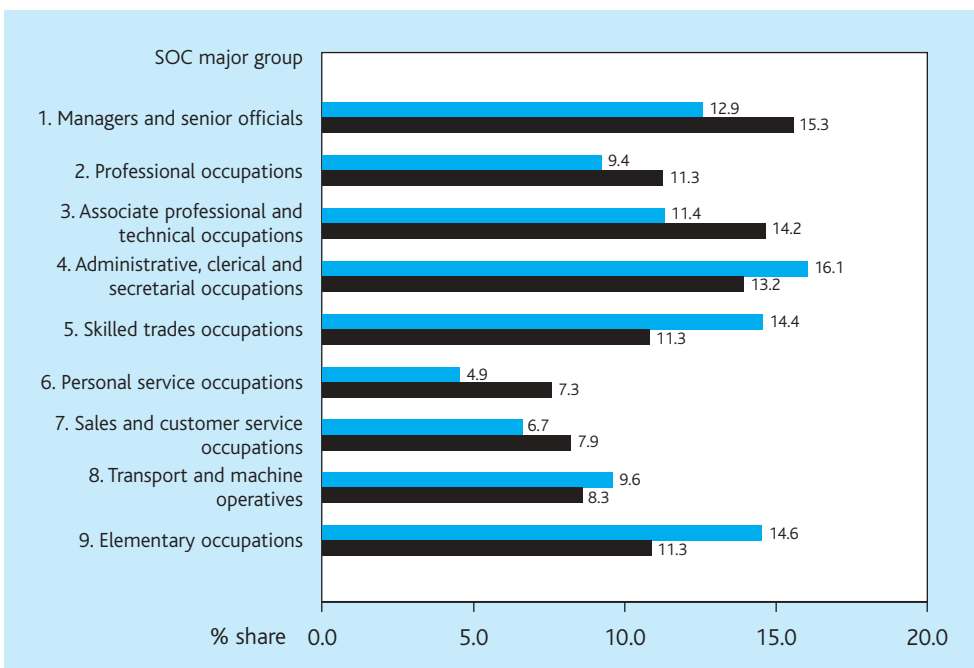
Source: IER estimates, based on Wilson et al. (2003).

**Figure 3.6a: Changing occupational structure of employment, England 1992 and 2002 (000s in employment)**



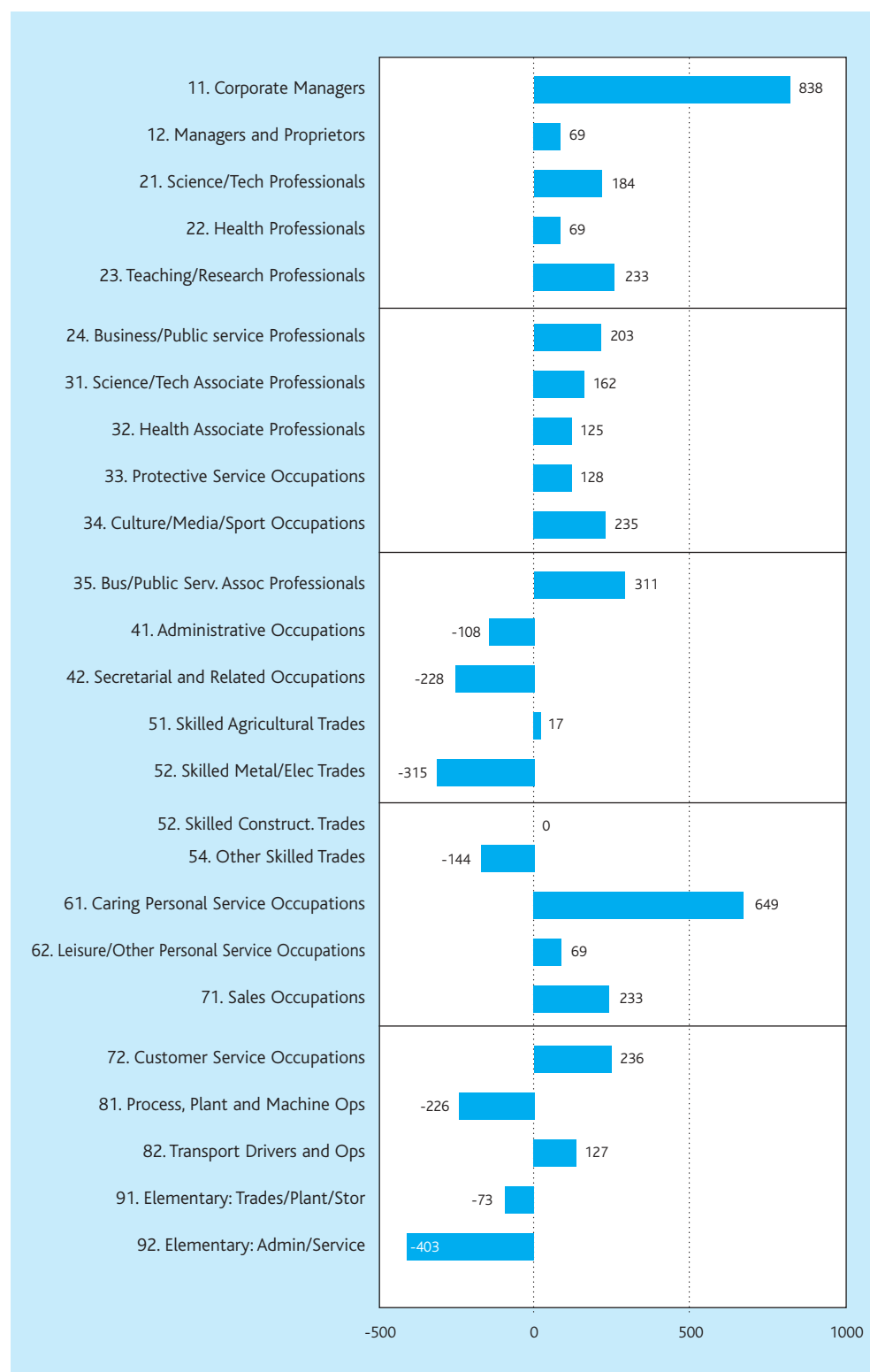
Source: IER estimates, based on Wilson et al. (2003).

**Figure 3.6b: Changing occupational structure of employment, England 1992 and 2002 (percentage shares of total employment)**



Source: IER estimates, based on Wilson et al. (2003).

**Figure 3.7: Occupational change by SOC sub-major group, England 1992-2002**



Source: IER estimates, based on Wilson et al. (2003).



3.30 The occupations most seriously affected have been:

- trades, plant- and machine-related jobs within elementary occupations;
- process, plant and machine operators;
- skilled metal/electrical trades; and
- administrative, secretarial and related occupations.

3.31 It is important to recognise that employment in many of the occupations that have been in long-term decline still accounts for a substantial proportion of the workforce. Moreover, replacement demand, as a result of labour turnover in these occupations, continues to be a key element of overall labour demand patterns. This poses a problem for many employers, as recruitment of new workers into such jobs is often difficult. The past history of job losses acts as a strong discouraging feature for many potential new entrants. This is often reinforced by relatively poor pay and working conditions, coupled with the rising aspirations of many young people following their participation in higher education.

3.32 These changes in occupational structure can be explained, at least in part, by the major sectoral shifts that have taken place, but it is also important to recognise that there are significant changes occurring within sectors. While these changes often have common features, such as the increasing emphasis on professional and managerial skills, there are also important sector-specific issues.

3.33 There have been substantial shifts in occupational structure *within* most sectors as shown in Table 3.3. The shaded cells highlight those occupations for which the proportion of employment in the sector has declined. All sectors, except primary and utilities, have seen an increase in the proportion of those employed in managerial, professional and associate professional occupations. Business services and manufacturing sectors have experienced the most notable increases (see Figure 3.8).

3.34 In contrast, all sectors have witnessed a fall in the share employed in administrative and related occupations, skilled trades, and transport and machine operatives. The loss of administrative and secretarial jobs has largely occurred amongst business services and non-marketed services. The decline in the employment share of skilled trades and operatives has been most marked in manufacturing.

3.35 A more detailed analysis of changes in the occupational structure of employment within industries is shown in Table 3.4. The rising share of managerial, professional and associate professional jobs is apparent in almost every industry, as illustrated in Figure 3.9.

*Nevertheless, such jobs still account for a significant part of employment although employers often face problems recruiting new entrants.*

*Changes in occupational structure have also occurred within sectors.*

*These have generally reinforced the sectoral effects.*

Table 3.3: Occupational structure, selected industries, England 1992 and 2002 (percentage employed in each occupation)

	Primary and Utilities		Manufacturing		Construction		Distribution, transport etc.		Business and misc. services		Non-marketed services		All industries	
	1992	2002	1992	2002	1992	2002	1992	2002	1992	2002	1992	2002	1992	2002
1 Managers and senior officials	9.3	8.1	10.3	13.6	10.0	12.1	17.3	19.3	15.5	17.8	7.8	9.5	12.9	15.3
2 Professional occupations	3.9	3.7	5.3	6.1	4.5	5.0	2.3	2.7	11.5	13.8	22.2	25.3	9.4	11.3
3 Associate professional and technical occupations	3.5	4.0	7.9	10.5	3.7	4.8	6.0	7.5	15.5	19.5	20.7	22.5	11.4	14.2
4 Admin., clerical and secretarial occupations	8.7	7.7	9.9	8.9	8.6	6.8	11.2	10.3	29.2	21.3	17.6	12.1	16.1	13.2
5 Skilled trades occupations	34.2	30.8	25.0	21.2	50.3	46.9	13.9	11.3	4.9	4.3	2.5	1.9	14.4	11.3
6 Personal service occupations	3.5	5.8	1.1	1.6	0.3	0.4	2.5	3.6	5.4	7.9	11.9	17.0	4.9	7.3
7 Sales and customer service occupations	1.6	2.4	2.1	2.9	0.8	1.2	17.9	20.1	3.3	4.2	1.1	1.4	6.7	7.9
8 Transport and machine operatives	10.7	8.5	24.0	21.9	10.3	10.2	10.3	10.0	4.2	4.1	2.7	2.3	9.6	8.3
9 Elementary occupations	24.5	29.0	14.3	13.2	11.4	12.6	18.5	15.1	10.4	7.2	13.4	8.0	14.6	11.3
All occupations	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: IER estimates, based on Wilson et al. (2003).

Note: Shaded cells indicate occupations where the proportion of employment in the sector has declined.

Table 3.4: Occupational structure within industries, England 1992 and 2002

	Managers and senior officials		Professional occupations		Associate prof. and technical		Administrative and secretarial		Skilled trades occupations	
	1992	2002	1992	2002	1992	2002	1992	2002	1992	2002
Agriculture	9.9	6.8	0.9	0.8	1.5	1.5	4.2	2.6	37.0	35.3
Mining and quarrying; utilities, of which:	8.3	10.8	9.0	9.9	6.9	9.3	16.3	18.5	29.5	21.2
Mining and quarrying	8.3	13.1	6.1	7.4	6.1	9.2	7.9	10.4	31.2	22.9
Electricity, gas and water	8.3	9.8	10.5	10.9	7.2	9.4	20.5	21.9	28.6	20.5
Food, drink and tobacco	8.1	12.4	2.8	3.8	6.2	8.3	11.4	8.4	17.1	14.7
Textiles and clothing	7.9	15.1	1.6	2.8	4.6	8.2	8.2	7.0	14.5	12.8
Wood, paper; printing and publishing, of which:	11.0	15.0	2.9	3.6	11.4	16.1	15.7	12.3	23.8	18.2
Wood and paper products	11.6	13.4	2.7	2.8	8.7	10.3	10.7	10.0	32.9	27.9
Printing and publishing	10.7	15.8	3.1	4.0	12.8	18.7	18.3	13.3	18.9	13.9
Chemicals and non-metallics	11.1	13.3	6.5	7.1	8.9	10.5	9.8	8.0	17.7	15.4
Metals and metal goods	10.6	12.7	4.8	5.3	5.7	7.1	5.7	7.2	35.6	29.2
Engineering	12.5	15.7	9.0	10.2	9.9	12.6	10.9	9.3	27.2	22.8
Transport equipment	8.1	9.3	7.9	7.8	6.9	8.6	5.4	9.5	36.4	28.8
Manufacturing nes and recycling	9.7	13.3	2.3	2.9	5.2	7.0	10.5	7.8	31.0	31.2
Construction	10.0	12.1	4.5	5.0	3.7	4.8	8.6	6.8	50.3	46.9
Sale and maintenance of motor vehicles	26.3	22.6	2.8	2.8	8.3	8.1	4.5	5.4	19.8	15.4
Wholesale distribution	24.8	21.8	2.7	2.8	8.2	8.4	6.3	6.7	18.3	13.8
Other retail distribution	13.3	16.7	1.8	2.6	5.9	8.1	14.8	10.8	8.8	8.5
Hotels and catering	24.2	30.3	0.9	1.3	3.5	5.8	7.3	6.7	12.8	11.1
Transport	8.6	10.8	4.0	4.1	6.6	8.3	13.5	16.1	14.8	10.4

Table 3.4: Occupational structure within industries, England 1992 and 2002 (continued)

	Managers and senior officials		Professional occupations		Associate prof. and technical		Administrative and secretarial		Skilled trades occupations	
	1992	2002	1992	2002	1992	2002	1992	2002	1992	2002
Communications	5.7	7.3	3.9	4.2	4.5	5.6	19.9	20.9	24.2	18.8
Banking and insurance	13.3	15.4	5.8	7.4	10.4	12.4	53.1	45.3	3.2	3.0
Professional services	19.1	19.8	16.9	16.9	18.6	21.0	21.0	17.2	5.9	4.3
Computing and related	19.8	19.1	22.4	20.1	17.5	18.7	19.4	21.6	6.7	4.9
Other business services	15.7	18.3	13.4	15.6	16.4	20.4	29.3	20.4	5.1	4.3
Public administration	9.9	12.4	10.1	11.2	17.6	22.8	34.6	28.0	4.6	3.5
Education	3.8	5.2	48.1	50.8	12.8	14.8	8.7	6.2	1.6	1.2
Health and social work	9.6	11.5	10.0	12.2	28.1	28.2	14.7	9.1	2.1	1.8
Miscellaneous services	14.8	17.0	8.9	11.1	16.7	22.1	12.9	9.2	5.4	4.8
<b>Total</b>	<b>12.9</b>	<b>15.3</b>	<b>9.4</b>	<b>11.3</b>	<b>11.4</b>	<b>14.2</b>	<b>16.1</b>	<b>13.2</b>	<b>14.4</b>	<b>11.3</b>
000s	2888	3795	2115	2804	2564	3525	3606	3269	3242	2799

row % shares

Table 3.4: Occupational structure within industries, England 1992 and 2002 (continued)

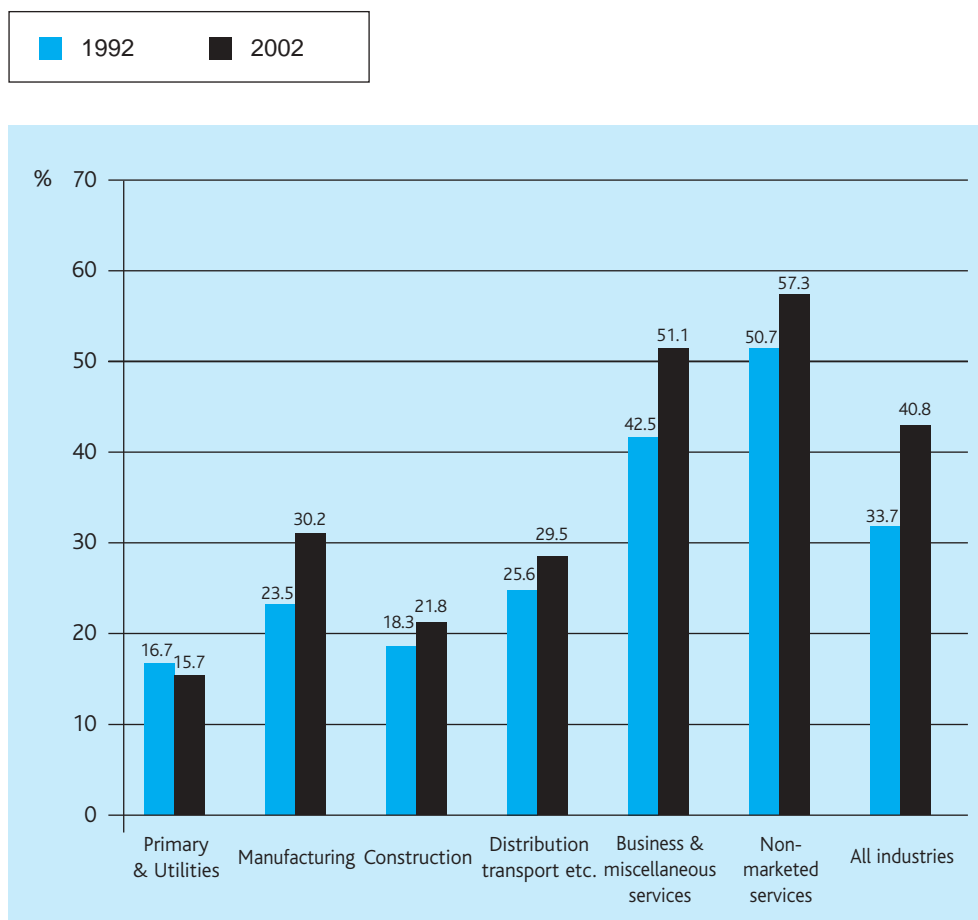
	Personal service occupations		Sales and customer service occupations		Transport and machine ops		Elementary occupations		All occupations (100%) 000s	
	1992	2002	1992	2002	1992	2002	1992	2002	1992	2002
Agriculture	4.9	7.5	0.8	0.8	9.2	7.2	31.5	37.4	452	330
Mining and quarrying; utilities, of which:	1.3	2.1	3.0	5.9	13.3	11.3	12.6	11.0	267	155
Mining and quarrying	1.0	1.6	0.7	1.8	19.5	17.0	19.2	16.6	90	45
Electricity, gas and water	1.4	2.3	4.1	7.6	10.1	9.0	9.3	8.7	177	110
Food, drink and tobacco	0.6	0.6	6.5	7.3	26.4	27.5	20.9	17.1	409	383
Textiles and clothing	2.0	2.5	1.7	2.3	46.2	36.8	13.3	12.6	386	206
Wood, paper; printing and publishing, of which:	1.9	2.7	3.0	4.0	17.7	17.2	12.6	10.9	531	510
Wood and paper products	1.2	1.8	1.9	3.2	18.9	19.1	11.3	11.5	187	157
Printing and publishing	2.2	3.2	3.6	4.3	17.1	16.3	13.3	10.6	344	352
Chemicals and non-metals	1.3	1.9	1.6	2.2	25.3	24.7	17.8	16.9	598	547
Metals and metal goods	0.8	1.1	0.9	1.7	21.1	21.1	14.6	14.5	525	424
Engineering	0.9	1.4	1.5	2.1	17.6	16.6	10.6	9.4	758	661
Transport equipment	0.7	1.1	0.6	1.6	20.7	20.1	13.3	13.2	358	339
Manufacturing nes and recycling	0.7	1.0	1.7	2.1	26.5	23.4	12.3	11.4	177	203
Construction	0.3	0.4	0.8	1.2	10.3	10.2	11.4	12.6	1544	1562
Sale and maintenance of motor vehicles	2.7	3.7	14.8	23.8	10.6	9.6	10.2	8.5	592	560
Wholesale distribution	2.9	4.6	16.8	24.9	9.8	8.6	10.2	8.3	1016	1143
Other retail distribution	2.1	2.7	37.5	36.2	5.3	6.0	10.5	8.5	2242	2568
Hotels and catering	3.0	4.0	4.0	4.9	1.6	2.1	42.6	33.8	1329	1549
Transport	2.8	4.4	1.4	3.0	29.6	27.8	18.7	15.1	976	1091

Table 3.4: Occupational structure within industries, England 1992 and 2002 (continued)

	Personal service occupations		Sales and customer service occupations		Transport and machine ops		Elementary occupations		All occupations (100%) 000s		row % shares
	1992	2002	1992	2002	1992	2002	1992	2002	1992	2002	
Communications	1.9	2.9	2.9	5.4	21.2	20.5	15.9	14.4	411	477	
Banking and insurance	1.3	1.6	5.6	8.2	1.8	1.9	5.5	4.7	1005	989	
Professional services	4.6	8.4	2.3	3.3	4.1	3.4	7.5	5.6	470	650	
Computing and related	1.6	2.6	2.2	4.1	4.2	3.5	6.3	5.3	198	503	
Other business services	4.5	7.3	2.9	3.9	3.8	3.7	8.8	6.2	2098	2879	
Public administration	2.8	4.8	1.3	2.1	4.4	3.7	14.7	11.6	1202	1163	
Education	6.8	9.8	0.8	1.0	2.5	2.3	14.9	8.7	1589	1913	
Health and social work	20.5	28.3	1.3	1.4	1.9	1.7	11.6	5.7	2193	2491	
Miscellaneous services	11.9	14.4	2.5	2.7	7.2	6.6	19.8	12.0	1118	1536	
Total	4.9	7.3	6.7	7.9	9.6	8.3	14.6	11.3	100.0	100.0	
000s	1098	1815	1498	1966	2153	2053	3281	2804	22444	24832	

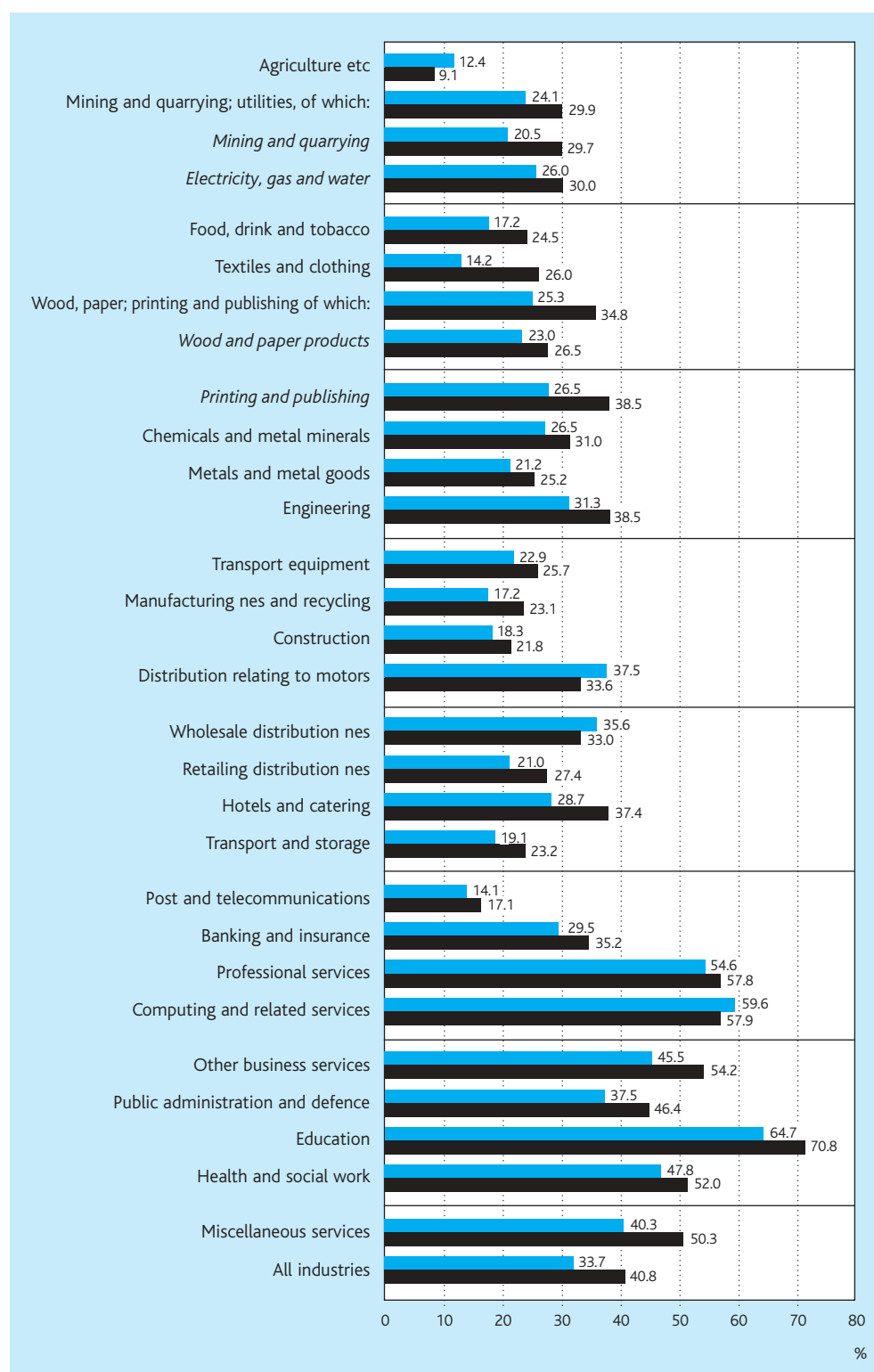
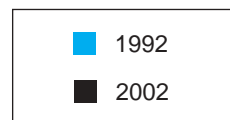
Source: IFR estimates, based on Wilson et al. (2003).

**Figure 3.8 Proportion of employment in managerial, professional and associate professional occupations by sector, England 1992 and 2002**



Source: IER estimates based on Wilson et al. (2003).

**Figure 3.9: Proportion of employment in managerial, professional and associate professional occupations by industry, England 1992 and 2002**



Source: IER estimates, based on Wilson et al. (2003).



## Regional/local trends

- 3.36 The industry and occupation patterns described above have been common across most regions of England, as shown in Tables 3.1 and 3.2. It is clear that some regions have suffered more because of their specialisation in both the primary and manufacturing sectors (notably the Midlands and the Northern regions). Others have benefited from the move towards a more service-oriented economy (particularly London and the South East). Overall patterns of employment growth and decline have therefore been quite different across regions.
- 3.37 Total employment growth has been much stronger in southern and eastern regions of England. This is reflected in Table 3.5, which shows the main changes in occupational employment by region. The shaded cells indicate those occupations where total employment has fallen over the decade since 1992. The net change in employment over the last decade is positive for all regions with the exception of the North East. As is apparent from Table 3.5, the South has clearly benefited to a much greater extent than has the North. Over 75 per cent of the growth in employment has been in the South.
- 3.38 To an extent, these changes reflect the regional variations in sectoral employment trends illustrated in Table 3.1. These have had significant implications for occupational trends at the regional level. Recognising that there are important differences in terms of sectoral structure, similar patterns emerge for all regions in terms of the patterns of growth and decline for particular occupations.
- 3.39 The number of people employed as managers and professionals has increased rapidly in all regions, but especially in London and the South East. Similarly, the growth in employment amongst associate professional and technical occupations has also been concentrated in the South East and London, with more modest increases elsewhere. Employment growth for personal service and sales and customer service occupations has been more evenly distributed across the regions. Administrative and secretarial occupations, skilled-trades and elementary occupations have seen absolute declines in all regions.

*These basic patterns have been repeated across all regions but some have fared much better than others.*

*Regional changes have favoured the south-eastern parts of the country...*

*...especially for managerial and professional occupations.*

Table 3.5: Occupational change within regions, 1992-2002

	London	South East	East	South West	West Mid.	East Mid.	Yorkshire and the Humber	North West	North East	England
1 Managers and senior officials	249	203	115	81	55	57	53	77	18	907
2 Professional occupations	200	112	57	71	55	43	44	94	11	689
3 Associate professional and technical occupations	292	174	97	82	81	58	56	100	22	961
4 Admin., clerical and secretarial occupations	-109	-60	-34	-26	-17	-8	-20	-43	-20	-336
5 Skilled trades occupations	-46	-36	-27	-34	-68	-70	-58	-67	-36	-443
6 Personal service occupations	96	121	72	80	86	76	69	90	27	717
7 Sales and customer service occupations	74	87	48	64	45	40	44	56	11	469
8 Transport and machine operatives	-24	3	3	5	-15	-24	-11	-24	-14	-100
9 Elementary occupations	-68	-43	-35	-34	-56	-38	-70	-90	-43	-476
Total	666	561	296	289	167	135	106	194	-25	2388

Source: IER estimates, based on Wilson et al. (2003).

Note: Shaded cells indicate occupations where the number in employment has declined.

## Qualifications of the Employed Workforce

- 3.40 There are problems in measuring the demand for formal qualifications. In particular it is very difficult to distinguish demand from supply. Information is available from the Labour Force Survey (LFS), in combination with other sources, on the qualifications held by those in employment. But it is important to recognise that these are the consequence of both demand and supply influences.
- 3.41 A key factor behind the increase in the overall proportion of persons holding higher-level qualifications is shifts in occupational structure in favour of those (higher-level) occupations which tend to employ large proportions of qualified people. As seen above, between 1992 and 2002, total employment in these higher-level occupational categories grew by around 2.5 million.
- 3.42 In addition, the proportions employed in each occupational category holding higher levels of qualifications have also increased. This has affected both the public and private sectors although it is the latter which has seen the most rapid growth.
- 3.43 It is important to recognise that these increases are also, in part at least, supply driven. For example, the increased participation in higher education that has been encouraged by both the present and previous Governments has inevitably led to a sharp rise in the NVQ Level 4 qualifications held by the employed workforce. These trends are discussed in more detail in Chapter 5 (see paragraphs 5.10 to 5.17).
- 3.44 The proportions in employment holding intermediate and lower-level qualifications have also risen in recent years although not as rapidly as for higher-level qualifications. This reflects the fact that many of those acquiring intermediate-level qualifications go on to obtain even higher-level qualifications. As shown in Table 3.6 and Figure 3.10, according to the LFS, by 1993 about three-quarters of the employed workforce had formal qualifications of some kind. This had risen to around 90 per cent by the year 2003, and now almost 50 per cent of the employed workforce is qualified to at least NVQ Level 3. But some 12 per cent of the workforce still has no formal qualifications and, despite the fall in this proportion in recent times, over 30 per cent of those in employment are qualified below NVQ Level 2 (see Figure 3.11).
- 3.45 There have been a number of innovations in the area of intermediate and lower-level qualifications in recent years, with the introduction of GNVQs and other new vocational qualifications. Pressures to raise standards, combined with changing emphasis on different aspects of the curriculum etc., have resulted in rising success rates in GCSEs and A-Levels. These, essentially supply-side changes, have been reflected in rising employment shares for people holding such qualifications.
- 3.46 As discussed in Chapter 4, at NVQ Level 3, the flow obtaining A-level or equivalent qualifications rose sharply in the 1990s. This rate of growth was facilitated by various new qualifications such as GNVQ, which grew to quite substantial levels in just a few years after their introduction.

*Measuring the demand for qualifications is difficult since numbers employed reflect both demand and supply.*

*This has been driven by changes in the occupational structure of employment.*

*The proportion of those employed with formal qualifications is also growing rapidly...*

*...although it also reflects the rapid increase in educational participation rates.*

*The numbers qualified at intermediate and lower levels have also risen, but a substantial proportion still have no formal qualifications.*

*There has also been an increase in vocational qualifications held, with many new qualifications being introduced.*

*The flow of those obtaining A-levels and other NVQ Level 3 qualifications has risen steadily.*

*The impact on the stocks of those with these as their highest qualification has been modest, since many have gone on to acquire even higher qualifications.*

3.47 When the total stocks of persons holding such qualifications as their highest qualification are assessed, a somewhat different picture emerges. As Table 3.6 and Figure 3.12 show, on this measure, the overall numbers with NVQ Level 3 as their *highest* level qualification only rose relatively modestly between 1993 and 2003. This is because of the focus on 'highest qualification held'. The overall numbers holding such qualifications have risen rapidly but many people have 'upgraded' and now have degrees.

**Table 3.6: Qualifications composition of employment, England 1993 and 2003 (000s and percentage shares)**

Qualifications	Number (000s)		Percentages	
	1993	2003	1993	2003
<b>No Qualification</b>	<b>5210</b>	<b>2727</b>	<b>24.8</b>	<b>11.3</b>
NVQ 1 GCSE (below grade C)	3116	3727	14.8	15.4
NVQ 1 GNVQ foundation		14	0.0	0.1
NVQ 1 BTEC 1st certificate etc	657	924	3.1	3.8
<b>NVQ 1 total</b>	<b>3773</b>	<b>4666</b>	<b>18.0</b>	<b>19.3</b>
NVQ 2 GCSE(grades A-C)	2241	2927	10.7	12.1
NVQ 2 GNVQ intermediate		133	0.0	0.6
NVQ 2 BTEC 1st diploma etc	2030	2173	9.7	9.0
<b>NVQ 2 total</b>	<b>4270</b>	<b>5233</b>	<b>20.3</b>	<b>21.6</b>
NVQ 3 A level and equivalent	795	1564	3.8	6.5
NVQ 3 GNVQ advanced		167	0.0	0.7
NVQ 3 ONC BTEC national etc	2330	2988	11.1	12.3
<b>NVQ 3 total</b>	<b>3125</b>	<b>4719</b>	<b>14.9</b>	<b>19.5</b>
NVQ 4 First degree and equivalent	2312	3265	11.0	13.5
NVQ 4 HE below degree level	216	454	1.0	1.9
NVQ 4 HNC BTEC and RSA higher etc	770	1039	3.7	4.3
NVQ 4 Nursing and teaching	788	719	3.8	3.0
<b>NVQ 4 total</b>	<b>4086</b>	<b>5477</b>	<b>19.5</b>	<b>22.6</b>
<b>NVQ 5 Higher degree</b>	<b>535</b>	<b>1378</b>	<b>2.5</b>	<b>5.7</b>
<b>Total</b>	<b>21000</b>	<b>24200</b>	<b>100.0</b>	<b>100.0</b>

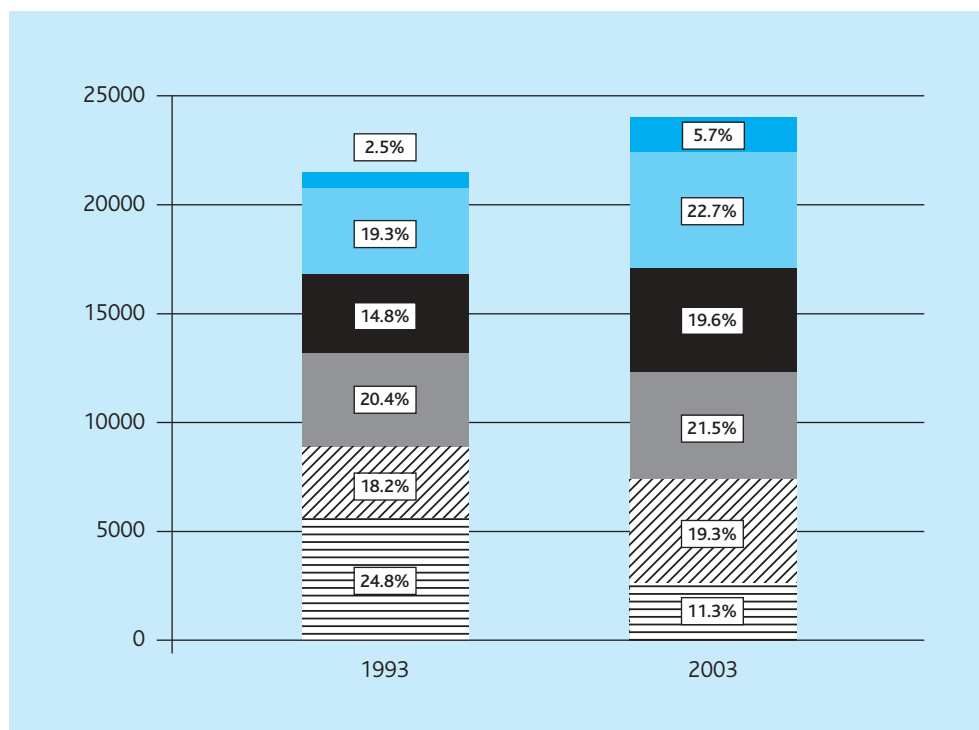
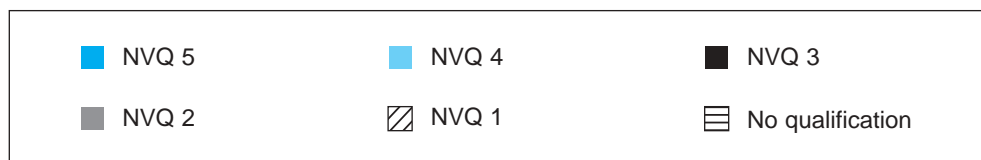
*Source: Labour Force Survey, Spring 1993, 2003.*

**Table 3.7 Qualification level by occupation, England: 1993 and 2003 (000s and percentage in each occupation)**

	NVQ5		NVQ4		NVQ3		NVQ2		NVQ1		No Quals.		Total		
	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	
Managers and Senior Officials	000s	93	284	741	1152	460	765	571	674	441	523	516	247	2821	3645
	%	3.3	7.8	26.3	31.6	16.3	21.0	20.2	18.5	15.6	14.3	18.3	6.8	100.0	100.0
Professional occupations	000s	306	767	1359	1603	169	258	165	178	103	126	100	22	2202	295
	%	13.9	26.0	61.7	54.3	7.7	8.7	7.5	6.0	4.7	4.3	4.5	0.7	100.0	100.0
Associate Prof. and Technical	000s	76	215	944	1432	363	610	414	554	346	382	359	94	2503	3288
	%	3.0	6.5	37.7	43.6	14.5	18.6	16.5	16.8	13.8	11.6	14.4	2.9	100.0	100.0
Administrative and Secretarial	000s	21	51	366	483	412	592	838	902	863	840	636	252	3136	3119
	%	0.7	1.6	11.7	15.5	13.1	19.0	26.7	28.9	27.5	26.9	20.3	8.1	100.0	100.0
Skilled Trades Occupations	000s	13	15	223	190	817	1007	757	700	402	456	762	370	2974	2739
	%	0.4	0.6	7.5	6.9	27.5	36.8	25.5	25.6	13.5	16.6	25.6	13.5	100.0	100.0
Personal Service Occupations	000s	11	11	143	247	162	377	270	484	263	420	357	201	1205	1741
	%	0.9	0.6	11.8	14.2	13.5	21.7	22.4	27.8	21.8	24.1	29.6	11.6	100.0	100.0
Sales and Customer Service Occupations	000s	7	13	164	150	376	394	612	547	648	465	971	307	2777	1876
	%	0.2	0.7	5.9	8.0	13.5	21.0	22.0	29.1	23.3	24.8	35.0	16.4	100.0	100.0
Process, Plant and Machine Operatives	000s	2	6	32	79	82	334	126	462	146	616	259	403	647	1899
	%	0.3	0.3	5.0	4.2	12.6	17.6	19.4	24.3	22.6	32.4	40.1	21.2	100.0	100.0
Elementary Occupations	000s	5	8	132	118	310	394	579	667	646	816	1321	817	2993	2820
	%	0.2	0.3	4.4	4.2	10.3	14.0	19.3	23.6	21.6	28.9	44.1	29.0	100.0	100.0
Total	000s	533	1372	4104	5455	3150	4730	4332	5167	3859	4644	5281	2713	21259	24082
	%	2.5	5.7	19.3	22.7	14.8	19.6	20.4	21.5	18.2	19.3	24.8	11.3	100.0	100.0

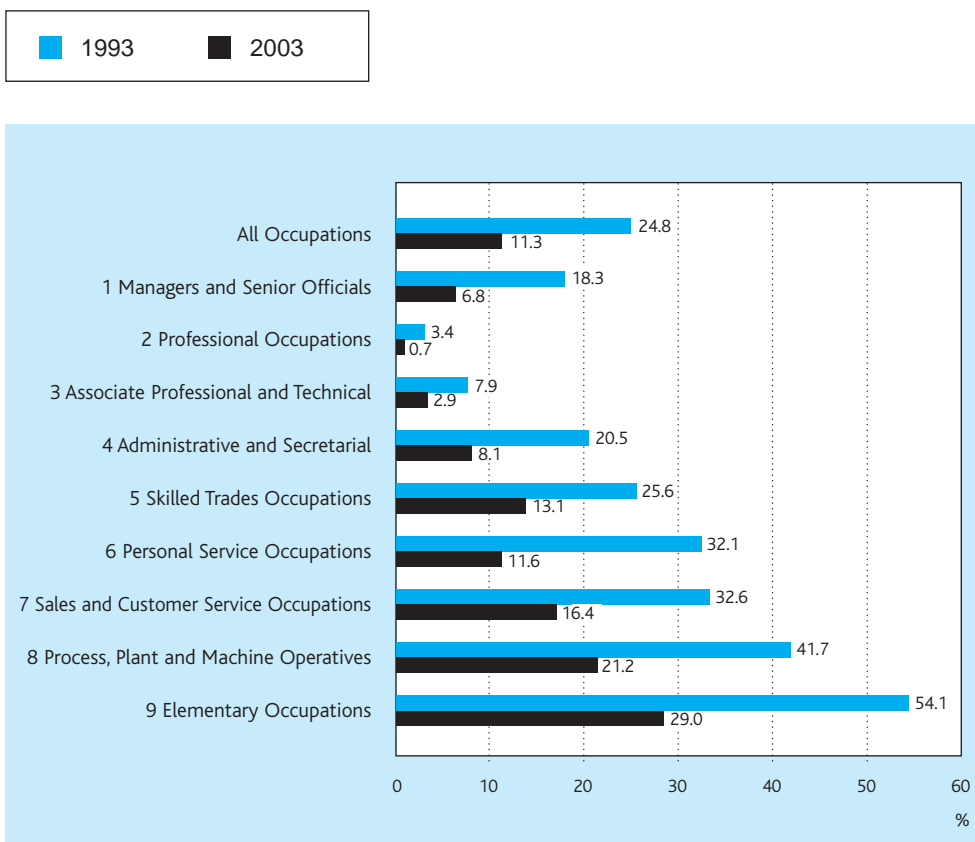
Source: Labour Force Survey, Spring 1993 and 2003.

**Figure 3.10: Qualifications of individuals in employment, England 1993 and 2003**



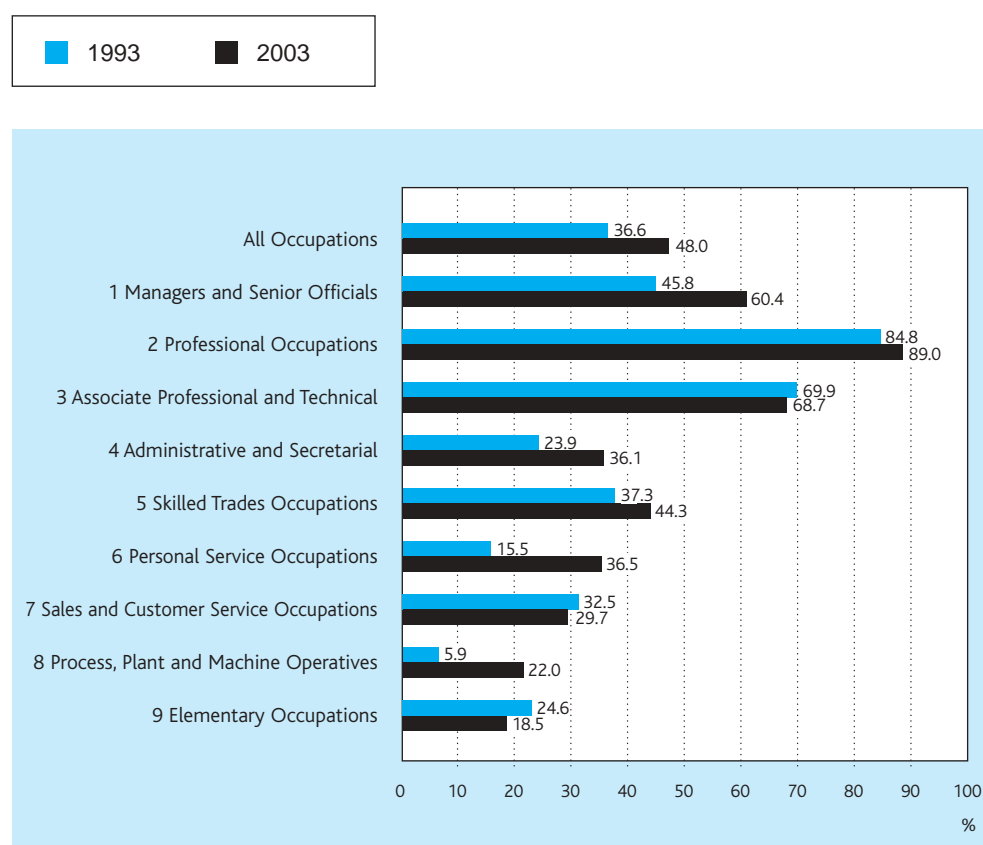
*Source: Labour Force Survey, Spring 1993 and 2003.*

**Figure 3.11: Percentage of employees with no qualifications by occupation, England 1993 and 2003**



Source: Labour Force Survey, Spring 1993 and 2003.

**Figure 3.12: Percentage of employees qualified to NVQ Level 3 and above, by occupation, England 1993 and 2003**



Source: Labour Force Survey, Spring 1993 and 2003.

*The position at NVQ Levels 1 and 2 is similar, with little change in the stocks despite increased flows.*

*Increases at NVQ Level 3 or above have been concentrated in managers and clerical and secretarial occupations.*

*The growth for higher-level qualifications has been greatest amongst professionals.*

3.48 At NVQ Level 2 it is a similar story. Rapid growth in the flows during the 1990s was not reflected in dramatic increases in the stocks because many individuals have subsequently acquired higher-level qualifications. At NVQ Level 1 the pattern is similar; RSA, BTEC first certificates and other such qualifications have seen the fastest rates of increase, while the proportion of those with GCSE below grade C as their highest qualification has remained stable at around 16 per cent over the last decade.

3.49 All occupational groups are becoming more qualified as measured, for example, by the proportion of employees qualified to NVQ Level 3 or equivalent and above (see Table 3.7). The increases are greatest amongst managers and administrative and secretarial occupations, with a large increase also among those employed in sales occupations.

3.50 For higher-level qualifications, the fastest increases have been amongst professional occupations (NVQ Level 5), managers (NVQ Levels 4 and 5) and amongst associate professionals (NVQ Level 4). There has also been a general increase for NVQ Levels 3 and 4 across many occupations, including admin and secretarial and sales occupations.



- 3.51 Higher-level qualifications (NVQ Levels 4 and 5) are heavily concentrated amongst particular occupational categories (most notably professional occupations). The proportions qualified at this level have also risen in other occupations (especially amongst associate professional groups). For example teachers, and more recently nurses, have seen moves towards an all-graduate profession. Some have argued that this represents qualifications inflation. The more general consensus is that it reflects real changes to the job requirements.
- 3.52 The analysis in Wilson (2001) also illustrates that there has been a general increase in the proportions qualified at intermediate and lower levels across nearly all occupations. This is less marked than for higher-level qualifications, mainly because many people who previously held NVQ Level 3 qualifications as their highest qualification have now been replaced by people with qualifications at NVQ Levels 4 and 5. For higher-level occupations in particular, there has been a tendency for the structure to shift away from NVQ Level 3 towards Levels 4 and 5.
- 3.53 Qualifications at NVQ Level 3 remain significant amongst managers, associate professionals, administrative and secretarial, skilled trades, personal, sales and customer service occupations. In all of these, around 20 per cent or more of the employed workforce are currently qualified at that level. For skilled trades it is higher at over 35 per cent.
- 3.54 Lower-level qualifications are spread much more evenly across all occupations than are higher-level qualifications. The proportions holding no formal qualifications have fallen sharply in all occupations as shown in Figure 3.11. It is notable, however, that there are still significant numbers of high-status occupations who hold few formal qualifications. For example, more than 40 per cent of managers are only qualified to NVQ Level 2 or below.

*Many occupations are now graduate-orientated, especially for new recruits. This has raised some concerns about over-education and qualification inflation.*

*Other occupations have also seen sharp increases in proportions qualified at lower levels.*

*NVQ Level 3 qualifications remain the norm amongst many occupations...*

*...but many occupations still have large numbers with no formal qualifications.*

*Occupations and qualifications provide only a partial picture of trends in skill requirements.*

*Employers have emphasised the importance of key and generic skills.*

*The Skills Surveys provide information on the skills used by individuals in their jobs.*

*The Skills Surveys enable ten generic skills to be identified.*

## Recent Survey Evidence on the Demand for Skills

- 3.55 The evidence on occupational trends, as well as that on qualifications trends, suggests that the skill levels of those in employment have risen substantially over the last decade. But this is only a partial picture of skill trends. In particular, it is important to consider the changing nature of jobs *within* particular occupation titles.
- 3.56 A further concern is that increasing educational attainment and the employment of individuals with more formal qualifications does not imply that these are either necessary or appropriate. The possession of formal qualifications does not necessarily mean that individuals have the kinds of skills that are needed to meet the requirements of the modern workplace - this is a perennial complaint from employers for example. This has been reflected in a small but growing body of research focused upon key and generic skills. Two recent surveys have attempted to track trends in such skills and this evidence is reviewed below.
- 3.57 The link between the nature of the product or service and the associated demand for skills has also been the focus of a recent Skills Survey (Green, 2003). Finally, the National Employers Skill Survey 2003 (NESS2003) provides a comprehensive overview of the skills used in England (see paragraphs 5.22 onwards). The findings from the Skills Survey are briefly summarised below, and information from NESS2003 can be found in Chapter 5.

### Skills Surveys 1997 and 2001

- 3.58 The two Skills Surveys of 1997 and 2001 (Ashton *et al*, 1999 and Felstead *et al*, 2002) focus on the skills actually used by workers in the jobs that they do. These surveys are based on individual employees' responses to detailed questions regarding the skills and qualifications both used and required in their jobs. Their responses can therefore be regarded as being reflective of the demand for skills.
- 3.59 Combining the importance of the different job activities that individuals report, Dickerson and Green (2002) produced measures of the utilisation of ten different generic skills amongst the workforce.
- 3.60 • The ten generic skills identified by Dickerson and Green (2002) are:
- literacy skills: both reading and writing forms, notices, memos, signs, letters, short and long documents etc.;
  - physical skills: the use of physical strength and/or stamina;
  - number skills: adding, subtracting, division, decimal point or fraction calculations etc. and/or more advanced mathematical or statistical procedures;
  - technical know-how: knowing how to use tools, equipment or machinery, knowing about products and services, specialist knowledge and/or skill in using one's hands;

- high-level communication: a range of related managerial skills, including persuading or influencing others, making speeches or presentations, writing long reports, analysing complex problems in depth;
- planning skills: planning activities, organising one's own time and thinking ahead;
- client communication: dealing with people, selling a product or service, counselling or caring for customers or clients;
- horizontal communication: teaching or training and/or working with a team of people, listening carefully to colleagues;
- problem-solving: detecting, diagnosing, analysing and resolving problems; and
- checking skills: noticing and checking for errors.

3.61 Table 3.8 reveals that there is a close correspondence between occupations and the generic skill indices. For example, those engaged in managerial occupations are using above average levels of high-level communication, planning and client communication skills. Managers are similar in this regard to those engaged in professional occupations, but the latter are characterised by higher levels of literacy and high-level communication and lower levels of client communication. Workers in craft occupations utilise both physical skills and what we have termed technical know-how, and can be contrasted with operatives and other elementary occupations which, while also demanding physical skills, require little in the way of technical know-how, and score well below average on communication skills. Client communication skills are important to those in sales-based occupations, but are apparently not combined with other skills dimensions unlike those in managerial occupations. Thus the measures of generic skills appear to be sensibly related to occupations, while providing a richer and more detailed classification in terms of what skills different occupations utilise.

3.62 A similar breakdown by highest qualification and by gender is provided in Table 3.9. Most of the non-manual generic skills identified increase in line with educational qualifications. This is as would be expected for literacy and numeracy, since these are formally tested with educational qualifications, but it is perhaps more surprising for some of the other measures of generic skills. The widest variation in generic skills across education is for high-level communication skills.

*These are related to occupational groups but provide a richer classification of skills used.*

*Most non-manual generic skills increase in line with formal qualification levels.*

Table 3.8: Mean levels of generic skills by occupation

Generic skills:	Occupation classification									
	Managers etc.	Professionals	Associate professionals	Clerical	Craft etc.	Personal and protective	Sales	Operatives	Elementary	
1 Literacy skills	0.33	0.62	0.38	0.16	-0.29	-0.14	-0.30	-0.55	-0.98	
2 Physical skills	-0.37	-0.50	-0.34	-0.50	0.72	0.40	-0.08	0.64	0.78	
3 Number skills	0.51	0.44	0.09	0.07	-0.00	-0.54	0.06	-0.32	-0.85	
4 Technical know-how	0.06	0.04	0.16	-0.15	0.63	-0.33	-0.13	0.04	-0.51	
5 High-level communication	0.56	0.88	0.39	-0.31	-0.27	-0.22	-0.29	-0.65	-0.72	
6 Planning skills	0.52	0.60	0.37	-0.12	-0.16	-0.20	-0.36	-0.59	-0.81	
7 Client communication	0.50	0.30	0.24	-0.05	-0.43	0.02	0.48	-0.63	-0.82	
8 Horizontal communication	0.28	0.40	0.29	-0.04	-0.23	0.11	-0.21	-0.40	-0.75	
9 Problem-solving	0.33	0.38	0.30	-0.11	0.26	-0.26	-0.42	-0.29	-0.83	
10 Checking skills	0.12	0.10	0.21	0.23	0.23	-0.35	-0.19	-0.07	-0.75	

**Source:** Dickerson and Green (2002), Table 3.

**Notes:** The measures of generic skills each have a mean of zero and a standard deviation of one.

Table 3.9: Mean levels of generic skills by qualification and by gender

Generic skills:	Highest education level attained							Gender	
	No qualification	NVQ level 1	NVQ level 2	NVQ level 3	sub-degree	degree	male	female	
1 Literacy skills	-0.56	-0.33	-0.08	0.04	0.40	0.48	0.01	-0.01	
2 Physical skills	0.48	0.40	0.06	0.05	-0.25	-0.64	0.09	-0.12	
3 Number skills	-0.43	-0.30	-0.09	0.10	0.35	0.35	0.15	-0.16	
4 Technical know-how	-0.22	-0.01	-0.03	0.17	0.18	-0.03	0.19	-0.20	
5 High-level communication	-0.55	-0.35	-0.22	-0.03	0.43	0.72	0.09	-0.11	
6 Planning skills	-0.56	-0.28	-0.12	0.04	0.40	0.48	0.05	-0.06	
7 Client communication	-0.43	-0.22	-0.00	0.04	0.25	0.28	-0.05	0.06	
8 Horizontal communication	-0.38	-0.23	-0.04	0.02	0.29	0.27	-0.03	0.03	
9 Problem-solving	-0.44	-0.19	-0.07	0.10	0.31	0.28	0.12	-0.13	
10 Checking skills	-0.30	-0.13	0.03	0.12	0.19	0.09	0.07	-0.05	

Source: Dickerson and Green (2002), Table 4.

Note: All the gender differences in skills are significantly different from zero at the 1 per cent level with the exception of literacy skills.

*With the exception of literacy skills, on average, men use more generic skills in their jobs than women.*

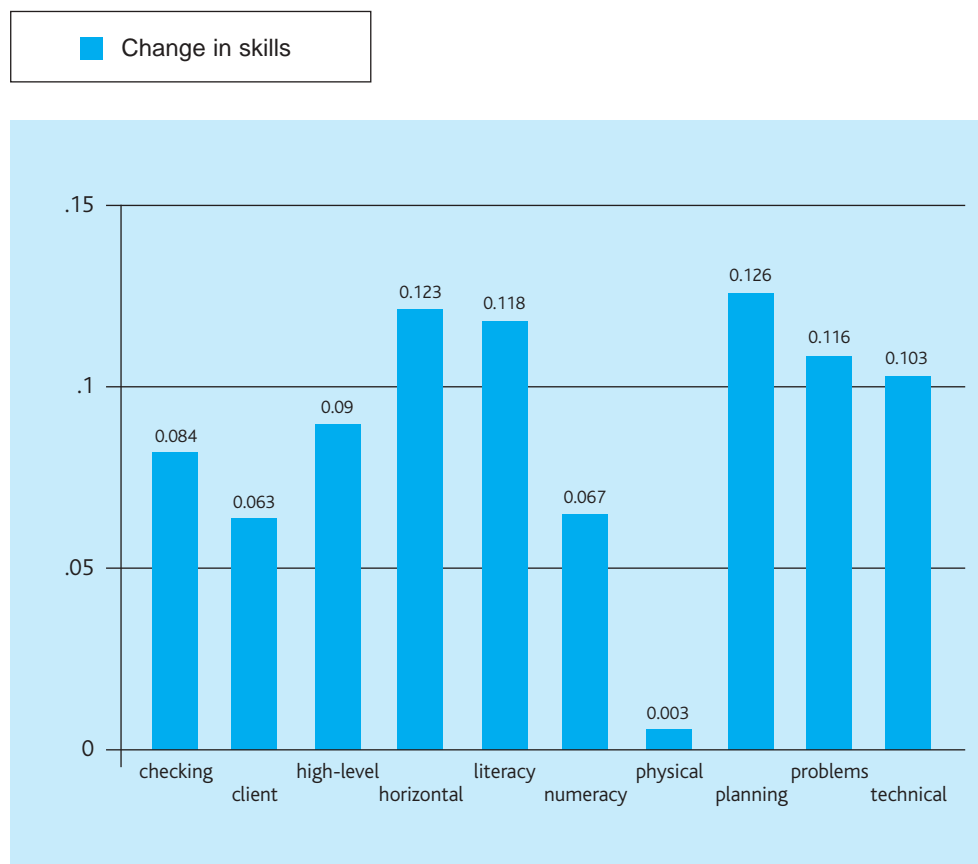
*Between 1997 and 2001, there was an increase in the use of all generic skills with the exception of physical skills.*

*Computing skills are becoming increasingly important and widespread...*

*...and the complexity of computer utilisation is also increasing.*

- 3.63 Table 3.9 also reveals that there are only small differences in the mean levels of literacy skills used by men and women in their jobs, but that there are larger and significant differences in numeracy, technical know-how and problem-solving skill utilisation, all of which men use more in their jobs than do women, according to the Skills Surveys. Men also utilise more physical skills than women, but fewer communication skills, with the exception of high-level communication. The latter is undoubtedly related to occupational differences as seen above, and, especially, the fact that women who work part-time use lower levels of generic skills.
- 3.64 Differences in the utilisation of these generic skills between the two skills surveys are shown in Figure 3.13. As can be clearly seen, the evidence is that with the exception of physical skills, the utilisation of all of these skills amongst the employed workforce has grown between 1997 and 2002. Indeed, the increases are all significantly different from zero.
- 3.65 The Skills Surveys also asked respondents about their use of computing skills. Both intensity and complexity of use were recorded. As shown in Table 3.10, Panel A, the proportion reporting that computer use was essential in their job increased from just over 30 per cent in 1997 to almost 40 per cent in 2001, an increase of one-third, while the proportion reporting that computer use was 'not at all important' fell by one-third from 30 per cent to just over 20 per cent. These are large changes given that the surveys were administered only four years apart, signalling an ongoing rapid diffusion of computing technologies.
- 3.66 For those respondents who reported *some* computer usage, a subsidiary question was asked about the complexity with which computers were used within their jobs. The responses to this question are shown in Table 3.10, Panel B. Despite the rapid spread of computer usage to wider sections of the workforce, there is no evidence that the average level of complexity of use is falling. Indeed, there has been an increase in the complexity of computing usage at the less sophisticated end of the range with a shift in the proportion reporting 'straightforward' usage to those reporting 'moderate' usage on the basis of the above scale. At the more advanced end of the range of complexity, there has been little change between the two survey dates. For a detailed descriptive analysis of the growth of computing skills over 1997 to 2001, and of further aspects of computing and internet skills in 2001, see Felstead *et al.* (2002). The association of the growth of computing in Britain with the more general growth in the demand for skills is shown in Green *et al.* (2002).

**Figure 3.13: Changes in the use of generic skills, 1997-2001**



Source: Dickerson and Green (2002), Table 5.

**Table 3.10: Centrality and complexity of computing usage**

A: Importance of computer use		
	1997 (%)	2001 (%)
Essential	31	40
Very important	15	15
Fairly important	12	14
Not very important	12	10
Not at all important	30	21

B: Complexity of computer use		
	1997 (%)	2001 (%)
Straightforward	38	31
Moderate	39	46
Complex	18	17
Advanced	5	6

Source: Dickerson and Green (2002), Table 6.

*Various skills have been shown to attract a premium in the labour market in terms of higher pay.*

*The Employer Perspectives Survey focuses explicitly on employers' demand for skills.*

*The evidence suggests that 'high-spec' products and services demand higher skills...*

*...and thus if Britain is caught in a so-called 'low-skills equilibrium', this may lead to a low demand for skills.*

- 3.67 Thus the evidence from the two Skills Surveys is that there has been a continued increase in the demand for generic skills in recent years, and that computing skills continue to expand rapidly amongst the workforce in Britain.
- 3.68 Dickerson and Green (2002) also provide estimates of the valuation of these generic and computing skills, in terms of the additional pay that they attract in the labour market. The evidence is that high-level communication skills and computing skills carry significant positive wage premiums. Moreover, advanced and complex usages of computers earn a higher premium than more straightforward usage.

### **Employer Perspectives Survey 2002**

- 3.69 The Employer Perspectives Survey 2002 (Green *et al*, 2003) is a follow-up survey of the employers of the individuals interviewed in the 2001 Skills Survey. Its focus is specifically on the factors underlying employers' demands for skills in Britain. In particular, it is designed to elicit information on the link between the demand for skills and the specification of the product or service generated at the establishment.
- 3.70 The survey findings indicate that establishments producing 'high-spec' products or services tend to have increasing demands for skills. In particular, managers in such establishments perceive that there have been recent changes in skill needs. This is consistent with the notion that the dominant form of technological change in recent times is 'skill-biased'.
- 3.71 The corollary to this finding is that if the chosen product or service specification tends to be relatively low in British workplaces, as suggested by the debate surrounding the 'low-skills equilibrium', for example (Finegold and Soskice, 1988; Keep and Mayhew, 1999), then it would follow that skills demands would also be somewhat lower in Britain. But in the absence of internationally comparable data on product and service specification, it is not possible to quantify the importance of this effect.
- 3.72 Higher levels of computerisation and greater technological change are also associated with a greater demand for skills. But there is little, if any, relationship between the competitiveness of the product market and the demand for skills.



## International Evidence on Skill Demand

- 3.73 There is little international comparative evidence on skill demand, but Annex 9 of PIU (2001) summarises the differences between the various workforce development systems in a range of countries. Ashton *et al.* (2003) and Brown *et al.* (2001) are also informative in this regard.
- 3.74 A range of contrasting systems exist to stimulate the development of skills amongst the workforce. At one extreme, countries like the US principally use the market mechanism to equate the demand for skills and supply of skills to meet that demand. At the other extreme, in countries such as Singapore, the state effectively coordinates the demand for and supply of skills. Britain can be seen to have elements of both systems, although it is situated more towards the market-led end of the spectrum.
- 3.75 The primary advantage of a more market-orientated approach in which employers signal their excess demand/skill needs by increasing the amount they pay for skills in relatively short supply is its flexibility. But it can be slow to adjust to skills shortages. Having recognised a gap in the supply of particular skills, the appropriate education and training curricula need to be devised and implemented, and students need to complete these courses, before there is any increase in the skills supply to meet particular skill deficiencies. In addition, such an approach is only responsive to immediate needs of employers rather than being forward looking, and reflective of the wider and longer-term needs of the economy as a whole.
- 3.76 The alternative to the market-led approach is Government coordination of the supply and demand for skills, a system probably best exemplified by Singapore. The State identifies the long-term objectives regarding the future industrial composition and, together with knowledge about employers' current demands for skills, coordinates the output of the education and training systems. In this sense, the Government can be argued to be 'supplementing' or 'shaping' the market. Intervention takes place at many levels and, in the case of Singapore at least, has facilitated rapid economic growth over the last three decades with no apparent deficiencies in the supply of the requisite skills. Such a system has the disadvantage of being relatively inflexible, and its success relies on the correct identification of the appropriate target industries for the future.
- 3.77 In contrast to these two extremes, Britain's system of workforce development is more piecemeal and fragmented. The market discipline in which it mirrors the system operating in the US has failed to stimulate a strong demand for skills, and productivity remains weak by international standards. The system has also produced a rather polarised skills distribution, with an elite of highly educated workers, and a long tail of low-skilled adults who have few, if any, certified skills or qualifications. The gap between these two extremes is in the intermediate technical and vocational skills that Britain lacks as compared with, say, Germany.

*A variety of systems for workforce development are in operation in different countries.*

*A spectrum from the market-led to the highly coordinated systems can be identified.*

*Both market-orientated...*

*...and interventionist systems can be seen to have their strengths and weaknesses.*

*Britain's system is more market-orientated than in many other European countries.*

*Transferring successful policies and systems from other countries may not be feasible.*

3.78 Of course, while it is possible to learn important lessons from the experiences of other countries, this does not mean that it is necessarily feasible to transfer examples of good practice between different countries. A range of other factors - including the market orientation, industrial profile, cultural, social and political institutions and systems are all important ingredients in the operating characteristics of any workforce development system. In the encouragement and stimulation of the demand for skills, workforce development cannot be considered in isolation from these other factors.

Skills in England 2003

Volume 2

Chapter 4: The Supply of Skills



## Chapter 4: The Supply of Skills

### Introduction and Summary

- 4.1 This chapter examines the supply of skills in the workforce and how these differ across various dimensions such as employment status, gender, region and locality, ethnicity and occupation. Formal academic and vocational qualifications, as well as training provision, are examined. Future skills supply is addressed by examining current participation in education and training, especially amongst young people.
- 4.2 By all available measures, the supply of skills in the workforce is increasing. More workers are qualified, and to higher levels, and a higher proportion of the workforce participates in some form of formal training every year.
- 4.3 There still remains a group of mainly older adults who have no qualifications, and receive little or no workplace training. In the modern workplace, this group is becoming increasingly marginalised. They have a much higher probability of being either unemployed or economically inactive.
- 4.4 At the other end of the age spectrum, young people are participating in education and training in greater numbers than ever before, and with ever greater success. But, there have been some concerns expressed regarding the actual qualifications achieved - both academic and vocational - and there is a perennial debate regarding the standards being reached. Despite increasing participation, Britain still falls behind its major competitors, especially with regard to intermediate and vocational qualifications.
- 4.5 Further expansion in the stock of skills is forecast given the targets currently in place for increased participation in further and higher education. An increasing concern has recently been expressed about the subject mix that students are choosing, with a continued move away from more traditional sciences and mathematics toward a greater focus on cultural, leisure and media studies.

### Objectives and targets

- 4.6 The LSC established in April 2001 is a unified body that oversees all post-16 education and training in England, with the exception of the university sector.
- 4.7 The LSC's objectives and its five key corporate targets for 2004 are outlined in Table 4.1. These were first published in its first corporate plan. The achievement of these targets depends crucially on the continued development of the stock of skills in the workforce, from basic skills such as literacy and numeracy, through vocational qualifications, as well as on further increasing the participation of young people in education.

*This chapter documents the supply of skills.*

*The stock of skills is increasing...*

*...with greater participation in further and higher education and training.*

*These trends are set to continue.*

*Five key targets were adopted by the LSC in its first corporate plan.*

**Table 4.1: LSC objectives and targets to 2004**

Key objectives
• extend education, learning and training;
• increase engagement of employers in workforce development;
• raise the achievement of young people;
• raise the achievement of adults; and
• raise the quality of education and training and user satisfaction.
Targets
1. 80 per cent of 16-18-year-olds to be in structured learning (2000 base: 75 per cent);
2. 85 per cent at Level 2 by age 19 (2000 base: 75 per cent);
3. 55 per cent at Level 3 by age 19 (2000 base: 51 per cent);
4. Raise the literacy and numeracy of 750,000 adults; and
5. 52 per cent of adults at Level 3 (2000 base: 47 per cent).

**Source:** *Changing People's Lives The First Annual Report and Accounts of the Learning and Skills Council to 31 March 2002.*

- 4.8 Progress towards these five targets has been periodically reviewed by the LSC. The most recent assessment was presented in the LSC's *Corporate Plan to 2006* (in particular in Annex C), published in September 2003. This reveals limited progress in some areas, but more success in others.
- 4.9 **Target 1:** While the absolute numbers of 16-18-year-olds participating in structured learning has increased as a percentage of the age cohort, the rise is only very modest. Current participation is estimated to be 76.4 per cent in 2002/03, an increase from 75.5 per cent in 2001/02. Given that the figure was 76.3 per cent in 1995, the evidence suggests that there has been little change in participation for almost a decade, and any differences are well within the margins of error to be expected from the LFS.
- 4.10 **Target 2:** There has been no progress towards this target over the last two years. The latest LFS figure stands at 74.8 per cent, unchanged from the previous year. Consequently, additional resources have been made available by the LSC to further support the achievement of this target.
- 4.11 **Target 3:** There has been little change in the attainment levels achieved by 19-year-olds. The latest figure of 51.6 per cent at Level 3 is essentially unchanged from the baseline in 2000. However, the impact of curricula changes in the last few years - such as in A/AS-levels - may well lead to an improvement in this statistic in the near future.
- 4.12 **Target 4:** There has been some progress in advancing the basic skills of adults, with an estimated cumulative total of some 470,000 'achievements' in improving basic literacy and numeracy by July 2003.

*The share of 16-18-year-olds in structured learning has changed very little over the last decade.*

*No advance has been made with respect to Target 2...*

*...or Target 3.*

*There has been some progress on Target 4.*

4.13 **Target 5:** Progress towards this target is rather sluggish. The percentage of economically active adults at Level 3 or above had increased from the baseline of 47.2 per cent in 2000 to 48.8 per cent in 2002. Part of this increase will be a cohort effect - that is, the result of more-qualified young people joining the labour force, replacing less-qualified older workers moving into retirement.

4.14 The progress report above reveals just how challenging the targets that the LSC was given have proven to be. Only one of the targets will be achieved by 2004. However, the many initiatives implemented by the LSC over the last two years will have generated momentum that will affect future attainment and achievement levels. Schemes such as Modern Apprenticeships, the establishment of Centres for Vocational Excellence (CoVEs) and the expansion of the Investor in People (IiP) standard to greater numbers of smaller enterprises will all engender greater employer engagement with the skills agenda.

4.15 The LSC's *Corporate Plan to 2006* (LSC, 2003) formally adopts revised public service agreement (PSA) targets that extend through to 2010. These are as follows.

- By 2010, 90 per cent of young people by age 22 will have participated in a full-time programme fitting them for entry into higher education or skilled employment.
- By 2004, the number of 19-year-olds achieving a qualification equivalent to NVQ Level 2 will have increased by 3 percentage points, compared with 2002; and a further increase of 3 percentage points will be achieved by 2006.
- By 2004, the proportion of 19-year-olds achieving a Level 3 qualification will have increased to 55 per cent.
- By 2004, at least 28 per cent of young people will start a Modern Apprenticeship by age 22.
- By 2007, the basic skills levels of 1.5 million adults will have been improved since the launch of Skills for Life in 2001, with a milestone of 750,000 by 2004.
- By 2010, the number of adults in the workforce without a Level 2 or equivalent qualification will have been reduced by at least 40 per cent. Working towards this, 1 million adults in the workforce should achieve Level 2 between 2003 and 2006.
- Challenging targets for minimum performance and value for money in FE colleges and other providers are to be set by the Government and the LSC in the context of *Success for All*.

*However, Target 5 will not be achieved by 2004.*

*While progress has been disappointing, a broad range of initiatives should ensure that the gaps between targets and outcomes are narrowed in future years.*

*Revised targets were formally adopted in the LSC's Corporate Plan to 2006.*

4.16 This chapter examines the existing qualifications of the workforce in England, the level of participation in higher and further education for young people, and the amount and degree of training taking place in the workforce. It is these measures that will indicate the pace of progress being made towards the LSC's original 2004 targets and its prospects for the longer term as encapsulated in the PSA targets.

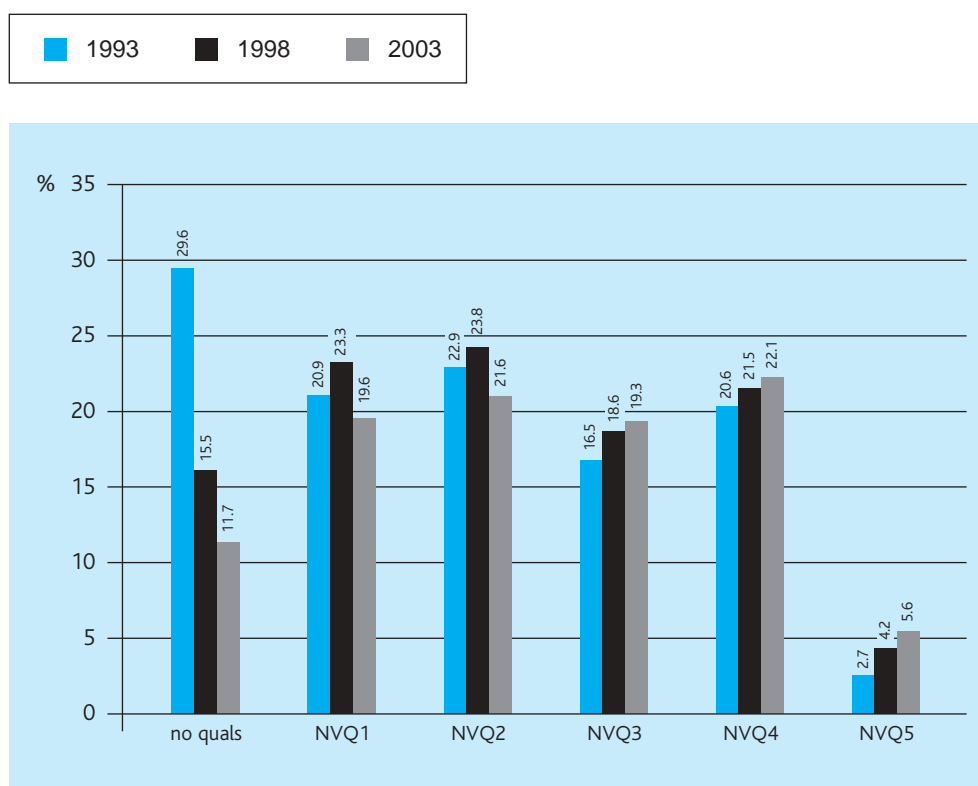
### Qualifications Held by the Labour Force

4.17 The most direct evidence on the supply of skills can be obtained from examining the supply of qualifications amongst the economically active labour force.

#### Trends in qualifications held

4.18 Using data from the Labour Force Surveys (LFS), Figure 4.1 reports the highest qualification held by the economically active population for 1993, 1998 and 2003. As can be clearly seen, the proportion of the economically active population with no qualifications has fallen significantly over this period, from 28 per cent to just over 12 per cent. In part this is a cohort effect - that is, the result of older and less-qualified workers reaching retirement age and/or leaving the labour force, being replaced by younger, more qualified workers who have recently completed full-time education.

**Figure 4.1: Highest qualification held by economically active population, England 1993, 1998 and 2003 (percentages)**



Source: Labour Force Survey, Spring 1993, 1998 and 2003.

*The stock of qualifications in the workforce is increasing due to a cohort effect...*



- 4.19 As can be seen from the individual NVQ qualification categories, there has also been a simultaneous shift upwards in the average qualification level of those with some qualifications, with smaller proportions qualified at the lower NVQ Levels 1 and 2, and increasing proportions qualified at the higher levels. The significant expansion of the numbers in higher education over the last decade can begin to be seen in the increase in the proportion educated to NVQ Level 4, and this will gather momentum in the next decade as more recent graduating cohorts begin to dominate the working age population. There has also been a large increase in the proportion with NVQ Level 5 qualifications, which has more than doubled in just the last decade, although these still only represent just over 5 per cent of the economically active population in England.
- 4.20 There has been some concern expressed that this upgrading of the stock of qualifications held is leading to credentialism, whereby employers raise their qualification requirements for recruitment to jobs even though the nature of the jobs remains unchanged. Recent survey evidence reported in Felstead *et al.* (2002) suggests that, in general, the qualifications that are required to get a job are indeed useful for actually performing the job. There is some evidence to suggest that job demands have not risen by as much as required qualifications over the last 15 years, especially at the lower qualification levels. Nevertheless, at the highest level, where the issue of credentialism is expected to be most apparent, given the relative growth in the numbers with further education qualifications, there is no significant evidence of this phenomenon (see paragraphs 5.10 onwards).
- 4.21 There is a wide range of academic and vocational qualifications available in the UK, and the categorisation afforded by the NVQ scale, while useful, disguises much of this variation. Table 4.2 illustrates the range and distribution between general and vocational qualifications for each of the NVQ categories. As can be seen, vocational qualifications are less prevalent than general and academic qualifications amongst the economically active population.
- 4.22 Concerns have been expressed about the poor relative status and esteem with which vocational qualifications are regarded (see, for example, IoD, 2002). This has been argued to be one factor which has affected efforts to increase the take-up of such qualifications. There is a common misconception that vocational qualifications are in some sense inferior to general or academic qualifications. Measured by their rate of return, Dearden *et al.* (1999) show that the returns to vocational qualifications are much the same as those to academic qualifications once the differences in time taken to obtain the respective qualifications is taken into account. Hence the labour-market value of both types of qualification would appear to be similar.

*...and also to the growth in accredited learning and training.*

*There is still a common misconception that vocational qualifications are less valuable. The evidence suggests the returns are comparable to academic ones.*

**Table 4.2: Highest qualification held by workforce, England 2003**

Qualifications	2003	%
No Qualification	2727	11.3
<b>NVQ Level 1 , GCSE (below grade C)</b>	<b>3727</b>	<b>15.4</b>
NVQ Level 1 , GNVQ foundation	14	0.1
NVQ Level 1 , BTEC 1st certificate etc	924	3.8
NVQ Level 1 total	4666	19.3
<b>NVQ Level 2 , GCSE (grades A-C)</b>	<b>2927</b>	<b>12.1</b>
NVQ Level 2 , GNVQ intermediate	133	0.6
NVQ Level 2 , BTEC 1st diploma etc	2173	9.0
NVQ Level 2 total	5233	21.6
<b>NVQ Level 3 , A level and equivalent</b>	<b>1564</b>	<b>6.5</b>
NVQ Level 3 , GNVQ advanced	167	0.7
NVQ Level 3 , ONC BTEC national etc	2988	12.3
NVQ Level 3 total	4719	19.5
<b>NVQ Level 4 , First degree and equivalent</b>	<b>3265</b>	<b>13.5</b>
NVQ Level 4 , HE below degree level	454	1.9
NVQ Level 4 , HNC BTEC and RSA higher etc	1039	4.3
NVQ Level 4 , Nursing and teaching	719	3.0
NVQ Level 4 total	5477	22.6
NVQ Level 5, Higher degree	1378	5.7
<b>Total</b>	<b>24200</b>	<b>100.0</b>

*Source: Labour Force Survey, Spring 2003.*

## Demographics

- 4.23 The distribution of qualifications across different groups in the workforce varies considerably. Table 4.3 illustrates some of these differences across a number of dimensions of the workforce, and for different qualification levels.
- 4.24 Individuals who are unemployed or economically inactive are between two and three times more likely to have no qualifications as compared with those in employment. In contrast, those with high levels of qualifications are much more likely to be in employment than unemployed or economically inactive. Clearly, even low levels of qualifications can considerably increase employment probabilities, with the obvious beneficial consequences for social inclusion.
- 4.25 The decomposition by age reveals that it is the very oldest members of the workforce that are disproportionately represented amongst those with no or few qualifications. Of those aged 50-59 years, one in five has no qualifications, while for those 60 or over, this increases to more than one in four. At the opposite end of the spectrum, fewer than one in ten amongst the youngest cohorts have no qualifications.
- 4.26 Women are over represented amongst those with no or few qualifications, and are significantly under represented at NVQ Level 3. In part, this may reflect the nature of NVQ Level 3 qualifications and the gender segmentation of certain occupations. A slightly higher proportion of women than men are qualified at NVQ Level 4 and above, and this pattern is set to continue since a higher proportion of women than men now obtain degrees.
- 4.27 Inequalities by ethnicity are disguised with the simple white/non-white comparisons in Table 4.3. Indeed, there are far greater differences in qualifications levels between different ethnic groups than between white and non-white groups. Thus, while on average the disparities are small, a finer disaggregation reveals that Chinese members of the workforce have a much higher probability of being qualified to NVQ Level 4/5, and also a greater chance of having no qualifications, than other ethnic groups, including whites.

*There is wide variation in the distribution of qualification...*

*...by employment status,...*

*...by age,...*

*...by gender,...*

*...by ethnicity...*

Table 4.3: Qualifications of the workforce, England 2003

	No qualification	NVQ 1	NVQ 2	NVQ 3	NVQ 4	NVQ 5	Total
<b>Economic status:</b>							
Economically active	11.7	19.6	21.6	19.3	22.1	5.6	100
In employment	11.3	19.3	21.6	19.5	22.6	5.7	100
ILO unemployed	20.8	26.8	22.0	15.3	12.4	2.7	100
Inactive	30.9	20.1	19.6	17.1	10.4	1.9	100
All of working age	15.7	19.7	21.2	18.8	19.7	4.8	100
<b>For those economically active:</b>							
<b>Age:</b>							
16-24	8.8	20.0	30.8	27.0	12.2	1.2	100
25-49	8.7	20.6	20.2	18.2	25.5	6.8	100
50-59	18.8	17.8	19.6	17.7	20.8	5.4	100
60-64	25.7	15.2	20.8	17.3	16.3	4.8	100
<b>Gender:</b>							
Male	11.6	17.8	20.5	22.7	21.5	5.9	100
Female	11.9	22.0	23.0	15.1	22.9	5.1	100
<b>Ethnicity:</b>							
White	11.7	19.6	21.8	19.6	21.9	5.4	100
Non-white	12.1	20.6	19.8	15.4	25.0	7.1	100
<b>Occupation (SOC2000):</b>							
Managers and Senior Officials	6.7	14.6	18.7	20.4	31.7	7.9	100
Professional Occupations	0.7	4.2	6.5	8.4	54.2	26.0	100
Associate Professional and Technical	2.8	11.5	17.6	18.5	43.0	6.5	100
Administrative and Secretarial	8.1	26.9	29.2	18.7	15.5	1.6	100
Skilled Trades Occupations	13.5	17.1	25.2	36.7	6.9	0.6	100
Personal Service Occupations	11.6	23.9	28.0	21.7	14.2	0.6	100
Sales etc.	16.4	24.7	29.0	21.3	8.0	0.7	100
Operatives	21.2	32.4	24.4	17.4	4.2	0.3	100
Elementary Occupations	29.0	28.9	23.6	14.1	4.2	0.3	100

Source: Labour Force Survey, Spring 2003.

4.28 The occupational distribution of qualifications reveals a number of interesting features. First, the disparities are exceedingly large - over 80 per cent of professionals are educated to NVQ Level 4 or above compared with less than 40 per cent of managers. More than 30 per cent of administrative and secretarial, skilled trades, personal services and sales workers have NVQ Level 1 or less. Thus there is an increasing polarisation of skills and this is manifest in the occupational distribution of qualifications. Second, a relatively high proportion of managers have few or no qualifications. Part of the explanation lies in the number of self-employed in low-skill jobs who fall into this category. Leaving these individuals aside, there still remains a high proportion of managers who have relatively low qualifications levels and there are concerns that this may also be reflected in their having low managerial skills.

### Regional/local patterns

4.29 There are some differences in the regional and local supply of skills. Figure 4.2 illustrates the proportions of the economically active, by region, who achieve NVQ Level 3 and NVQ Levels 4/5. While the precise skills mixture differs between regions, it is clear that, in general, the differences between regions are small as compared with the occupational or sectoral distribution of qualifications. London, the South East and South West have the highest proportions of workers who have achieved at least NVQ Level 3, with London having a noticeably higher proportion of those with NVQ Levels 4/5 of all the regions. In part, this simply reflects the regional distribution of sectoral employment.

4.30 The differences between regions in the skills of the workforce as measured by qualifications are highlighted in the Regional Economic Architecture (REA) approach (Hepworth and Spencer, 2003). This presents a description of each region from a 'knowledge economy' perspective. The supply of skills in each region (as measured by the qualifications of its workforce) is contrasted with the demand for skills (as measured by the proportion of graduate-level jobs) as a proxy for knowledge intensity in employment.

4.31 Hepworth and Spencer (2003) show that London and the South East more widely dominate the British knowledge economy. Even here, there is a polarisation of skills with roughly one-third having degrees, but another third with a paucity of skills as measured by their qualifications.

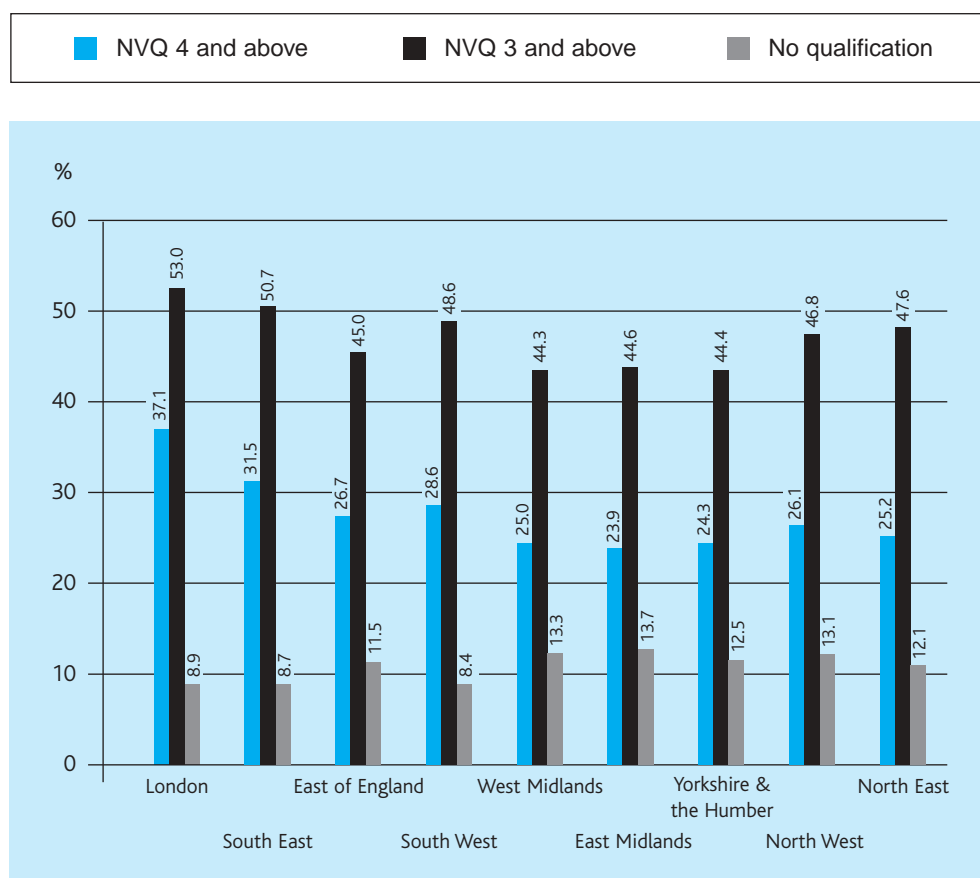
4.32 Of course, the differences in the distribution of qualifications are greater at the local LSC level than at the regional level. They mainly reflect the underlying regional pattern, with local LSCs located in London and the South East tending to have a workforce which is rather more qualified than local LSCs in the North. The extent to which these intra-regional differences in qualification supply are an issue for employers trying to recruit more skilled workers depends on a wide variety of factors. They are also a strong reflection of employers' *demand* for skills as reflected in the sectoral and locational specificity of employment. It is difficult to know to what extent supply or demand factors dominate in the resulting distribution of qualifications. Evidence on the regional distribution of skills shortages and their relation to vacancies and unemployment rates is provided by Green and Owen (2002).

*...and by occupation.*

*Regional disparities in the distribution of qualifications are smaller than those by occupation or by sector...*

*...they partly reflect differences in the demand for qualifications as workers move to jobs which are matched to their particular skills.*

**Figure 4.2 Percentage of individuals of working age with no qualification, NVQ Level 3+ and NVQ Level 4+ by region**



*Source: Labour Force Survey, Spring 2003.*

## Participation in Post-compulsory Education

4.33 The most recent Higher Education Statistics Agency (HESA) figures for 2001/02 show that there were a total of 2.2 million students in the UK registered on courses at higher education (HE) institutions. Of these, 21 per cent are registered for a post-graduate qualification and 5 per cent for FE qualifications. The remainder are studying for undergraduate (first) degrees in higher education (HE) institutions. Excluding those from overseas, there are approximately 1.25 million undergraduate students in England, 58 per cent of whom are female.

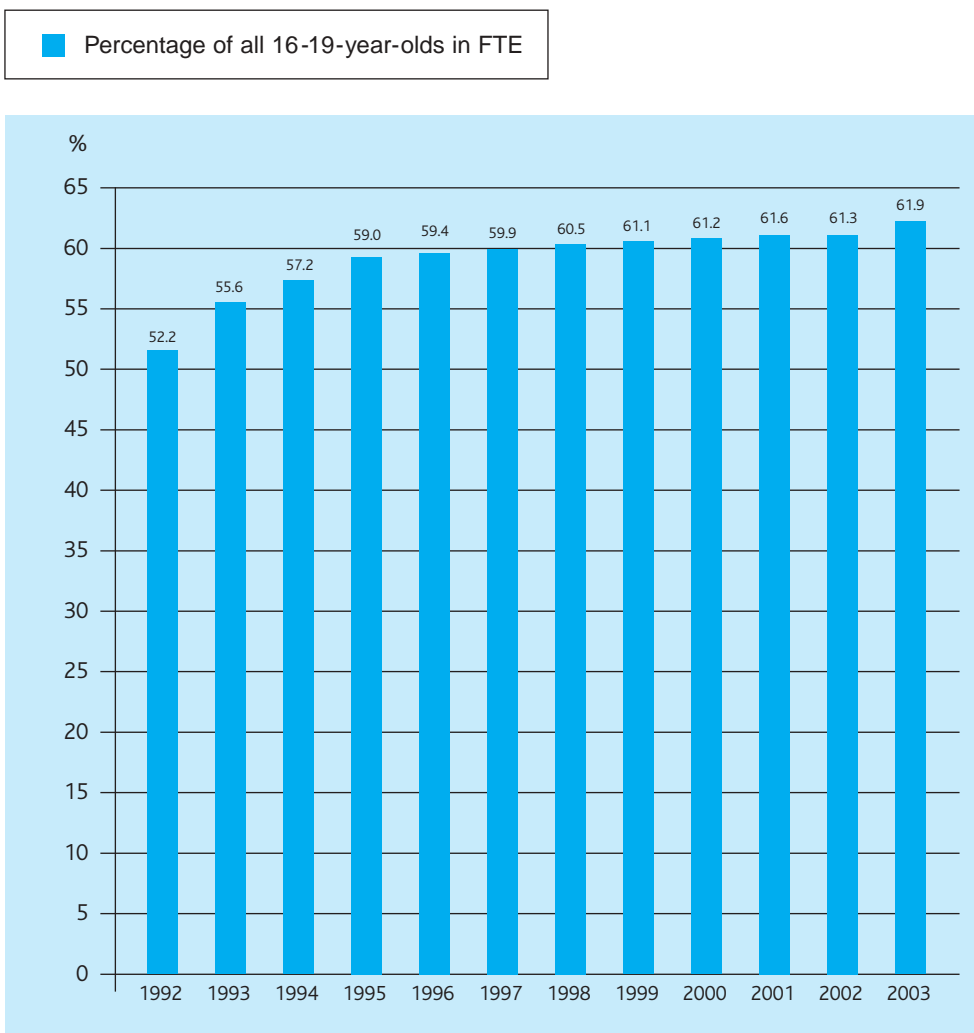
4.34 The subject mix of the students currently studying in higher education facilities in the UK reveals that the majority have increased numerically quite substantially in the last decade or so, reflecting the continued expansion in the numbers in higher education. A number of new subject areas have also become significant. There are one or two notable exceptions to this trend, namely physical sciences, and engineering and technology, which have both seen absolute falls in the number of students despite the growth in participation.

*There are currently more than two million students at HE institutions in the UK...*

4.35 The rise in participation in full-time education over the last decade is illustrated in Figure 4.3. For all those aged 16-19, more than 60 per cent are now engaged in full-time education. This proportion would seem to have stabilised in recent years. It includes a substantial proportion attending tertiary education. Britain now has 33 per cent of 18-20-year-olds entering university on a full-time basis. If part-time students and those aged up to 30 years are included, this participation rate is even higher. Coupled with this increase has been a concern that the demand for graduates has failed to match this increase in supply. Overall, however, returns to higher education qualifications still remain high and are higher in Britain than many comparable OECD countries (Blöndal *et al*, 2002). This is evidence that the demand for such skills has kept pace with the expanding supply (see paragraphs. 5.10 onwards).

*...reflecting further increased participation in further and higher education.*

**Figure 4.3: Participation of all 16-19-year-olds in full-time education, England 1992-2003**



Source: Labour Force Surveys, Spring quarters.

- 4.36 This debate looks set to continue as the Government's target of a participation rate of 50 per cent for those aged under 30 years by 2010 is approached. Among others, the IoD (2002) has questioned this objective, calling for a greater emphasis on vocational training and a halt to the "proliferation of soft subjects" such as media studies. But recent research from Mason *et al* (2003) suggests that the skills sought by employers are frequently best taught by employers themselves, despite the pressures on educational institutions to provide graduates with employability skills. Mason *et al* (2003) show that such skills are best acquired - or indeed, can only be acquired - on the job, rather than being taught in the classroom.
- 4.37 A total of just over 0.5 million students obtained HE qualifications from UK higher education institutions in 2000/01. HESA statistics for the destinations of students leaving HE institutions in 2000/01 shows that approximately two-thirds of leavers reported their first destination as employment in 2001. A further fifth went on to further study. Around 5 per cent are unemployed.

## Workplace Training

### Employer provision of training

- 4.38 The Skill Needs in Britain Surveys, and more recently the Learning and Training at Work Surveys, have revealed a fairly high incidence of employer-provided training over the 1990s and early 2000s (Spilsbury, 2002). As shown in Table 4.4, in 2002, 90 per cent of employers with five or more employees provided either on-the-job or off-the-job training to their employees over the previous 12 months. More than 60 per cent provided off-the-job training to at least some of their employees.
- 4.39 Overall, 3 in 10 employees had received some off-the-job-training in the previous year. This proportion appears to have been increasing steadily over the four surveys, from 23 per cent in 1999, to 27 per cent in 2000, 28 per cent in 2001 and 31 per cent in 2002.

**Table 4.4: Employer provision of job-related training**

Percentage of employers offering:	% 1999	% 2000	% 2001	% 2002
Off-the-job training	52	59	55	62
On-the-job training	79	83	78	82
Both	42	51	45	54
Either	89	92	88	90

Source: Spilsbury (2002), Table 15.

*Most employers provide some form of training for their workers.*



4.40 The Learning and Training at Work 2002 Survey also provides a detailed breakdown of training delivery. The key findings from the 2002 Survey are as follows.

- Two-thirds of employers who had provided any job-related training reported that this training had led to an increase in labour productivity. Only 3 in 10 employers reported that it led to an increase in employment.
- On average, those employees receiving off-the-job training in the previous 12 months had received 5.8 days each. Averaged over all employees, this equates to 1.8 days per employee.
- Employees in associate professional and technical occupations are considerably more likely to receive off-the-job training than other occupational groups. Those in elementary occupations were least likely to receive any training.

4.41 Given that the vast majority of employers provide training, the key questions relate to the quality or effectiveness of the training provided, the duration of training, and who receives it. The Training and Learning at Work Surveys can provide some insights into the quantity of training, but little about the quality. Yet in many respects it is the latter that is the critical issue. Despite the relatively high levels of training in Britain, productivity is still substantially lower than for some of our main competitors, notably France and Germany. Given its high incidence, if training were effective, the productivity of the UK ought to be catching up with these competitors.

4.42 Quality is almost impossible to measure, but the content, accreditation and duration of training provision gives some indicators. Generally, employer provision of training tends to be of short duration, although just over half of all off-the-job training is accredited and thus leads to formal qualifications.

### **Employee receipt of training**

4.43 Employers' accounts of training provision are likely to be less reliable where they are asked about the number of employees who have received training or their characteristics. The Labour Force Survey asks individuals whether they have been engaged in formal training over the last 13 weeks. Table 4.5 reveals how the provision of training is distributed by the characteristics of employees. Generally speaking, the less-skilled, part-time workers, older people and those with lower-level or no qualifications were less likely to have been in receipt of training. Employers may well be able to rationalise the distribution of training (e.g. older people are more experienced and therefore less in need of training, those higher up the occupational hierarchy are likely to yield higher returns to the employers' investment in training). Rational though these arguments undoubtedly are, it is also apparent that those with no qualifications or lower-level ones and those working in lower-level occupations, have less access to a resource (workplace training) that might well improve their relative position.

*Training provision is widespread across sectors and regions...*

*...but there are concerns that this is not as effective as in other countries.*

*Training tends to be of short duration.*

*Less skilled or part-time workers and those with lower formal qualifications are all likely to receive less workplace training.*

**Table 4.5: Percentage of individuals in receipt of training in the last 13 weeks**

	1995	1999	2003
<b>All</b>	24.1	27.2	28.2
<b>Age:</b>			
16-24	31.7	39.3	37.3
25-49	25.8	28.4	29.9
50-59	16.5	20.2	22.2
60-64	9.1	9.9	12.3
<b>Gender</b>			
Male	22.8	25.3	25.4
Female	25.7	29.6	31.7
<b>Ethnicity</b>			
White	24.1	27.3	28.1
Non-white	23.5	26.2	29.8
<b>Occupation:</b>			
Managers and Senior Officials	26.1	27.8	26.4
Professional Occupations	43.1	45.6	44.7
Associate Professional and Technical	33.5	35.8	39.9
Administrative and Secretarial	24.3	26.7	26.5
Skilled Trades Occupations	16.4	19.2	17.8
Personal Service Occupations	26.4	31.4	40.2
Sales and Customer Service Occupations	16.6	19.8	24.5
Process, Plant and Machine Operatives	12.4	0.3	13.7
Elementary Occupations	15.1	18.5	15.6
<b>Full-time/Part-time status:</b>			
Full-time	25.1	28.4	29.2
Part-time	19.3	23.6	25.3
<b>Contract Status:</b>			
Permanent	25.9	28.9	30.2
Not permanent in some way	27.2	33.3	32.4
<b>Qualifications:</b>			
No qualifications	7.6	14.1	10.7
NVQ Level 1	20.0	27.2	22.7
NVQ Level 2	22.9	29.2	26.2
NVQ Level 3	24.2	33.7	27.3
NVQ Level 4	40.5	41.0	40.1
NVQ Level 5	41.9	44.5	43.8

*Source: Labour Force Survey, Spring 1995, 1999 and 2003.*

## International Evidence on Educational Attainment

- 4.44 This brief section outlines differences in educational attainment between countries as a measure of differences in the skills of their workforces. In order to facilitate such comparisons, the OECD has adopted the International Standard Classification of Education (ISCED). The ISCED typology is described in detail in SiE (2002), Annex A, Table A2.
- 4.45 Two different indicators are used to illustrate the differences between countries. First, educational attainment of the adult population is used as an indicator of the skill level of the current labour force. Second, expected years of schooling for the current generation are used to anticipate future attainment levels. Both of these indicators are less susceptible to precise differences between educational systems when making comparisons between countries than any measures based on specific qualifications.
- 4.46 Table 4.6 presents some basic data on educational attainment for all those aged 25-64. Two measures are provided – the proportion of the working age population whose highest attainment level is upper-secondary or above, and the proportion whose highest attainment level is tertiary or an advanced research programme. Details of the precise definitions used in each case can be found in OECD (2003).
- 4.47 The upper-secondary graduation rate for adults reflects the past output of the education system and, according to OECD (2003), is an indicator of the extent to which the system meets the minimum requirements of the labour market. Despite the evident differences, the evidence suggests that countries with lower levels of attainment are catching up to those who have higher levels, such that amongst younger age groups the differences exhibited in Figure 4.4 are rather narrower.
- 4.48 Tertiary graduation rates can be interpreted as an indicator of the production of advanced knowledge by countries' education systems. Tertiary education embraces vocational and occupationally orientated programmes as well as those of an academic nature. As measured by tertiary qualifications, there has been a significant increase in higher-level skills in the adult population in recent decades, and there is again evidence of some convergence between countries. Large disparities still exist, and there are significant differences in the composition between the different types of tertiary education programmes.
- 4.49 With regard to future differences, Figure 4.5 illustrates the expected duration of formal education under the current education systems. That is, it presents the expected number of years of education which a five-year-old child can be expected to be in full-time or part-time education during their lifetime, given current enrolment rates. Under the existing arrangements, most individuals in the OECD will participate for between 16 and 20 years in total, with the UK, at 18.9 years, above the average for the OECD as a whole. Most of the variation between countries derives from differences in enrolments in upper-secondary education since primary enrolment is fairly universal, and differences in tertiary participation rates, while large, affect only a proportion of the cohort.

*International differences in education attainment can be used as indicators of differences in skills.*

*Adult upper-secondary and tertiary graduation rates indicate the current differences.*

*These differ markedly between countries although there is evidence of convergence as countries with lower rates are catching up.*

*Future differences in education attainment will depend on the expected schooling for current cohorts of children. The UK is well above the OECD average on this measure.*

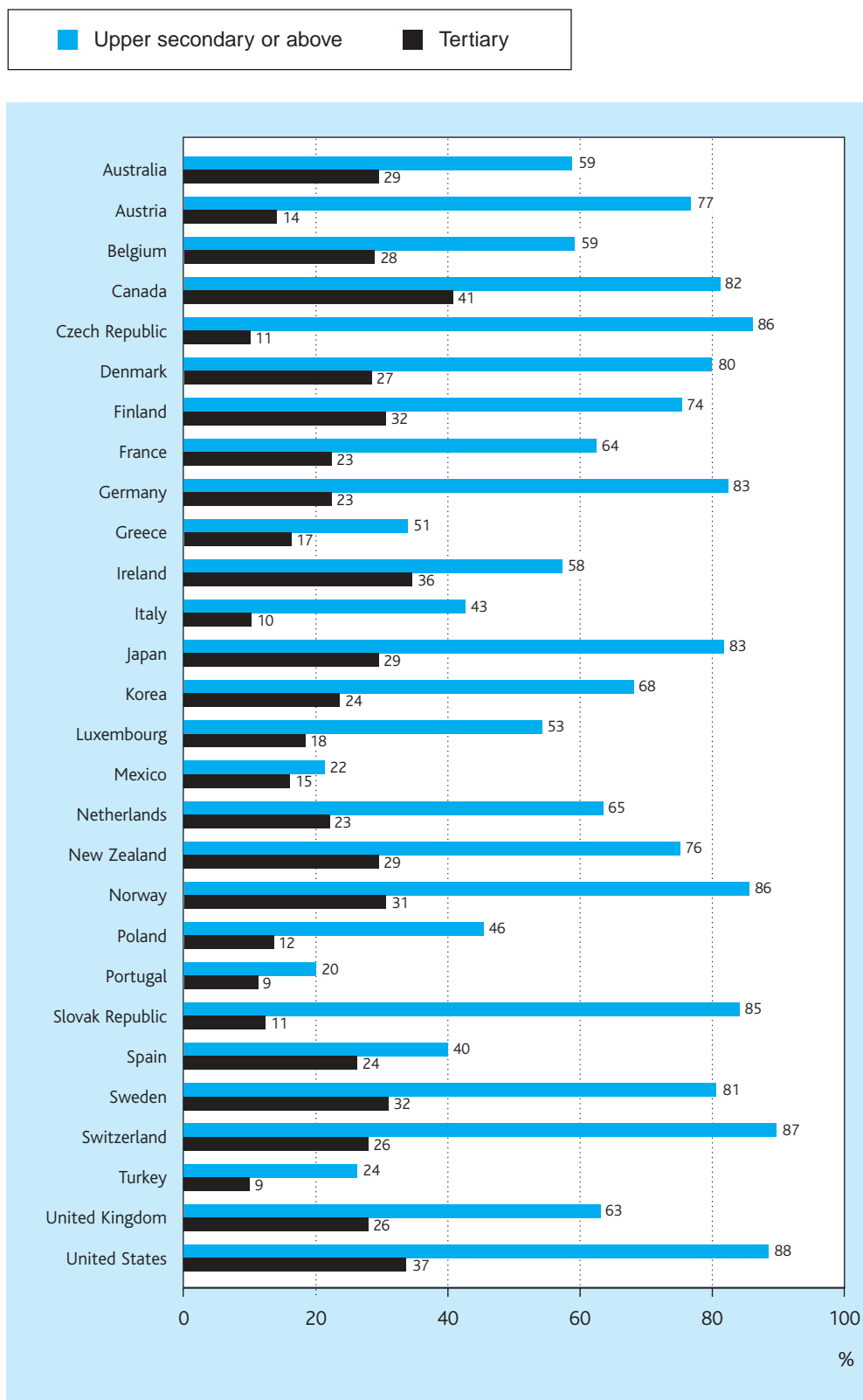
**Table 4.6: International differences in educational attainment**

Percentage of the population aged 25-64 by the highest completed level of education, and expected years of schooling, 2001

	Highest completed level of education		
	Upper secondary or above (%)	Tertiary (%)	Expected years of schooling
Australia	59	29	20.6
Austria	77	14	16.3
Belgium	59	28	19.2
Canada	82	41	16.6
Czech Republic	86	11	16.0
Denmark	80	27	18.0
Finland	74	32	19.2
France	64	23	16.6
Germany	83	23	17.3
Greece	51	17	16.1
Ireland	58	36	16.3
Italy	43	10	16.1
Japan	83	34	n/a
Korea	68	24	16.1
Luxembourg	53	18	n/a
Mexico	22	15	12.8
Netherlands	65	23	17.3
New Zealand	76	29	17.8
Norway	86	31	17.8
Poland	46	12	16.7
Portugal	20	9	17.1
Slovak Republic	85	11	14.9
Spain	40	24	17.3
Sweden	81	32	20.0
Switzerland	87	26	16.5
Turkey	24	9	11.5
United Kingdom	63	26	18.9
United States	88	37	17.1
OECD average	64	23	16.9

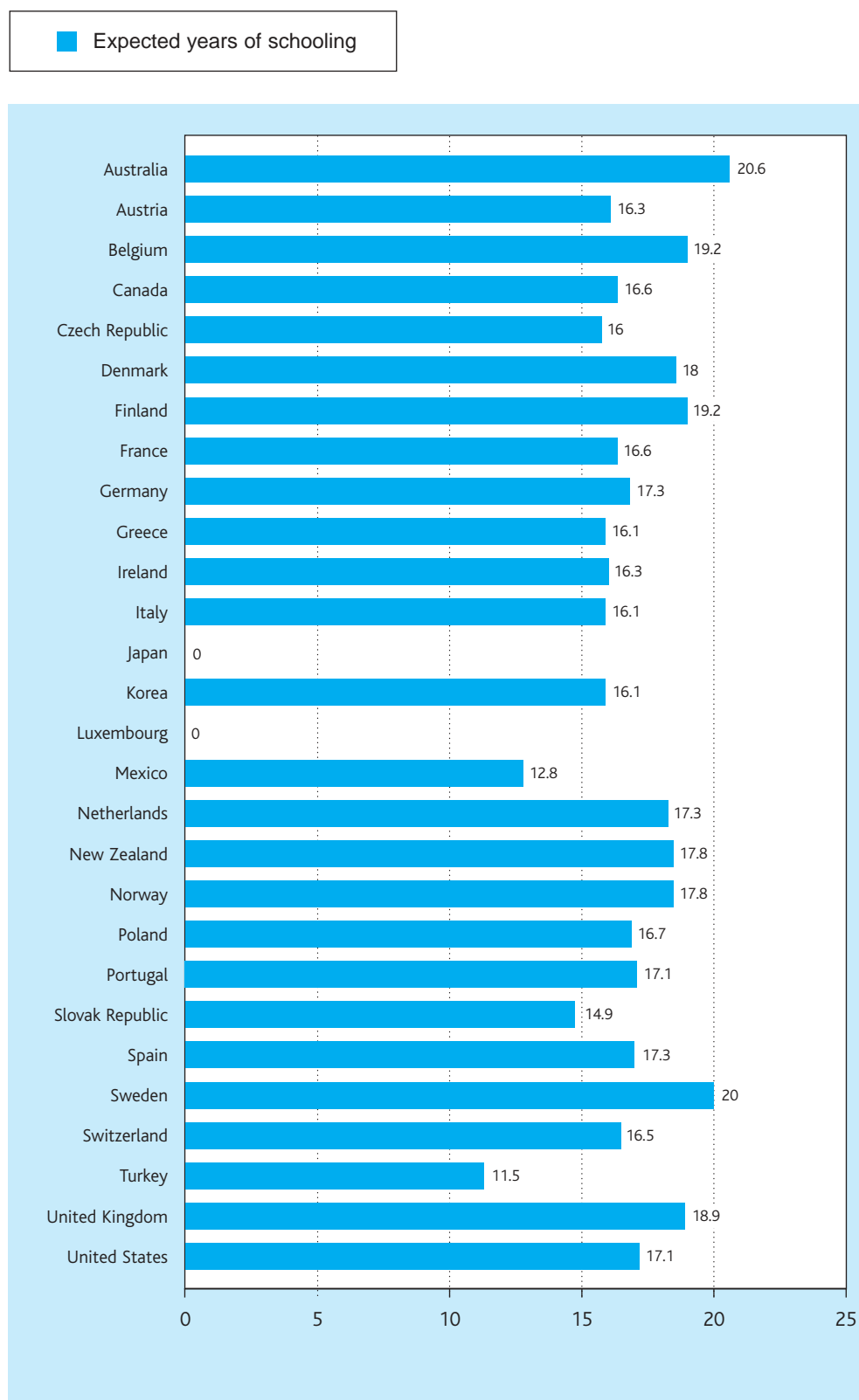
**Source:** OECD (2003), Tables A1.2, A2.3 and C1.1.

Figure 4.4: Highest completed level of education, OECD 2001



Source: OECD (2003), Tables A1.2, A2.3.

Figure 4.5: Expected years of schooling, OECD 2001



Source: OECD (2003), Table C1.1.

Skills in England 2003

Volume 2

Chapter 5:

Mismatches in Supply and Demand





## Chapter 5: Mismatches in Supply and Demand

### Introduction and Summary

- 5.1 This chapter reviews evidence relating to the extent of mismatch between the supply of and the demand for skills. The first part of the chapter discusses some of the practical problems that must be addressed in an attempt to define and measure any 'mismatch' between the supply of and demand for particular skills. The second part moves on to review available evidence about the extent of the mismatch between supply and demand.
- 5.2 As the demand for various types of skills changes in response to the growth or decline of employment in particular sectors of the economy, the supply of skills - measured in terms of relevant qualifications, occupational competence and experience - must shift to meet these changing demands. In this chapter consideration is given to how these adjustments take place, and it examines whether or not there is evidence to suggest that some form of intervention may be required to alleviate skills shortages.
- 5.3 Some analyses view the labour market as self-regulating, particularly in the long run. If the demand for particular skills grows faster than supply, it is argued that the market will bid up the price of the skills in short supply. This will manifest itself in the form of a wage premium, the size of which will vary with the supply/demand imbalance. The 'self-regulating' aspect arises if these wage premiums signal the need for increased supply, attracting people to acquire relevant qualifications and work experience or to move back into areas of employment for which they hold the appropriate skills. In time, these supply adjustments will alleviate skill shortages. Identifying these wage premiums could, therefore, indicate where shortages lie. Tracking such wage differentials through time may show whether or not there is evidence of a growing or declining shortage. From this viewpoint it could be argued that, to measure mismatches in the supply of and demand for skills, one simply needs to measure and monitor the earnings premiums for skills.
- 5.4 However valid this theoretical proposition may be, there are significant practical problems associated with the measuring of skills premiums. First, the concept of skill does not easily translate directly into a variable or variables that lend themselves to statistical measurement. Skill may be equated with occupation and/or qualification, but occupations/qualifications do not necessarily correspond with, say, an employer's understanding of the skills required to perform a particular job. Second, while mismatches in supply and demand may lead to earnings premiums, these are not the only reasons why the earnings of one group of skilled workers may differ from those of another group. Other factors that influence earnings include the age structure of a particular group of workers, regional location, compensation for unsocial hours, etc.

*This chapter examines the incidence of skill mismatches in the economy.*

*Wage differentials, analysed over time, indicate the extent to which the economy is able to adjust to meet current skill needs.*

*But this provides only a limited set of information because skill is so difficult to measure.*

## Measuring Earnings Differentials

- 5.5 Some attempt to overcome this problem can be made by examining the changing pattern of the earnings premiums for skills through time. Here, though, a number of additional problems are encountered. Not only does skill have to be equated with qualification or occupations, these must also be defined in a consistent manner through time to ensure that a group of similarly qualified occupations is studied. Changes in occupational classification and in the nature of qualifications make this latter requirement difficult. Furthermore, it must be assumed that the other factors that give rise to earnings premiums in different occupational groups remain fairly constant.
- 5.6 Table 5.1 examines the changing pattern of relative weekly earnings for full-time employees over a 20-year period. The changes between the three periods revealed in this table must be viewed cautiously, given that the occupational classifications underlying the data for each time period are different<sup>1</sup>. In each set of years the reference category is the group of occupations defined as elementary occupations - jobs for which the training and work experience requirements are minimal. Thus, corporate managers and administrators had weekly full-time earnings that were, on average, 81 per cent higher in 1981-83 than for those working in elementary occupations. By 2001-03, this differential had risen to 184 per cent.

<sup>1</sup> *Data for 1981-83 and 1991-93 have been taken from the New Earnings Survey for the relevant years. In 1981-83, occupations were coded to the Key List of Occupations for Statistical Purposes (KOS). An approximation to the classification used in 1991-93 (SOC 90) has been made. Data for 2001-03 are taken from the Labour Force Survey and are coded to SOC 2000.*

*The section begins by looking at wage differentials over time.*

*Relative weekly earnings for three periods compared: 1981-83, 1991-93 and 2001-03.*

**Table 5.1: Changes in the relative gross weekly earnings of full-time employees, by SOC sub-major groups, 1981–1983, 1991–1993 and 2001–2003**

Skill Level	Sub-major groups of SOC90	1981-83	1991-93	Sub-major groups of SOC2000	
Level 4	Corporate managers and administrators	1.81	2.22	Corporate managers	2.84
	Science and engineering professionals	1.80	2.05	Science and technology professionals	2.45
	Health professionals	2.39	2.92	Health professionals	3.49
	Teaching professionals	1.77	1.89	Teaching and research professionals	2.35
Level 3	Other professional occupations	1.75	2.01	Business and public service professionals	2.51
	Managers/proprietors in agriculture and services	1.21	1.41	Managers and proprietors in agriculture and services	1.74
	Science and engineering associate professionals	1.48	1.62	Science and technology associate professionals	1.69
	Health associate professionals	1.11	1.37	Health and social welfare associate professionals	1.63
	Protective service occupations	1.58	1.61	Protective service occupations	1.95
	Other associate professional occupations	1.63	1.84	Culture, media and sports occupations	1.89
	Buyers, brokers and sales representatives	1.42	1.55	Business and public service associate professionals	2.07
	Other occupations in agriculture, forestry and fishing	0.92	0.93	Skilled agricultural trades	1.09
	Skilled engineering trades	1.30	1.45	Skilled metal and electrical trades	1.56
	Skilled construction trades	1.11	1.15	Skilled construction and building trades	1.41
Level 2	Other skilled trades	1.09	1.12	Textiles, printing and other skilled trades	1.15
	Clerical occupations	0.94	1.03	Administrative occupations	1.24
	Secretarial occupations	0.90	1.03	Secretarial and related occupations	1.21
	Personal service occupations	0.86	0.85	Caring personal service occupations Leisure and other personal service occupations	0.95 0.99
Level 1	Other sales occupations	0.76	0.79	Sales occupations Customer service occupations	1.03 1.16
	Industrial plant and machine operatives, assemblers	1.08	1.13	Process, plant and routine operatives	1.27
	Drivers and mobile machine operators	1.26	1.23	Transport and mobile machine drivers and operatives	1.34
	Other elementary occupations	1.00	1.00	Elementary trades, plant and storage related occupations Elementary administrative and service occupations	1.00

**Note:** Sub-major groups of SOC90 have been listed in the order which best approximates their equivalent position in SOC2000. It must be stressed, however, that there is no exact correspondence at this level.

*The data shows that the distribution of earnings has increased.*

*The relative earnings of managers and associate have increased fastest...*

*...but there is less evidence of this in relation to skilled trades.*

*This section looks at the returns on possessing a qualification.*

*The number of degree holders has risen rapidly over the past 15 years.*

- 5.7 The first point worth noting from this analysis is that, for nearly all occupational groups, the earnings relativities have increased. It is well recognised that the distribution of earnings has widened over this 20 year period, and this has been attributed to the low or even negative real growth of earnings among those with the least skills. The information shown in Table 5.1 is consistent with this view, but reveals additionally the way in which the relative earnings of particular occupational groups have risen, and appear to be continuing to rise.
- 5.8 Occupation groups that have experienced the fastest rate of growth of relative earnings are corporate managers, health professionals, science and technology professionals, teaching and research and business/public service professionals. In the area of associate professional occupations, the rise in relative earnings has been less spectacular, but appears to be continuing.
- 5.9 In the area of skilled trades occupations, there is less evidence of a significant widening of the earnings relativities. Earnings in construction trades have continued to grow relative to elementary occupations, but the widening of the 'skill premium' is much smaller than in associate professional, professional occupations and corporate management. Similarly, clerical and secretarial occupations show some modest gains, but these trends may reflect oversupply in the reference category of elementary occupations, and the subsequent depressing effect that this may have had on earnings in this group, rather than it being a consequence of continuing and increasing demand for skilled trades and clerical/secretarial skills.

## The Returns on High-level Qualifications

- 5.10 The widening earnings premium relative to those jobs that require only basic skills<sup>2</sup> suggests either a continuing skills gap at the highly skilled end of the labour market, a growing surplus of unqualified labour, or both. To shed further light on these possibilities, there is a need to investigate the changing nature of the return on high-level qualifications - specifically the earnings premium associated with possession of a degree.
- 5.11 Figure 5.1 shows how the number of degree holders in the labour market has been rising rapidly over the past 15 years. In the early 1980s, approximately 10 per cent of young people (approximately 50,000 persons) went on to acquire a degree following their school education. With the rise in participation in higher education that has taken place since 1985, this figure has risen to 35 per cent - with well over a quarter of a million new graduates now entering the labour market each year.

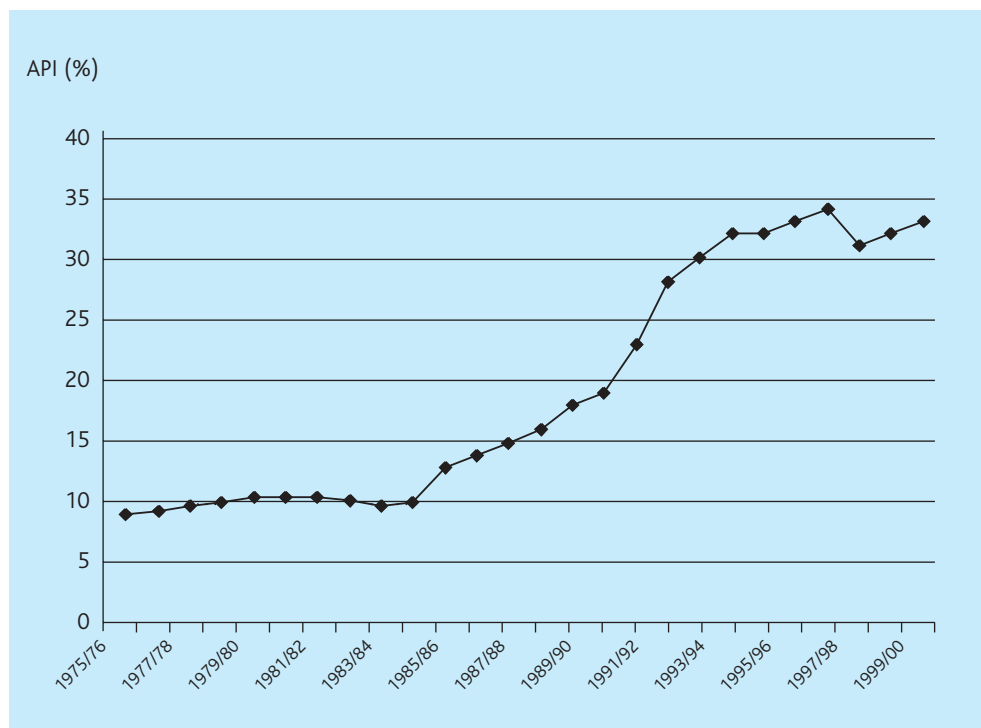
<sup>2</sup> Defined as knowledge of relevant regulations associated with jobs classified as elementary occupations (e.g. health and safety, food hygiene), together with requirements of basic literacy and numeracy.

- 5.12 In the face of such an increase, a reduction in the earnings premium associated with a degree would be anticipated. But recent research indicates that the rate of return on a degree has held up remarkably well in recent years. Figure 5.2, derived from recent research based upon earnings information in the Labour Force Survey (McIntosh, 2002), shows how the earnings premium for a degree develops during the first seven years after graduation. Although the pattern for women graduates varies slightly, the general picture shows that graduates earn 10-15 per cent more than similar people who do not have degrees, and that this premium rapidly develops over successive years of employment. This suggests that employers value highly qualified labour, and that this valuation increases as graduates gain work experience.
- 5.13 While the existence of a graduate earnings premium is well recognised, it may be the case that the premium identified in Figure 5.2 is now declining as the supply of highly qualified persons expands to meet this excess demand. To examine this possibility, Table 5.2 shows the return on a degree for two different cohorts of individuals, those who graduated in 1979/80 and a group who graduated in 1991/92. For these two groups the earnings premium associated with their degree at ages 26 and 33 is shown. While there is some evidence here of a decline in the rate of return on a degree for the most recent measurement from the older age cohort (comparing 33-year-olds in 1991 with a group at the same age in 1999), the return remains high.
- 5.14 To understand why the demand for highly skilled labour has remained so high, the changing structure of occupations in which highly qualified labour is employed is investigated in more detail. To do this, reference is made to recent research which has categorised each detailed occupation unit group within the 1990 Standard Classification of Occupations to one of the five categories shown in Table 5.3 (Elias and Purcell, 2003).

*Given the massive expansion of higher education this might be expected to lower the rate of return from graduation. But this has not occurred.*

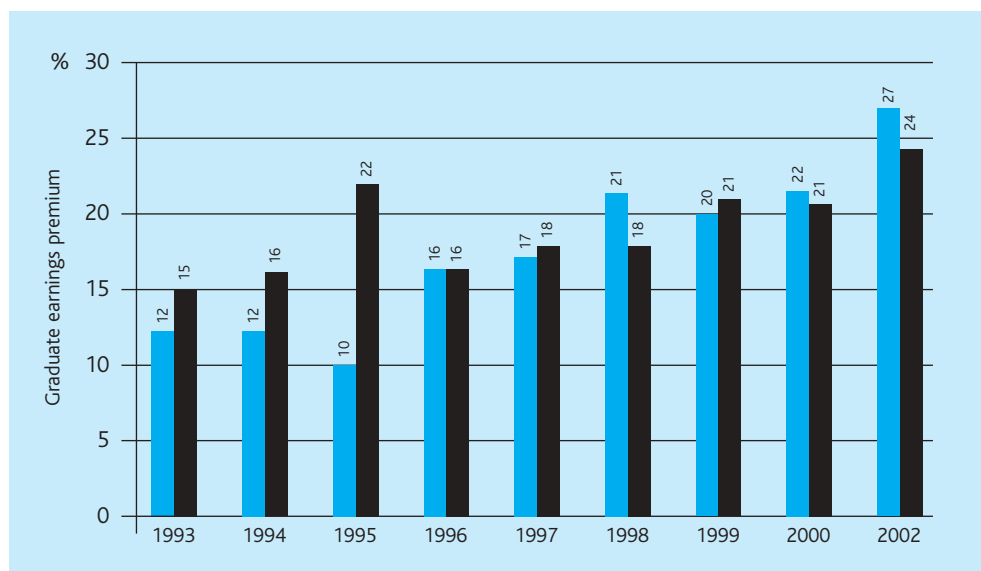
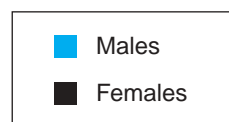
*There is evidence that the rate of return to possessing a degree is slowing. But it is still high.*

**Figure 5.1: Participation by young people in higher education, Age Participation Index (API) Great Britain, 1975-76 to 2000-01**



Source: Department for Education and Skills, Trends in Education and Skills (Wilson, 2000) [www.dfes.gov.uk/trends](http://www.dfes.gov.uk/trends)

**Figure 5.2: The returns on a first degree, full-time employees aged 21–25 on 1 January 1993, by gender**



Source: McIntosh (2002), Tables 8 and 9.

**Table 5.2: Variations in the earnings premium for a degree, inter-cohort comparisons**

Age of graduates and the year in which earnings premium was measured	Earnings premium for a degree	
	Men	Women
23-year-olds in 1981	21%	32%
26-year-olds in 1981 (adj.) <sup>1</sup>	25%	36%
26-year-olds in 1996	29%	33%
33-year-olds in 1991	40%	45%
29-year-olds in 1999	26%	25%
33-year-olds in 1999 (adj.) <sup>2</sup>	32%	31%

**Source:** This table has been reproduced from Elias and Purcell (2003). The data shown are extracted from the following sources:

For 23-year-olds in 1981 and 26-year-olds in 1996, Elias and Pierre (2002).

For 33-year-olds in 1991 and 29-year-olds in 1999, Elias, Hogarth and Pierre (2002).

**Notes:** 1. The adjusted return for 26-year-olds in 1981 is prepared by adding 4 per cent to the premium for male and female graduates, given the likely increase at this age due to 3 years additional experience.  
2. The adjusted return for 33-year-olds in 1999 is prepared by adding 6 per cent to the premium for male and female graduates, given the likely increase at this age due to 4 years additional experience.

**Table 5.3: A classification of graduate occupations (based upon the 1990 Standard Classification of Occupations)**

Type of occupation	Description	Examples
<b>Traditional graduate occupations</b>	The established professions, for which, historically, the normal route has been via an undergraduate degree programme.	Solicitors Medical practitioners HE, FE and secondary education teachers Biological scientists/biochemists.
<b>Modern graduate occupations</b>	The newer professions, particularly in management, IT and creative vocational areas, which graduates have been entering increasingly since educational expansion in the 1960s.	Chartered and certified accountants Software engineers, computer programmers Primary school and nursery teachers Authors/writers/journalists.
<b>New graduate occupations</b>	Areas of employment to which graduates have increasingly been recruited in large numbers; mainly new administrative, technical and 'caring' occupations.	Marketing and sales, advertising managers Physiotherapists, occupational hygienists Social workers, probation, welfare officers Clothing designers.
<b>Niche graduate occupations</b>	Occupations where the majority of incumbents are not graduates, but within which there are stable or growing specialist niches that require higher education skills and knowledge.	Entertainment and sports managers Hotel, accommodation managers Midwives Buyers (non-retail).
<b>Non-graduate occupations</b>	Graduates are also found in jobs that are likely to constitute under-utilisation of their higher education skills and knowledge.	Sales assistants Filing and record clerk Routine laboratory testers Debt, rent and cash collectors.

**Source:** *Elias and Purcell (2003).*

**Note:** *This table has been reproduced from a working paper reporting work-in-progress. Interested readers are requested to check the project website for updates and further information: [www.warwick.ac.uk/fac/soc/ier/research/glmf/](http://www.warwick.ac.uk/fac/soc/ier/research/glmf/)*



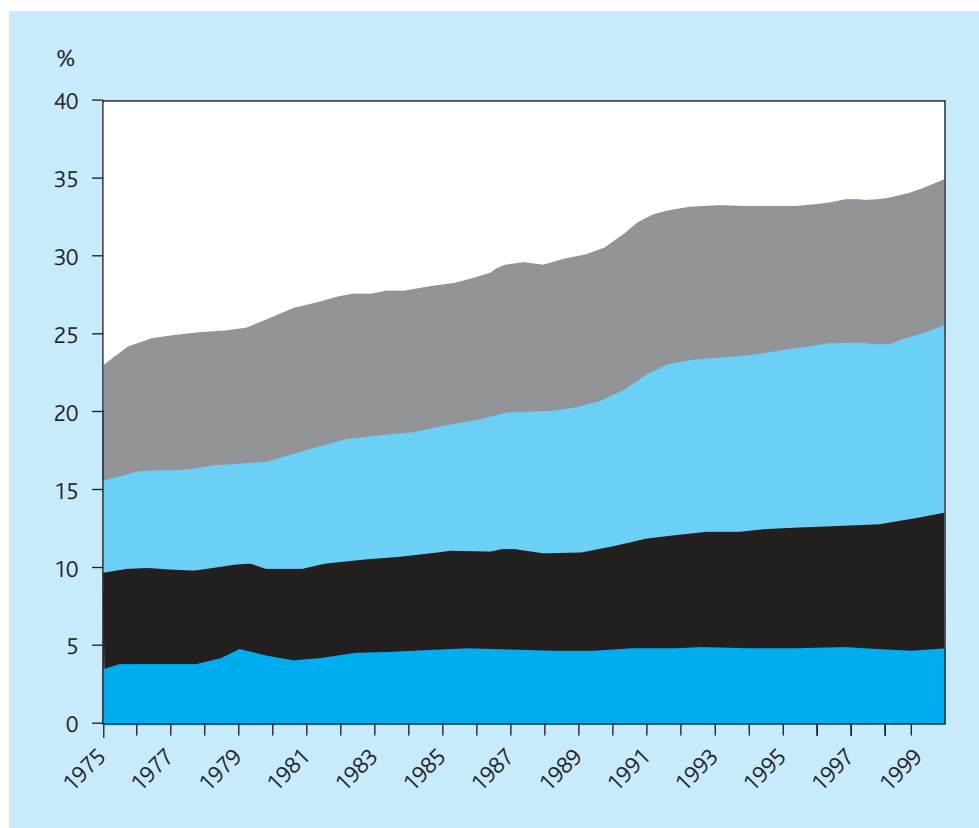
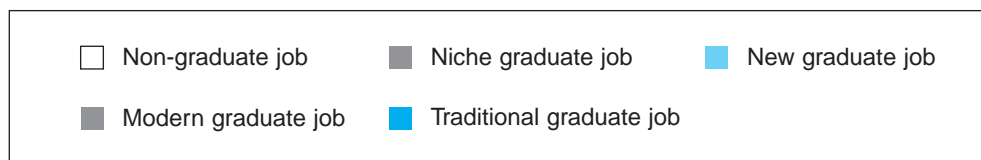
- 5.15 Figure 5.3 reveals how the occupational structure of the labour force has changed according to this classification of high-level skills. Some indication of the extent to which employers are making use of highly qualified persons can be gained by examining detailed information from the Labour Force Surveys, utilising the most recent data that employs the 2000 Standard Occupation Classification (SOC 2000). Table 5.4 shows those unit groups that lie within Major Group 3: Associate Professional and Technical Occupations. By contrasting the proportion who hold first degrees or higher in the two age groups, 25-34 years and 45-54 years, it is possible to see the extent to which these occupations have become populated by degree holders. Other research (Elias and Purcell, 2003) indicates that these changes are not indicative of "graduate underemployment". The majority of recent (1995) graduates in these jobs report that they are making use of the skills and knowledge acquired on their degree courses.
- 5.16 The recent introduction of a new occupational classification, designed to capture information relating to recent changes in occupational structure, affords the opportunity to investigate further whether or not there is evidence of significant and recent changes in employment in particular occupational areas. One such area that demands attention relates to those occupations primarily associated with information and communications technology (ICT). Studies of the earnings of those who gained maths and computing qualifications revealed a remarkable earnings premium in 1998 (Elias *et al.* 1999). The scale of this premium suggests that there was excess demand for these skills at that time. Since then, however, the bursting of the so-called 'dot.com bubble' has caused some commentators to suggest that this was a transitory situation.
- 5.17 Figure 5.4 compares the changes in the level of employment in seven detailed occupational areas that are associated with ICT. Interestingly, the growth that is apparent from April 1991 to Winter 1996/97 continues and, in most cases, strengthens between Winter 1996/97 and Spring 2003. There is little evidence to suggest that demand for ICT skills has collapsed. Taken with other information relating to the earnings premium shown by those with ICT qualifications, it is arguable that England remains in a situation of skills shortage.

*Graduates make use of the skills they acquire in higher education in the jobs they eventually fill.*

*Graduates in maths and computing obtain a particularly high wage premium.*

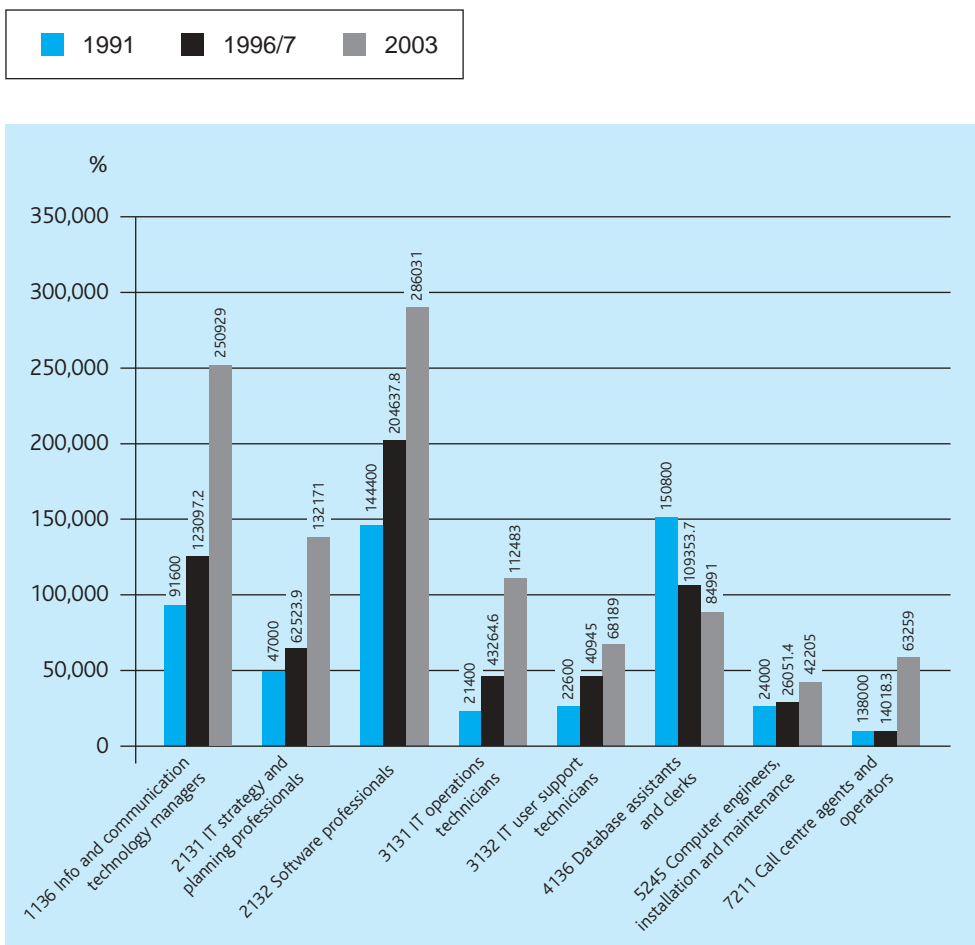
*Despite the collapse of the 'dot.com bubble' there is little evidence that the demand for IT skills has fallen.*

**Figure 5.3: Graduate occupations as proportions of all employees, Great Britain 1975-2000**



Source: *New Earnings Surveys, 1975-2000.*

**Figure 5.4: Growth of ICT-related occupations in England and Wales, 1991-2003**



Sources: Census of Population 1991 and Labour Force Surveys, 1996/97 and 2003.

Table 5.4: Percentage of employed 21–35-year-olds and 40–54-year-olds who hold degrees, 2001–2003

SOC2000 unit group	percentage of employees with a first degree or higher		Change in percentage with first degrees or higher
	21-35 years	40-54 years	
3211 Nurses	19.0	14.0	4.9
3542 Sales representatives	22.8	10.1	12.7
3562 Personnel and industrial relations officers	37.7	23.0	14.7
3534 Finance and investment analyst and advisers	35.7	17.5	18.2
3543 Marketing associate professionals	55.4	35.0	20.4
3312 Police officers (sergeant and below)	17.6	7.2	10.5
3131 IT operations technicians	29.1	17.6	11.5
3421 Graphic designers	36.4	35.3	1.2
3539 Business and related assoc professionals nes.	50.9	27.3	23.6
3132 IT user support technicians	31.9	24.1	7.8
3563 Vocational and industrial trainers and instructors	33.0	22.0	11.0
3311 NCOs and other ranks	2.3	6.1	-3.8
3232 Housing and welfare officers	44.4	27.0	17.4
3111 Laboratory technicians	42.3	14.8	27.5
3541 Buyers and purchasing officers	27.8	12.1	15.7
3231 Youth and community workers	35.1	26.6	8.6
3113 Engineering technicians	12.2	6.9	5.3
3431 Journalists, newspaper and periodical editors	70.0	49.9	20.1
3531 Estimators, valuers and assessors	21.5	17.4	4.0
3532 Brokers	31.5	20.9	10.5

Table 5.4: Percentage of employed 21–35-year-olds and 40–54-year-olds who hold degrees, 2001–2003 (continued)

SOC2000 unit group	Percentage of employees with a first degree or higher		Change in percentage with first degrees or higher
	21–35 years	40–54 years	
3434 Photographic and audio-visual equipment operators	25.2	15.4	9.8
3122 Draughtspersons	25.8	4.7	21.0
3432 Broadcasting associate professionals	67.0	51.7	15.3
3119 Science and engineering technicians nec.	27.1	15.7	11.4
3422 Product, clothing and related designers	47.2	32.8	14.5
3313 Fire service officers (leading off. and below)	8.8	3.3	5.5
3412 Authors, writers	69.0	56.5	12.5
3520 Legal associate professionals	33.7	17.4	16.3
3442 Sports coaches, instructors and officials	25.3	5.8	19.4
3433 Public relations officers	70.2	38.0	32.2
3443 Fitness instructors	18.7	23.0	-4.3
3561 Public service associate professionals	45.3	30.5	14.8
3222 Occupational therapists	71.5	39.5	32.0
3221 Physiotherapists	78.5	27.6	50.9
3112 Electrical and electronic technicians	9.0	7.4	1.6
3218 Medical and dental technicians	20.7	9.1	11.6
3416 Arts officers, producers and directors	54.3	43.4	11.0
3537 Financial and accounting techs	33.0	16.0	17.0
3533 Insurance underwriters	21.7	11.1	10.6

Source: Labour Force Surveys, Spring 2001 to Spring 2003.

## Qualifications and Occupations

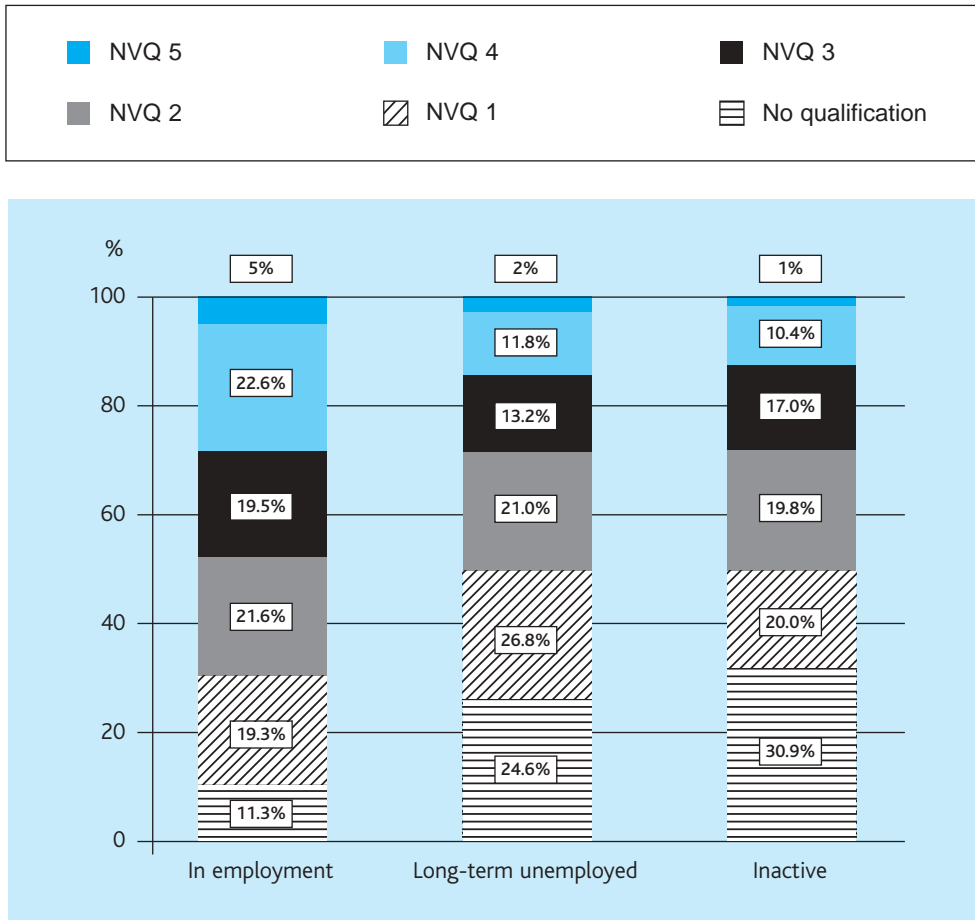
- 5.18 Qualifications are an important determinant of being in employment. While there has been some discussion of over-qualification in the light of the massive expansion of higher education, the evidence nevertheless indubitably points to the possession of qualification being a determinant of being in employment. Though qualification is a proxy measure of skill, that is at best imperfect, it provides employers with an indication of a potential employee's value to the organisation and their capacity to undertake the tasks required of them.
- 5.19 Figure 5.5 shows the highest level of qualification held by those (i) in employment, (ii) long-term unemployed (i.e. for six months or longer), and (iii) economically inactive. Two features are immediately apparent: (a) the relatively high percentage of people without qualifications amongst all three groups; and (b) the lower level of qualification held by the long-term unemployed group. While 31 per cent of those in employment either have no qualifications or Level 1 qualifications, the corresponding percentage amongst the long-term unemployed is 51 per cent.
- 5.20 Occupation provides another, albeit imperfect, indication of the skills possessed by an individual. Figure 5.6 indicates that those in what might be regarded as lower-skilled occupations - such as elementary occupations where a modest level of skill is required to meet the demands of the job - are more likely to be at risk from unemployment.
- 5.21 The determinants of being unemployed are complex and multifarious. But the evidence points, other things being equal, to the possession of skills being related to a lower propensity towards becoming long-term unemployed (Elias *et al.*, 2003). Figure 5.7 shows how the relationship between economic status and occupation has changed over the past 10 years. The trend shows that the share of employment accounted for by higher-level occupations is increasing. Overall, the evidence shows that failure to acquire those qualifications that will ease entry into higher-level occupations will result not just in a greater probability of being in lower-skilled, lower-paid work, but also a greater probability of being without work.

*Qualifications provide a proxy measure of skill.*

*Despite the growth in the number of people with qualifications, a substantial proportion of the workforce are still without qualifications.*

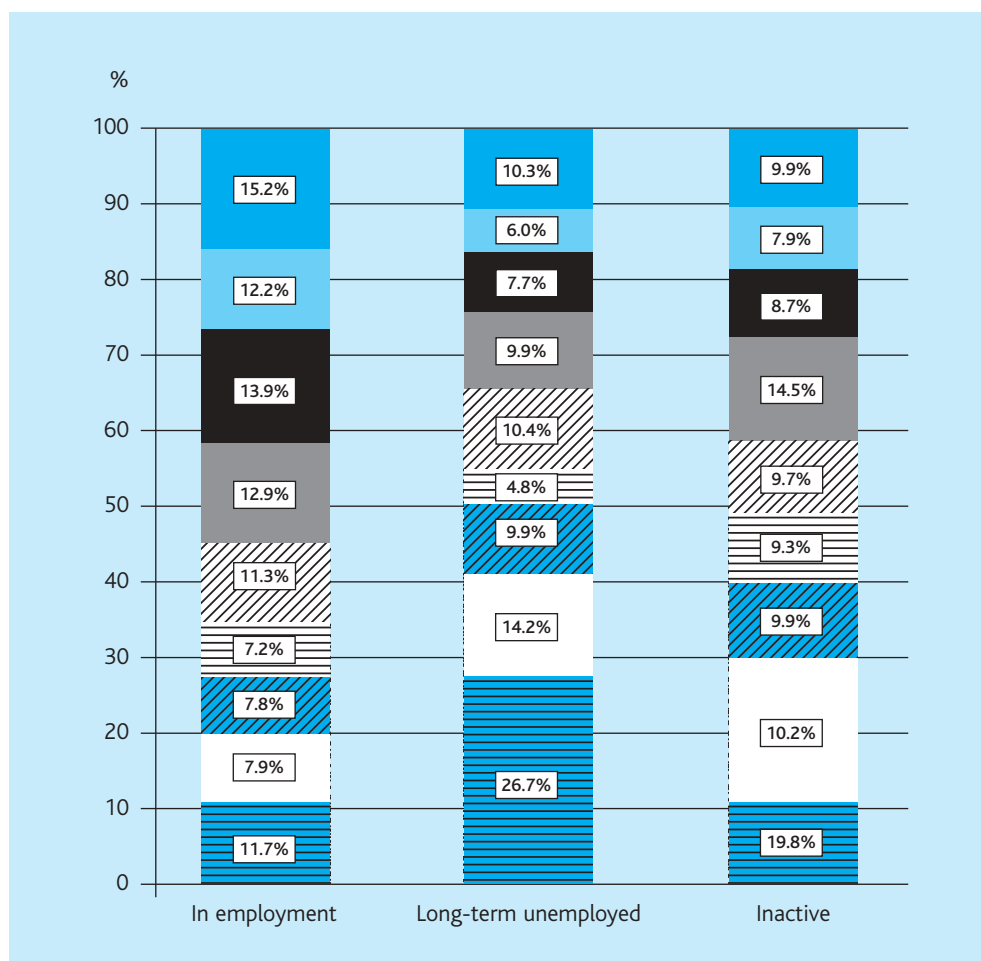
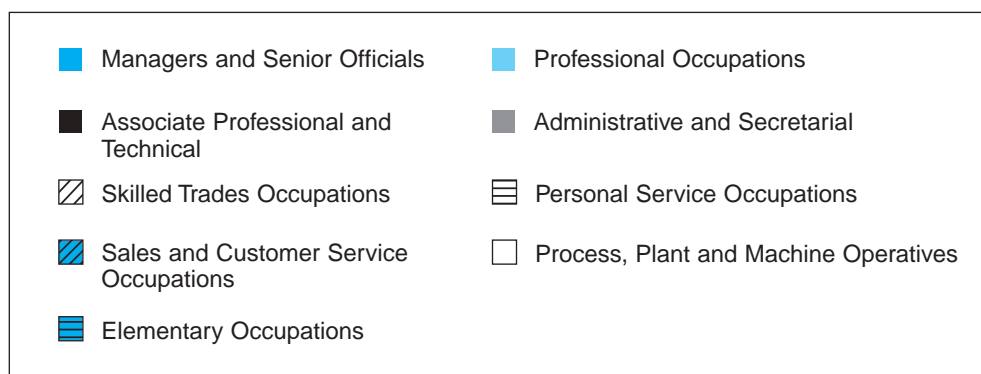
*Possession of qualifications and skills lower the probability of being unemployed. Not being in possession of skills and qualifications will increasingly lead to the probability of a person being in low-skilled, low-paid work.*

**Figure 5.5: Highest qualification and economic status, March-May 2003**



Source: Labour Force Survey, Spring 2003.

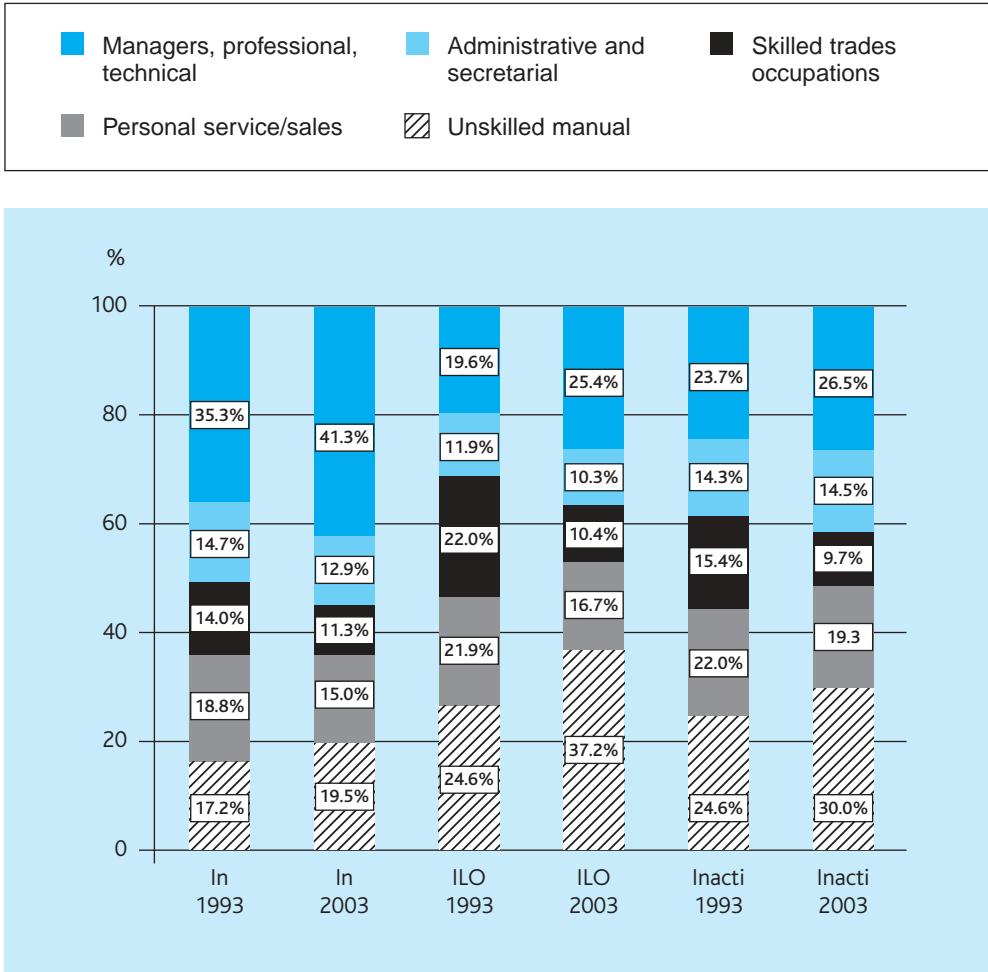
**Figure 5.6: Occupation and economic status**



Source: Labour Force Survey, Spring 2003.



**Figure 5.7: Occupational status and economic status, 1993-2003**



Source: Labour Force Surveys, 1993 and 2003.

*NESS2003 provides the most comprehensive data on skill mismatches from the employers' perspective.*

*NESS2003 is a representative survey of 72,100 employers in England.*

*NESS makes use of important definitions that distinguish between external skill problems and internal ones.*

*A distinction is made between recruitment problems (both skill and non-skill related) and skills gaps.*

*NESS2003 allows estimates to be made in relation to either the total number of establishments and the total number of employees.*

## Results from the National Employers Skills Survey

- 5.22 The National Employers Skills Survey 2003 (NESS2003) provides comprehensive information about employers' experiences of recruiting labour and the difficulties they encounter. NESS2003 also provides information relating to skills gaps, i.e. the extent to which employers regard their existing workforce as proficient to meet the needs of their business. As well as providing information about the extent of recruitment problems and skills gaps in the economy, NESS2003 looks into the causes and implications of these.
- 5.23 NESS2003 forms part of a series of surveys that have collected data about employers' skill needs. The series commenced with the Skill Needs in Britain Surveys conducted almost annually between 1992 and 1998. This was subsequently replaced by the Employers Skill Surveys (ESS) in 1999, 2001 and 2002. While NESS2003 carries on the tradition of these surveys, it is unique not least in respect of its size. NESS2003 is the largest survey of its kind ever commissioned: a representative sample of 72,100 interviews with employers in England. When commissioning NESS2003, the LSC sought a survey that would provide statistically robust analysis by both detailed industrial sector and by local LSC areas. As such at a national level, the data permits analysis at the level of 27 industrial sectors, and by 14 industrial sectors within each local LSC area.

### Definitions

- 5.24 NESS2003, in common with earlier surveys, uses precise definitions to describe employers' skill needs. **Recruitment problems** refer to vacancies that the employer describes as hard to fill. **Hard-to-fill vacancies** (HtFVs) are those vacancies self-classified by the respondent as hard to fill, and **skills-shortage vacancies** (SSVs) are defined as HtFVs resulting from applicants not having the required skills, experience, or qualifications the employer demands.
- 5.25 **Skills gaps**, or internal skills gaps, refer to the extent to which employers perceive their employees as not being fully proficient for their job.
- 5.26 **Skill deficiencies** refer generally to both skills gaps and SSVs.
- 5.27 NESS2003 data are weighted so that they are representative of the population of employers and employees in the economy based on population estimates from the Annual Business Inquiry 2002. NESS2003 is weighted in a number of different ways. A **national weight**, based on 27 industrial sectors, is used where data are being reported for England as a whole. A **local weight** is used where estimates are produced for individual local LSCs based on a 14 industrial sector classification. All data reported in this chapter are based on the 27-sector national weight unless otherwise stated.
- 5.28 Whether using the national or local weight, it is possible to derive an **establishment-based measure** to provide an estimate of the total number of establishments reporting a given skill deficiency, or an **employee-based measure** so that the data reflects the total number of employees within establishments. The distinction is an important one. The population of establishments contains many with relatively few employees such that

estimates based on establishments give little indication of the number or proportion of employees affected by employer actions. The employment weight essentially corrects for this. Whether the establishment or employment weight is used depends upon the type of information required.

- 5.29 In several instances a **measure of density** is used to refer to the total number of recruitment problems or skills gaps as a percentage of employment as a whole. The benefit of using estimates of density is that it standardises measures across local LSCs, regions, or industrial sectors. Other useful measures include the proportion of all vacancies that are hard-to-fill or SSVs.
- 5.30 Finally, NESS2003 is an **establishment-based survey**. An establishment is defined as a single site, which may or may not belong to part of a larger organisation. Information is collected relating to whether the establishment is part of a larger enterprise, but this is not reported in this chapter.

### Summary of findings

- 5.31 Before providing an in-depth analysis of skill deficiencies in England, Table 5.5 provides the headline findings from NESS2003 and compares them to ESS2001.
- 5.32 There are some definitional issues which complicate comparisons across time but the overall picture revealed from Table 5.5 is that the level of skill deficiencies has been stable over the 2001-2003 period. This needs to be seen in the context of the overall stability of the economy over that period (see Chapter 6, paragraphs 6.18 to 6.24).
- 5.33 How significant are the results? At first glance, the extent of recruitment problems in both years appears quite modest with around 4 per cent of establishments in both years reporting SSVs (or 135,000 such vacancies in 2003). But this should be interpreted cautiously. First, one would not expect a high number of such vacancies, especially at a time of relative macroeconomic stability and modest economic growth, as this would suggest a serious level of dysfunction in the labour market, which seems unlikely. The system of VET in England has a long history and has been designed, in part, to offset the emergence of skill shortages. Therefore the emergence of a proportionately large number of recruitment problems would be unexpected. Second, it is not so much the number of recruitment problems that is important but their impact upon an organisation's performance. As later sections will illustrate, interpreting the impact of reported skill deficiencies upon organisational performance is complex, although analysis of the earlier ESS surveys has begun to shed much light on this matter (see Chapter 7, paragraphs 7.16 to 7.26).

*It is possible to measure the intensity of skill deficiencies with reference to employment...*

*...for example vacancies as a proportion of employment.*

*Around 8 per cent of establishments reported HtFVs in 2003, and 4 per cent SSVs. This amounts to 271,000 HtFVs and 135,000 SSVs.*

**Table 5.5: Overall incidence of skill deficiencies in England, 2003 and 2001**

	% of all establishments reporting	Number * ('000s)	Density: skill deficiencies as % of employment	Density: % vacancies as % of employment
<b>2003</b>				
All vacancies	17	679	3.1	n/a
HtFVs	8	271	1.2	40
SSVs *	4	135	0.6	20
Skills gaps	22	2,400	11	n/a
<b>2001</b>				
All vacancies	14	766	3.7	n/a
HtFVs	8	358	1.7	47
SSVs *	4	159	0.8	21
Skills gaps	23	1,900	9	n/a

**Source:** NESS 2003 (IFF/IER), ESS2001 (IFF/IER)

**Base:** All establishments/employment-weighted

**Note:** The Employers Skill Survey 2001 included employers with between one and four employees, whereas that for 2002 did not. Hence ESS 2001 is used for comparison.

\*A difference in the way questions about SSVs were asked means that results are not strictly comparable. In 2001, reasons for having HtFVs were asked for up to six occupations with HtFVs. For NESS2003, reasons for HtFVs were asked for a maximum of two occupations where HtFVs existed.

Around 22 per cent of establishments reported skills gaps in 2003. Approximately 2.4 million people were reported as not being fully proficient at their current job.

The figure of 679,000 vacancies recorded by NESS2003 was higher than the 579,000 reported by the ONS Vacancy Survey in June 2003.

5.34 The extent of skills gaps in the economy is substantially greater than recruitment problems. The data point to around 2.4 million employees - 11 per cent of all employees - who fall short of full proficiency in their current job according to their employer. Again the data require careful interpretation but previous evidence from ESS1999 indicates that skills gaps are most manifest where employers are involved in a process of strategic change that consequently requires their employees to acquire new skills (Bosworth *et al.*, 2000; Hogarth and Wilson, 2001). The potential for skills gaps to slow or inhibit an organisation's shift into higher-value-added markets is therefore important (see paragraphs 7.32 to 7.39 below).

### Recruitment problems in detail

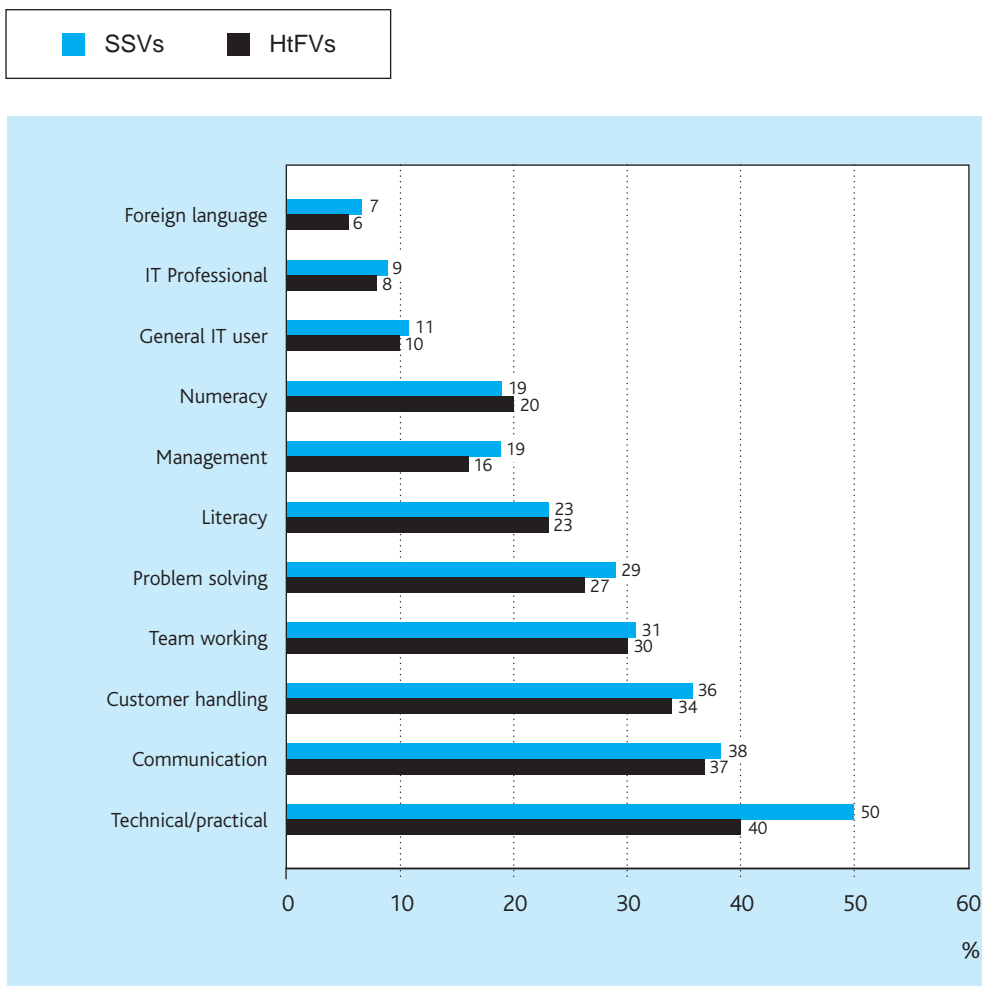
5.35 Around 17 per cent of workplaces revealed that they had vacancies. In total there were 679,000 vacancies, higher than the 597,000 vacancies recorded for the three-month average ending in June 2003 by the ONS Vacancy Survey<sup>3</sup>. Where vacancies were reported, 40 per cent were reported as HtFVs and 20 per cent as SSVs (see Table 5.5). The evidence suggests that between 2001 and 2003 the absolute numbers of vacancies, HtFVs and SSVs fell slightly over the period.

<sup>3</sup> The ONS Vacancy Survey excludes agriculture, forestry and fishing.

5.36 A key issue is to identify the underlying skill needs giving rise to recruitment problems and the sectors of the economy where they are arising. Figure 5.8 shows the percentage of HtFVs and SSVs arising from shortages of different types of skill. In relation to both HtFVs and SSVs, a difficulty in finding applicants with the required technical and practical skills was one of the main skill-based reasons leading to a recruitment problem. But it is also apparent that softer, more generic skills also gave rise to recruitment problems. Both communication and customer-handling skills were reported as being difficult to find in relation to a relatively high percentage of recruitment problems.

*The main skill characteristic giving rise to recruitment problems was a shortage of applicants with the required technical/practical skills.*

**Figure 5.8: Skills found difficult to recruit**



**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** All HtFVs or SSVs.

- 5.37 It needs to be borne in mind that generic skills are important in nearly all jobs, but in certain types of job - such as those that involve dealing with people on a frequent basis - skills related to communication and customer handling are all-important and can constitute the primary competency in a job.

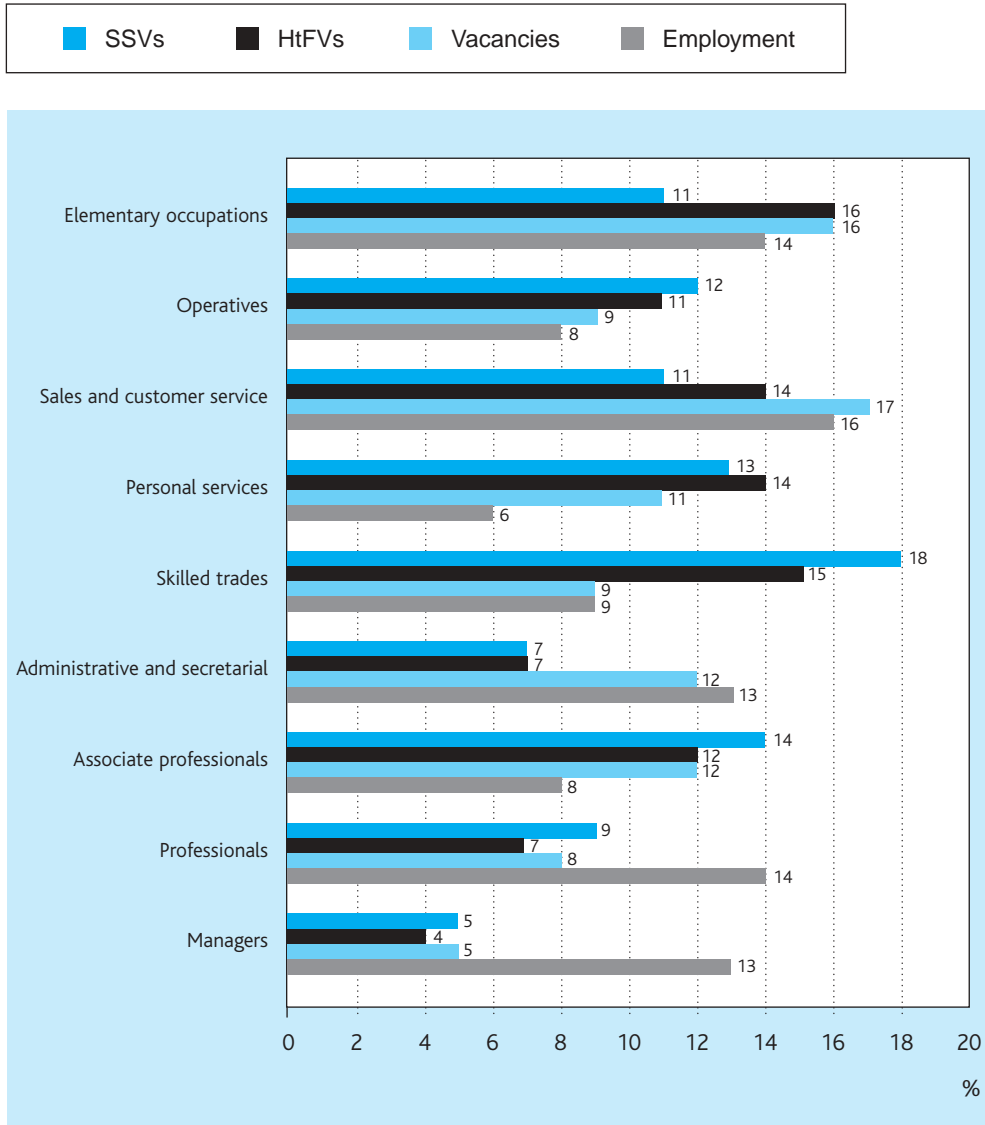
### Occupational characteristics of recruitment problems

- 5.38 Figure 5.9 shows how employment, vacancies and recruitment problems are distributed across occupations. The data reveal that elementary occupations, skilled trades and personal service occupations recorded the highest proportion of HtFVs (16, 15 and 14 per cent of all HtFVs, respectively). What is perhaps most important to show is the extent to which recruitment problems are disproportionately high compared with the share of employment in a particular sector. Viewed in this way there are some quite striking features in Figure 5.9. The occupation that reveals the highest disproportionate share of SSVs is skilled trades; it accounted for 18 per cent of all SSVs but comprised just 9 per cent of total employment. The other occupations that reveal disproportionately high shares of SSVs are associate professionals and personal service workers. While associate professionals is a relatively highly skilled occupation, this cannot be said for personal service where the level of skill required is much more modest. But personal services is an occupation that reveals a disproportionately high share of SSVs (13 per cent of all SSVs and just 6 per cent of total employment).
- 5.39 If one looks at two occupations that are usually associated with higher levels of skill - managers and professionals respectively - then it is apparent that SSVs amongst these two occupations are disproportionately low. The primary explanation of this is in relation to vacancies: for both of these occupations the share of vacancies relative to employment was low. One might speculate why the proportion of vacancies was low in these occupations. Evidence suggests that employers in relation to certain types of skill and occupation are much more likely to use informal methods of recruitment because these are seen as much more effective in finding the right person in a tight labour market (Hogarth and Hasluck, 2002). As a consequence, a vacancy might never be formally designated or reported as such in the sense of a job description being written, advertisements being placed, interview short-lists being drawn up, etc.

*Skilled trades accounted for the highest disproportionate share of SSVs relative to its level of employment: 18 per cent of SSVs and 9 per cent of employment.*

*Managers and professionals accounted for a relatively low share of recruitment problems.*

**Figure 5.9: Share of employment, vacancies and recruitment problems by occupation**



**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** All employment, vacancies, HtFVs and SSVs.

5.40 Table 5.6 provides further information about the density of recruitment problems by occupation. The data reveal that the percentage of vacancies in skilled trades classified as hard-to-fill is higher than for any other occupation. Similarly, for this occupation, a relatively high share of vacancies were classified as SSVs.

**Table 5.6: Density of recruitment problems by occupation**

	Vacancies	Vacancies as % employment in occupation	HtFVs as % of vacancies	SSVs as % of vacancies
Managers	35,237	1.3	34.5	18.2
Professionals	51,835	1.7	37.1	24.3
Associate professionals	81,142	4.4	38.8	23.6
Administrative and secretarial	84,010	2.9	23.2	11.1
Skilled trades	63,391	3.3	62.5	39.0
Personal services	74,169	6.1	51.4	23.7
Sales and customer service	116,662	3.4	32.0	12.4
Operatives	57,740	3.4	50.3	27.0
Elementary occupations	107,393	3.5	40.3	14.0
All occupations	679,072	3.1	40.0	19.9

*Source:* LSC National Employers Skills Survey, 2003 (IFF/IER).

*Base:* Employee weighted.

### Recruitment problems and size of establishment

5.41 Approximately 64 per cent of establishments with 500 or more employees reported some vacancies compared with just 12 per cent of those with one to four employees. The propensity to report HtFVs is also related to size of establishment. Around 21 per cent of establishments with 500 or more employees reported some HtFVs, but only a small proportion (6 per cent) of establishments with one to four employees reported them. The corresponding figures for SSVs were 13 per cent and 3 per cent respectively.

5.42 The simple measure of the share of vacancies provides no information about the relative importance of that vacancy to the establishment. Though larger establishments typically reported a higher number of vacancies, these will, in general, constitute a small proportion of the workforce. In contrast, just one or two HtFVs in an establishment employing a small number of people will constitute a sizeable proportion of the workforce and make a crucial difference. To deal with this problem, it is useful to present measures of density (that is, the number of vacancies expressed as a proportion of total employment). It is apparent that for smaller establishments vacancies can comprise a substantial proportion of the workforce. The problem is particularly acute for establishments employing a very small number of people. These establishments were less likely to report a skill-shortage vacancy; but when one occurs, the evidence shows that where recruitment problems existed they comprised a large proportion of total employment in small establishments, therefore potentially making their impact that much greater (see Table 5.7). Around 35 per cent of all SSVs occurred in establishments with one to four employees, yet only account for 12 per cent of employment.

*Larger workplaces are much more likely to report some recruitment problems.*

*But most vacancies are accounted for by smaller establishments because there are so many of these establishments.*



Table 5.7: Recruitment problems by size of establishment

Size of establishment	Vacancies	Vacancies as % of employment	HtFVs as % vacancies	SSVs as % vacancies	column % employment	column % vacancies	column % HtFVs	column % SSVs
1 to 4	180921	7.1	49.1	26.4	11.7	26.6	32.7	35.3
5 to 24	191697	4.0	42.1	21.6	21.9	28.2	29.7	30.6
25 to 99	146937	2.6	38.2	17.9	25.7	21.6	20.7	19.5
100 to 199	48209	2.0	31.7	13.7	11.2	7.1	5.6	4.9
200 to 499	61590	1.9	23.4	10.8	15.1	9.1	5.3	4.9
500+	49717	1.6	32.5	13.3	14.4	7.3	6.0	4.9
Total	679072	3.1	40.0	19.9	100.0	100.0	100.0	100.0

Source: LSC National Employers Skills Survey, 2003 (IFF/IER).

Base: All employment, vacancies, HtFVs and SSVs.

*Data are available on the extent of recruitment problems by industrial sector.*

*Hotels and restaurants reported the highest density of vacancies.*

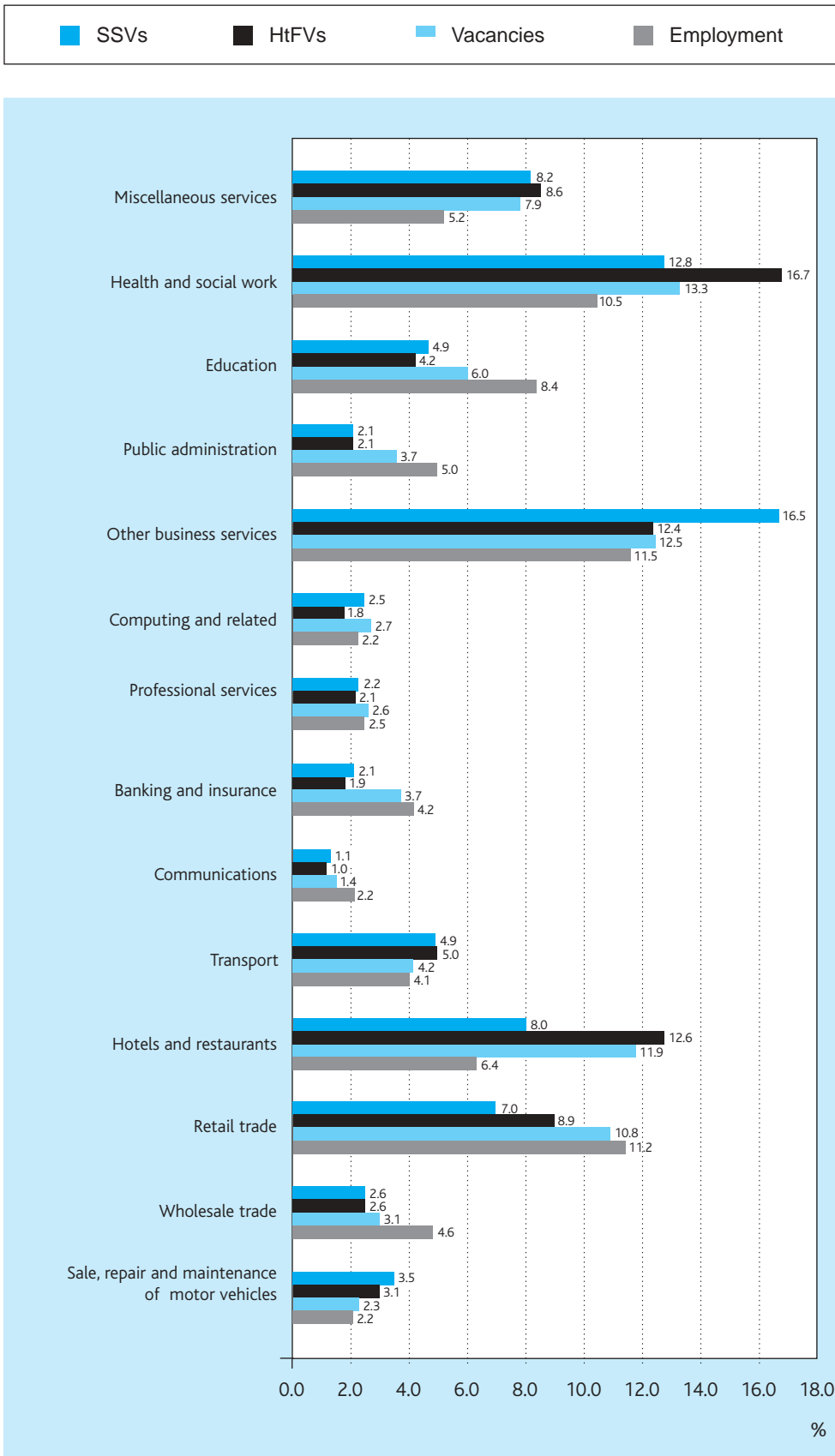
*The highest share of HtFVs was in the manufacture of wool and paper.*

*The highest density of SSVs was found in other business services.*

## Recruitment problems by industrial sector

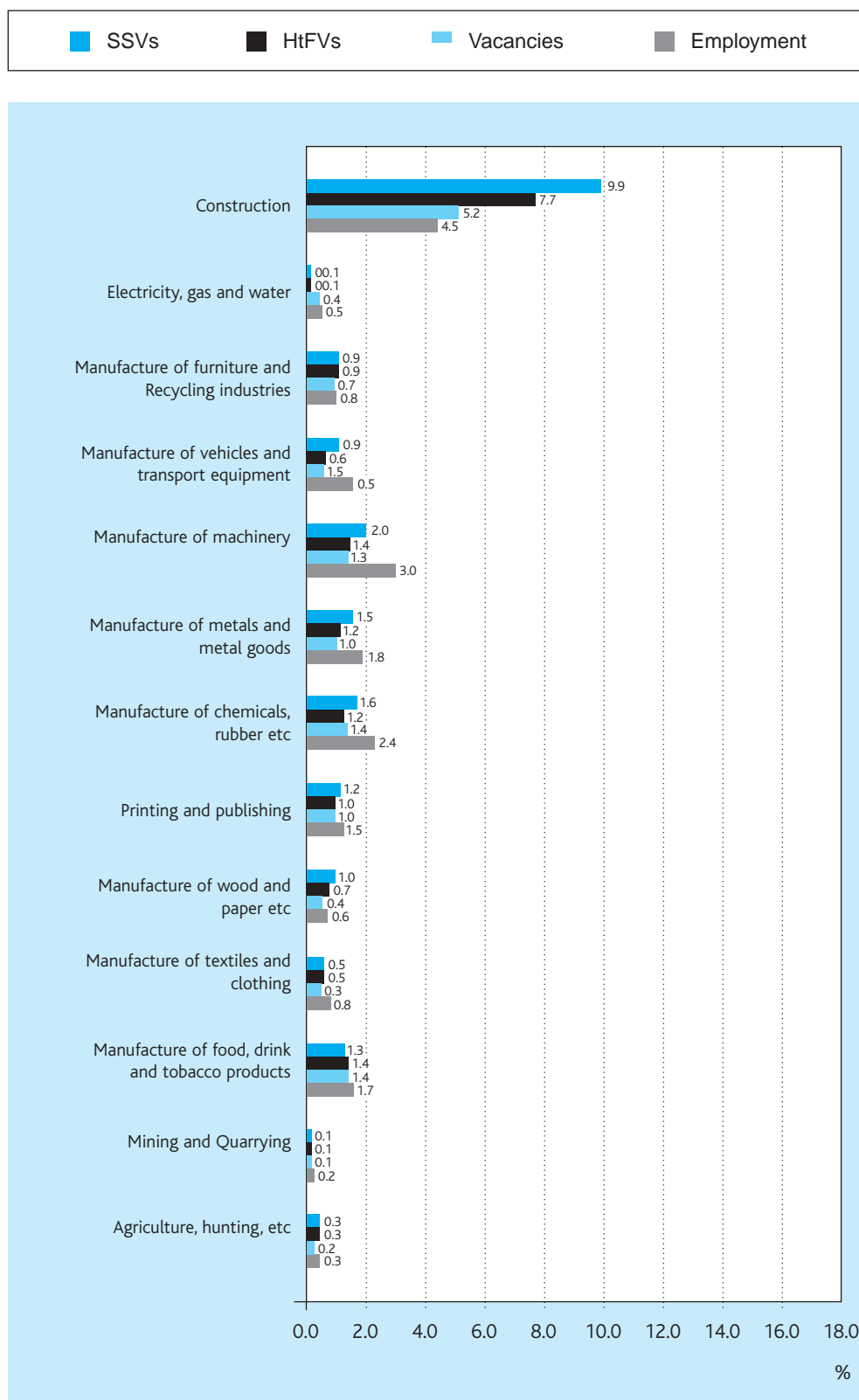
- 5.43 Employment projections described elsewhere in this volume give estimates of replacement demand (see paragraphs 6.59 to 6.68). Replacement demand refers to the demand for employees that arises owing to people leaving industries to work elsewhere, retirements, deaths, etc. An important point raised in relation to replacement demand is that industries in long-term decline still have a strong demand for labour as a consequence of labour turnover for whatever reason (retirements, etc.). Because an industry is in long-term decline this can act as a disincentive to people to enter that industry resulting in recruitment problems. Of course, this is not the only cause of recruitment problems. At a time of near-full employment, relative wage rates and other terms and conditions of employment, as well as an excess demand for certain types of skill, can lead to vacancies being hard to fill. Figure 5.10 and Table 5.8 provide detailed information on the industrial composition of recruitment problems.
- 5.44 Results by industrial sector reveal a number of patterns (see Figure 5.10). Health and social work is the industry that accounts for the highest share of all vacancies (13.3 per cent) and HtFVs (16.7 per cent). These results are disproportionately high compared with the share of employment in this industry - 10.5 per cent. Other business services accounted for the highest share of SSVs (16.5 per cent).
- 5.45 Hotels and restaurants reported the highest density of vacancies (vacancies as a percentage of employment: 5.7 per cent). Manufacture of vehicles and transport equipment (1.1 per cent) and of textiles and clothing (1.3 per cent) recorded the two lowest densities, which might reflect the long-term decline in employment in these industries.
- 5.46 It is also necessary to look at the intensity of recruitment problems - the share of vacancies that are HtFVs or SSVs (see Table 5.8). The highest share of HtFVs was recorded in manufacture of wood and paper etc. (65.1 per cent of vacancies). The lowest share was recorded in electricity, gas and water (11.6 per cent).
- 5.47 As noted above the highest share of all SSVs was found in other business services (16.5 per cent of all SSVs), but the highest intensity of SSVs was in the manufacture of wood and paper, where 46.2 per cent of all vacancies were SSVs. This was followed by construction, where 38.2 per cent of vacancies were SSVs.

**Figure 5.10: Distribution of employment, vacancies and recruitment problems by industrial sector**



Source: LSC National Employers Skills Survey, 2003 (IFF/IER). Base: Employee-weighted.

**Figure 5.10: Distribution of employment, vacancies and recruitment problems by industrial sector (continued)**



Source: LSC National Employers Skills Survey, 2003 (IFF/IER). Base: Employee-weighted.

**Table 5.8: Density of recruitment problems and skills gaps by industry**

	Total number of vacancies	Vacancies as % employment	HtFVs as % vacancies	SSVs as % vacancies
Agriculture, hunting, etc	1,407	2.5	48.8	31.9
Mining and quarrying	939	2.2	35.2	9.0
Manufacture of food, drink and tobacco	9,476	2.5	39.5	18.6
Manufacture of textiles and clothing	2,351	1.3	59.3	28.8
Manufacture of wood and paper etc	3,036	2.2	65.1	46.2
Printing and publishing	6,735	2.1	38.5	23.4
Manufacture of chemicals, rubber etc	9,393	1.8	35.8	23.3
Manufacture of metals and metal goods	6,646	1.7	49.2	30.9
Manufacture of machinery	9,098	1.4	40.4	30.0
Manufacture of vehicles and transport equipment	3,582	1.1	48.3	35.0
Manufacture of furniture and recycling industries	4,615	2.5	51.2	26.5
Electricity, gas and water	2,472	2.2	11.6	6.9
Construction	35,238	3.6	59.2	38.2
Sale, repair and maintenance of motor vehicles	15,414	3.3	54.1	30.9
Wholesale trade	21,030	2.1	34.2	16.9
Retail trade	73,311	3.0	33.1	12.9
Hotels and restaurants	80,856	5.7	42.4	13.5
Transport	28,588	3.2	47.0	23.4
Communications	9,508	2.0	27.4	16.3
Banking and insurance	24,884	2.7	20.7	11.4
Professional services	17,574	3.2	32.9	17.2
Computing and related services	18,477	3.9	26.1	18.4
Other business services	84,749	3.4	39.7	26.4
Public administration	24,811	2.3	22.9	11.4
Education	41,061	2.2	27.6	16.1
Health and social work	90,106	3.9	50.3	19.2
Miscellaneous services	53,716	4.7	43.4	20.5

*Source:* LSC National Employers Skills Survey, 2003 (IFF/IER).

*Base:* Employee-weighted.

### Regional and local patterns of recruitment problems

5.48 Table 5.9 outlines the pattern of recruitment problems by region. The extent of variation is limited but there are a few notable features. First, the share of both HtFVs and SSVs is slightly greater in the West Midlands than the share of employment in this region would suggest. Otherwise the data are unremarkable. In part this stems from the heterogeneous characteristics of each region and the fact that they each encompass large parts of the English economy. Large regional variations in a country that is physically quite small would be unlikely, given the free movement of people.

*Differences between regions are small.*

Table 5.9: Vacancies and HtFVs as a proportion of employment by region, size and sector

Region	Vacancies	Vacancies as % of employment	HtFVs as % vacancies	SSVs as % vacancies	column % employment	column % vacancies	column % HtFVs	column % SSVs
West Midlands	70,483	3.1	43.1	24.0	10.5	10.4	11.2	12.5
East Midlands	53,094	3.1	42.3	21.6	7.9	7.8	8.3	8.5
Eastern	75,835	3.4	40.4	18.2	10.3	11.2	11.3	10.2
London	105,018	2.6	28.6	20.5	18.3	15.5	11.1	15.9
North East	25,845	2.7	41.3	21.3	4.4	3.8	3.9	4.1
North West	84,026	2.9	36.9	19.0	13.1	12.4	11.4	11.8
South East	125,862	3.5	42.5	18.7	16.6	18.5	19.7	17.4
South West	73,913	3.6	46.8	17.3	9.5	10.9	12.8	9.5
Yorkshire and The Humber	64,996	3.1	43.2	21.1	9.5	9.6	10.3	10.1
Total	679,672	3.1	40.0	19.9	100.0	100.0	100.0	100.0

Source: LSC National Employers Skills Survey, 2003 (IFF/IER).

Base: Employee-weighted.

5.49 One of the principal strengths of NESS2003 is its capacity to provide statistically robust estimates at the level of local LSC areas. Previous Employers Skill Surveys were sampled on a regional basis and results at a local LSC level were subject to sampling bias. Table 5.10 provides estimates of recruitment problems for each local LSC area based on the 14-sector local weight.

*There was substantial variation by local LSC area reflecting the diverse characteristics of these local labour markets.*

**Table 5.10: Density of recruitment problems and skills gaps by local LSC area**

	Number of vacancies	Vacancies as % of employment	HtFVs as % of vacancies	SSVs as % of vacancies
Shropshire	6,714	3.7	55.4	36.0
Staffordshire	8,839	2.1	36.0	21.0
The Black Country	13,585	3.0	56.0	36.2
Birmingham and Solihull	17,318	3.0	43.5	20.3
Herefordshire and Worcestershire	10,363	3.5	43.9	19.9
Coventry and Warwickshire	12,909	3.5	34.5	15.8
Derbyshire	10,891	2.8	43.5	21.5
Nottinghamshire	13,166	3.1	43.0	18.2
Lincolnshire and Rutland	9,295	3.8	49.6	16.9
Leicestershire	11,975	3.1	42.1	28.5
Northamptonshire	8,313	2.9	42.3	21.5
Norfolk	9,886	3.2	38.9	15.2
Cambridgeshire	14,468	4.4	48.0	18.6
Suffolk	8,280	2.8	34.2	16.9
Bedfordshire and Luton	7,004	3.1	32.4	19.6
Hertfordshire	18,766	3.7	36.2	19.9
Essex	19,965	3.4	47.1	20.0
London North	9,753	3.0	30.1	15.9
London West	17,053	2.4	34.2	26.1
London Central	37,114	2.5	22.3	16.5
London East	27,831	2.8	21.6	15.0
London South	13,575	2.7	40.7	30.2
Northumberland	2,718	2.9	38.9	18.8
Tyne and Wear	12,746	2.8	30.9	19.2
County Durham	5,492	3.4	46.5	15.2
Tees Valley	4,347	1.7	41.7	28.2

**Table 5.10: Density of recruitment problems and skills gaps by local LSC area (continued)**

	Number of vacancies	Vacancies as % employment	HtFVs as % of vacancies	SSVs as % of vacancies
Cumbria	6,178	3.4	43.9	19.8
Lancashire	18,346	3.2	32.9	14.8
Greater Merseyside	14,731	2.6	31.0	17.0
Greater Manchester	33,754	3.0	40.1	22.9
Cheshire and Warrington	11,716	2.8	40.7	14.9
Milton Keynes, Oxfordshire and Buckinghamshire	21,091	3.2	33.2	16.3
Berkshire	17,054	3.7	37.9	16.6
Hampshire, The Isle of Wight and Portsmouth	29,010	3.7	47.6	22.4
Surrey	18,029	3.6	46.1	19.3
Sussex	21,100	3.4	44.2	16.8
Kent and Medway	19,137	3.1	46.7	20.5
Devon and Cornwall	23,329	3.9	50.5	22.4
Somerset	6,826	3.6	49.7	16.9
Bournemouth, Dorset and Poole	10,221	3.8	47.7	14.1
West of England	16,101	3.3	37.7	16.3
Wiltshire and Swindon	9,234	3.2	45.6	17.5
Gloucestershire	8,376	3.5	44.8	19.9
North Yorkshire	11,783	3.6	46.8	21.3
West Yorkshire	30,099	3.3	45.3	20.2
South Yorkshire	13,306	2.7	36.2	19.8
The Humber	9,739	2.9	44.6	24.1

**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Employee-weighted.

**Weight:** Local 14-sector weight.

5.50 Summarising the evidence from Table 5.10 is exceedingly difficult. So to overcome this problem, Table 5.11 provides a short commentary for each local LSC area.



## Extent of skills gaps

5.51 The discussion so far has been in relation to external recruitment problems, but there is also a need to consider how well prepared an establishment's existing workforce are to meet organisational performance goals. Skills gaps are defined with respect to whether employers regard their staff as being fully proficient. It is a concept that is open to interpretation from employers. A company, for example, with a commitment to grow and develop new markets may be more demanding of its staff than one that is content with its current position. Indeed, previous evidence drawn from the Employers Skill Survey 1999 revealed that it was companies engaged in a process of change and striving to capture higher-value-added markets that were most likely to report skills gaps (Bosworth *et al.*, 2000). Nevertheless, the measure of skills gaps gives an indication of the extent to which employees possess the skills required by their current employer. At an overall level 22 per cent of employers reported skills gaps within their workforce; with almost 2.4 million employees regarded as not being fully proficient in their current job (or 11 per cent of total employment in England). Information is not available about the extent to which staff lacked full proficiency, but it may be assumed that in most cases the gap between the employee's existing skills and those required to be fully proficient is quite modest. If an employee fell a long way short of the required standard it is difficult to envisage their continued employment in that job.

5.52 Skills gaps are more commonly reported than recruitment problems are. Results from NESS2003 suggest that there were around 680,000 vacancies in England in total, of which some 270,000 (about 40 per cent) were HtFVs and 135,000 SSVs (about 20 per cent), compared with 2.4 million employees who were not fully proficient at the current job.

## Skill characteristics of skills gaps

5.53 Employers who had experienced skills gaps were asked to define what skills they felt needed improving for an occupation where staff were considered not fully proficient<sup>4</sup> (see Figure 5.11). The key areas in which employees were viewed as lacking skills can be classified as generic ones, i.e. communication (61 per cent), customer handling (55 per cent), team working (52 per cent) and problem solving (47 per cent). That said, technical and practical skills were lacking from just over two in five (43 per cent) of the employees with skills gaps that were followed up.

*Skills gaps measure the extent to which an organisation's workforce are proficient to meet its performance goals.*

*Skills gaps are more common than recruitment problems.*

*The key skills in which employers viewed their employees lacking proficiency were generic ones.*

<sup>4</sup> If an establishment had at least two occupations with skills gaps then the occupation was chosen at random. This was the same occupation that was asked about with regards to causes of skills gaps.

**Table 5.11: Commentary on density of recruitment problems by local LSC area**

	Commentary
Shropshire	Relatively high levels of vacancies, HtFVs and SSVs.
Staffordshire	Relatively low levels of vacancies and HtFVs, average level of SSVs
The Black Country	Average incidence of vacancies, but high levels of HtFVs and SSVs
Birmingham and Solihull	Average levels of vacancies, HtFVs and SSVs
Herefordshire and Worcestershire	Average levels of vacancies and HtFVs, and quite low level of SSVs
Coventry and Warwickshire	Average level of vacancies, but below average levels of HtFVs and SSVs.
Derbyshire	Average levels of vacancies, HtFVs and SSVs
Nottinghamshire	Average levels of vacancies, HtFVs and SSVs
Lincolnshire and Rutland	Above average levels of vacancies and SSVs, high level of HtFVs
Leicestershire	Average levels of vacancies and HtFVs but quite high level of SSVs
Northamptonshire	Average levels of vacancies, HtFVs and SSVs
Norfolk	Average levels of vacancies and HtFVs, but below average incidence of SSVs
Cambridgeshire	High levels of vacancies and HtFVs, average level of SSVs
Suffolk	Average levels of vacancies and HtFVs, but low level of SSVs
Bedfordshire and Luton	Average levels of vacancies, HtFVs and SSVs
Hertfordshire	High levels of vacancies and HtFVs, but average level of SSVs
Essex	Average levels of vacancies and SSVs, but high level of HtFVs
London North	Average level of vacancies, but below average levels of HtFVs and SSVs
London West	Below average levels of vacancies and HtFVs, and high level of SSVs
London Central	Below average levels of vacancies, HtFVs and SSVs
London East	Average level of vacancies, but below average levels of HtFVs and SSVs
London South	Average level of vacancies and HtFVs, but high level of SSVs
Northumberland	Average level of vacancies, HtFVs and SSVs
Tyne and Wear	Average level of vacancies and SSVs, but low level of HtFVs
County Durham	Average level of vacancies, quite high level of HtFVs, and quite low level of SSVs
Tees Valley	Low level of vacancies, but average level of HtFVs and high level of SSVs
Cumbria	Average levels of vacancies, HtFVs and SSVs
Lancashire	Average level of vacancies, low levels of HtFVs and SSVs
Greater Merseyside	Average levels of vacancies and SSVs, and low level of HtFVs
Greater Manchester	Average levels of vacancies, HtFVs and SSVs
Cheshire and Warrington	Average levels of vacancies and HtFVs, low level of SSVs
Milton Keynes, Oxfordshire and Buckinghamshire	Average levels of vacancies and SSVs, but low level of HtFVs
Berkshire	Quite high level of vacancies, average levels of HtFVs and SSVs
Hampshire, The Isle of Wight and Portsmouth	Quite high levels of vacancies and HtFVs, average level of SSVs
Surrey	Average levels of vacancies and SSVs, but high level of HtFVs
Sussex	Average levels of vacancies, HtFVs and SSVs
Kent and Medway	Average levels of vacancies and SSVs, but quite high level of HtFVs

**Table 5.11: Commentary on density of recruitment problems by local LSC area (continued)**

Commentary	
Devon and Cornwall	High levels of vacancies and HtFVs, average level of SSVs
Somerset	High levels of vacancies and HtFVs, average level of SSVs
Bournemouth, Dorset and Poole	High levels of vacancies and HtFVs, low level of SSVs
West of England	Average levels of vacancies, HtFVs and SSVs
Wiltshire and Swindon	Low level of vacancies, high level of HtFVs, average level of SSVs
Gloucestershire	Average levels of vacancies and SSVs, but low level of HtFVs
North Yorkshire	Average level of vacancies and SSVs, but quite high level of HtFVs
West Yorkshire	Average level of vacancies, average to high level of HtFVs, and average level of SSVs
South Yorkshire	Average level of vacancies, HtFVs and SSVs
The Humber	Average levels of vacancies, HtFVs and SSVs

**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Note:** Based on relative densities.

**Base:** Employee-weighted.

**Weight:** Local 14-sector weight.

### Occupational characteristics of skills gaps

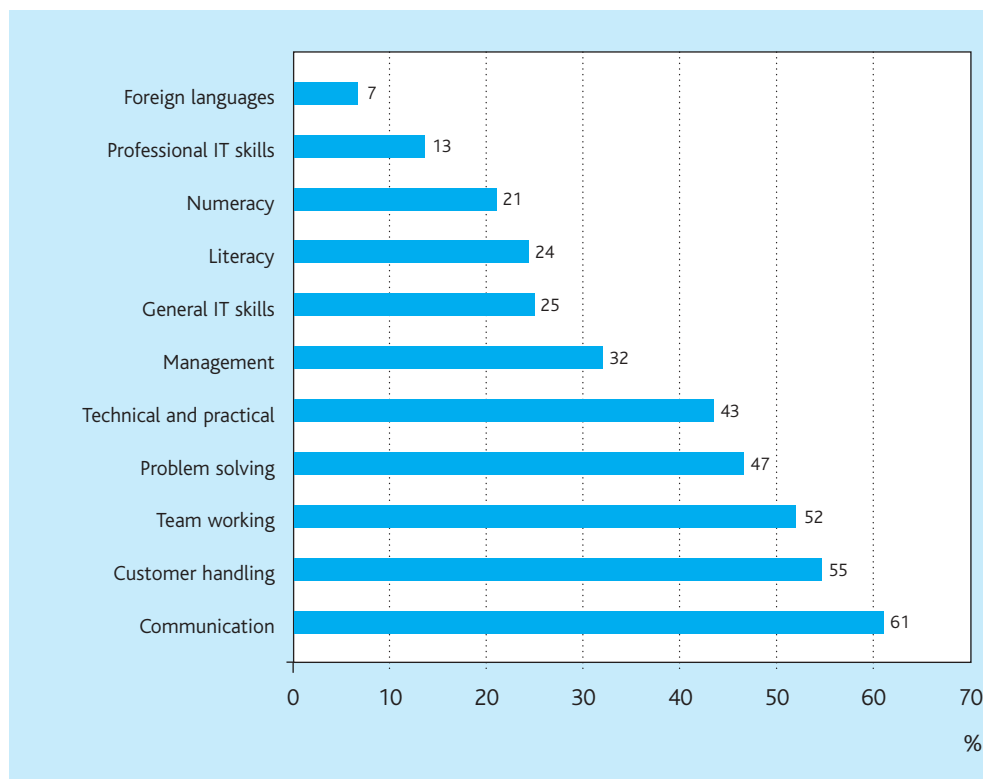
5.54 The occupations in which skills gaps occurred are outlined in Figure 5.12. The distribution of skills gaps by occupation is fairly close to the profile of employment as recorded by employers. Two occupational categories accounted for a larger share of skills gaps than their share of employment would lead one to expect:

- sales and customer service occupations (19 per cent of all skills gaps versus 16 per cent of total employment); and
- elementary occupations (16 per cent of all skills gaps versus 14 per cent of total employment).

5.55 These two occupations also accounted for the largest absolute number of skills gaps relative to other occupations. What is particularly interesting here is that two occupations that require a relatively modest level of skill are the ones that account for the highest incidence of skills gaps. By comparison, professional occupations stood out as having disproportionately few skills gaps relative to the proportion of people employed in this occupation (10 per cent of all skills gaps versus 14 per cent of all employment). The proportion of skills gaps in all other occupations differs only slightly from the proportion of people employed in each respective occupation.

*Sales and customer service staff and elementary occupations had a disproportionately large share of skills gaps relative to their share of employment.*

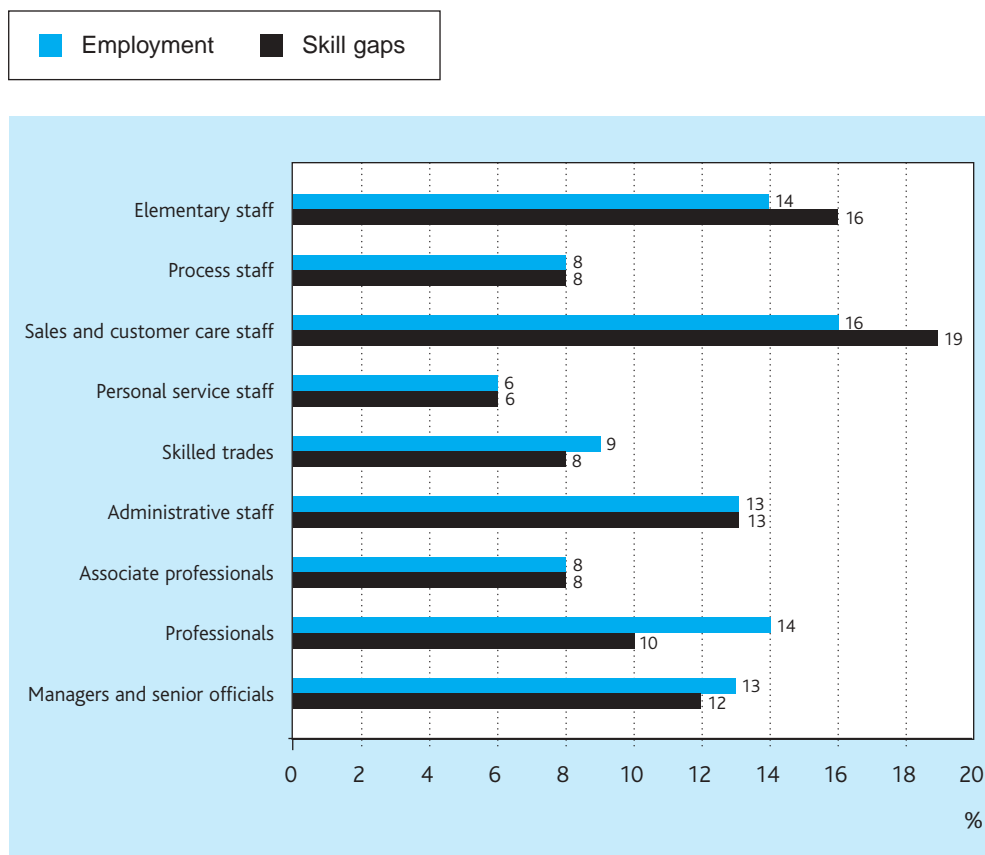
**Figure 5.11: Skills characteristics of skills gaps**



**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Employee-weighted, all skills gaps followed up.

**Figure 5.12: Distribution of skills gaps by occupation**



**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Employee weighted.

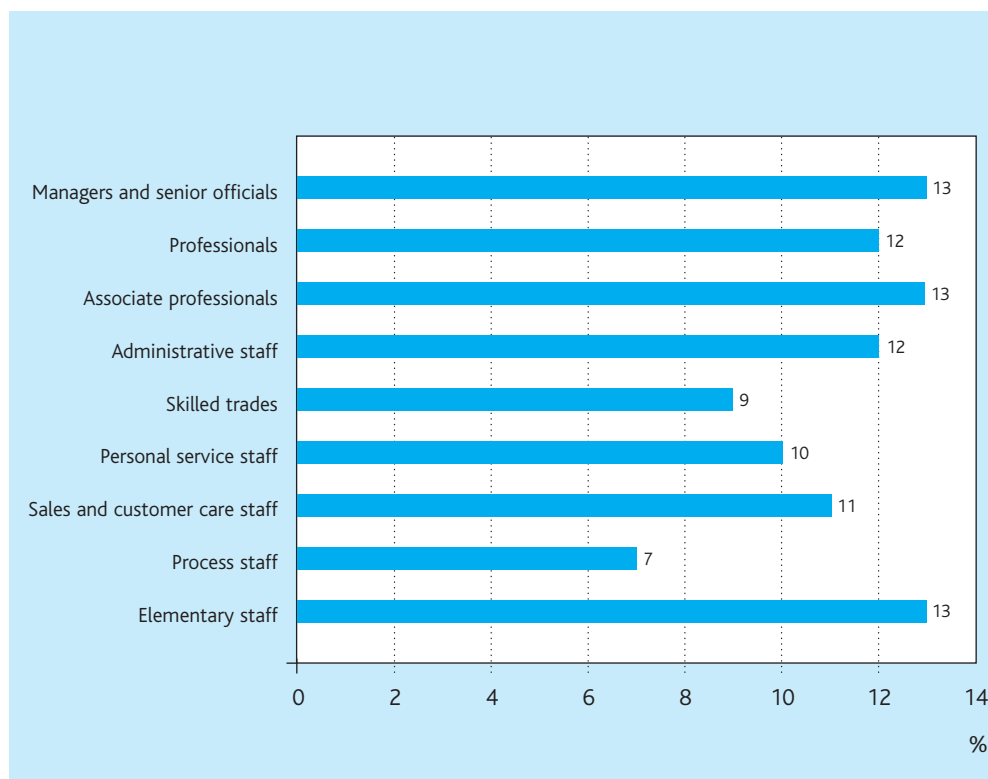
5.56 Figure 5.13 illustrates the number of employees with skills gaps as a percentage of all employees in each occupational category (i.e. a measure of density). Looking at the data in this way confirms elementary occupations as the occupation in which skills gaps are most likely to be found (13 per cent of those employed in this occupation are not fully proficient). Managers, professionals, associate professionals and secretarial/administrative staff also rank highly on this measure on skills gaps.

5.57 It is often assumed that skills gaps are most likely to be found in highly skilled jobs since the range and depth of skills required is extensive. In fact, the research shows that skills gaps are just as likely to be found in elementary, semi-skilled positions<sup>5</sup> as in managerial or professional ones.

*Using a measure of density highlights elementary, managerial and associate professional occupations as ranking the highest.*

<sup>5</sup> This includes occupations such as labourers, porters, kitchen staff, waiters, bar staff, cleaners, domestics, refuse collectors, security guards, shelf fillers and farm workers.

**Figure 5.13: Skills gaps as a percentage of employment within each occupation (density of occupational skills gaps)**



**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Employee weighted.

5.58 Case study evidence concerned with latent skills gaps suggests that surveys may well underestimate the number of gaps amongst managerial and professional occupations (Hogarth and Wilson, 2001). Latent skills gaps are those that employers fail to recognise, and represent the difference in skill levels between high- and low-performing organisations that are otherwise comparable. Case study analysis of skills gaps reveals that it is often a lack of strategic vision amongst senior management that inhibits organisational performance. It is sometimes this type of skills gap, or latent skills gap, that surveys fail to capture for understandable reasons.

### Skills gaps by size of establishment

5.59 The likelihood of any skills gap existing increases with size of establishment, as there are more staff among whom skills gaps can be found. Among those with one to four staff, 14 per cent of establishments reported a skills gap. This increases to 35 per cent of those establishments with 5 to 24 staff, and approaches three in five among those with 100 plus staff (see Table 5.12).

5.60 In terms of the number of skills gaps expressed as a proportion of employment, a similar pattern exists although the differences are less stark, ranging from 8 per cent of employees lacking proficiency in the smallest establishments to 14 per cent in the largest ones.

5.61 It is apparent that the highest share of skills gaps (by density) was found amongst the largest establishments. It is in these establishments that there are more likely to be formal processes in place to assess whether individuals are fully proficient or possess a formal training plan. They are therefore best placed to assess whether their employees are proficient. But this raises questions about the capacity of smaller organisations to more objectively assess whether staff are fully proficient, with the suspicion that skills gaps, in a formal sense, may be underestimated in the smallest establishments.

*Surveys capture little information about latent skills gaps, but it may be these that are most likely to inhibit organisational performance.*

*Skills gaps are more commonly reported by larger establishments.*

*Identification of skills gaps may be linked to formal HR processes that are more commonly found in larger workplaces.*

**Table 5.12: Incidence of skills gaps and size of establishment**

	% of establishments with skills gaps	Number of skills gaps	% share of all skills gaps	No of skills gaps as % of employment
1 to 4	14	199,375	8	8
5 to 24	35	483,363	20	10
25 to 99	48	583,773	24	10
100 to 199	59	268,691	11	11
200 to 499	63	414,977	17	13
500+	62	448,170	19	14
Total	22	2,398,349	100	11

**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Employer-weighted in column 1, otherwise employee-weighted.

*The incidence of skills gaps varies according to industrial sector.*

### **Skills gaps by industrial sector**

5.62 The proportion of establishments experiencing at least some skills gaps within their workforce also varied by industrial sector (see Table 5.13). The industries most prone to internal skills deficiencies were manufacturing of food, drink and tobacco (46 per cent of establishments), public administration (35 per cent), education (33 per cent), hotels and catering (31 per cent) and manufacture of machinery (30 per cent). Employers in business service sectors tended to be the least affected by skills gaps: e.g. computing and related services (13 per cent), professional services (17 per cent), miscellaneous services (18 per cent) and other business services (18 per cent). Employers in the construction industry were also relatively unaffected by skills gaps (18 per cent). It is notable that many sectors reporting a relatively low percentage of establishments with skills gaps employ a large proportion of people in higher- and intermediate-level skilled jobs.



**Table 5.13: Incidence of skills gaps by industrial sector**

	% of establishments with skills gaps	Number of skills gaps	Column percentages	No of skills gaps as % of employment
Agriculture, hunting, etc	24	5,391	0.2	10
Mining and quarrying	21	4,903	0.2	11
Manufacture of food, drink and tobacco	46	52,827	2.2	14
Manufacture of textiles and clothing	26	16,708	0.7	9
Manufacture of wood and paper etc	30	15,434	0.6	11
Printing and publishing	20	25,904	1.1	8
Manufacture of chemicals, rubber etc	28	67,767	2.8	13
Manufacture of metals and metal goods	25	42,030	1.8	11
Manufacture of machinery	30	68,204	2.8	11
Manufacture of vehicles and transport equipment	25	43,956	1.8	13
Manufacture of furniture and recycling industries	21	17,348	0.7	10
Electricity, gas and water	25	9,985	0.4	9
Construction	18	86,038	3.6	9
Sale, repair and maintenance of motor vehicles	24	47,959	2.0	10
Wholesale trade	19	103,330	4.3	10
Retail trade	26	310,742	13.0	13
Hotels and restaurants	31	195,847	8.2	14
Transport	20	93,577	3.9	10
Communications	23	69,309	2.9	15
Banking and insurance	27	115,095	4.8	12
Professional services	17	48,446	2.0	9
Computing and related services	13	37,684	1.6	8
Other business services	18	276,996	11.5	11
Public administration	35	127,158	5.3	12
Education	33	138,671	5.8	8
Health and social work	28	265,792	11.1	12
Miscellaneous services	18	111,245	4.6	10
Total	22	2,398,349	100.0	11

**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Employee-weighted.

5.63 Reporting data on skills gaps on an establishment base gives little indication about the number of people who are not fully proficient. Skills gaps as a proportion of employment varied from 8 per cent for the education, printing and publishing, and computing industry sectors, to 15 per cent for the communications sector (see Table 5.13). For most sectors there is a relationship between the incidence of establishments reporting skills gaps and the actual number of skills gaps reported, although this is not always the case. Employers in the education sector, for example, are one of the most likely groups to report skills gaps, yet the sector has the lowest numbers of gaps as a proportion of employment. Skills gaps in the education sector will be concentrated in quite small numbers of staff at each establishment that reports a skills gap.

### Local and regional patterns of skills gaps

5.64 The proportion of employers reporting skills gaps within their workforce varied quite considerably by region, ranging from 16 per cent of employers in London to 29 per cent of employers in Yorkshire and The Humber (compared against the national figure of 22 per cent) (see Table 5.14).

5.65 In terms of the total number of skills gaps expressed as a percentage of employment there was less variation. For all except two of the regions, the proportion of skills gaps to employment was between 10 and 11 per cent of employment. Only in the West Midlands and in Yorkshire and The Humber did skills gaps represent a higher proportion of employment, at 15 per cent and 13 per cent respectively.

**Table 5.14: Incidence of skills gaps by region**

	% of establishments with skills gaps	Number of skills gaps	Column percentages	No of skills gaps as % of employment
West Midlands	24	348,534	14.5	15
East Midlands	25	184,948	7.7	11
Eastern	21	238,764	10.0	11
London	16	406,312	16.9	10
North East	26	92,481	3.9	10
North West	22	290,050	12.1	10
South East	22	376,562	15.7	10
South West	23	198,034	8.3	10
Yorkshire and The Humber	29	262,663	11.0	13
Total	22	2,398,349	100	11

**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Employee-weighted.

*Establishments in Yorkshire and The Humber were most likely to report skills gaps.*

- 5.66 Overall there was only modest variation between regions in the density of skills gaps, which given their size and heterogeneity is what might be expected. Data at a local LSC area level provides the opportunity to look at the incidence of skills gaps in areas that are more homogeneous (see Table 5.14).
- 5.67 Table 5.15 provides information about the density of skills gaps by local LSC area. Skills gaps as a percentage of employment were highest in The Black Country (18.7 per cent of employment) and Birmingham and Solihull (17.5 per cent). The areas with the lowest density of skills gaps were Tyne and Wear (7.9 per cent), West of England (8.2 per cent) and Kent and Medway (8.2 per cent).
- 5.68 Again it is important not just to look at standardised measures but also to identify where the highest number of skills gaps occurred. The data indicate that it was in London Central (6.8 per cent of all skills gaps) and Greater Manchester (5.1 per cent) where the largest concentrations of skills gaps were found. But these concentrations were more or less in line with their share of total employment.

*Skills gaps as a percentage of employment were highest in The Black Country.*

**Table 5.15: Incidence of skills gaps by local LSC area**

	% of establishments with skills gaps	Number of skills gaps	No of skills gaps as % of employment
Shropshire	20.3	24,088	13.4
Staffordshire	23.5	50,027	12.1
The Black Country	23.7	85,916	18.7
Birmingham and Solihull	23.7	101,489	17.5
Herefordshire and Worcestershire	21.6	33,271	11.2
Coventry and Warwickshire	25.6	46,945	12.8
Derbyshire	26.6	45,785	11.7
Nottinghamshire	23.5	46,902	11.0
Lincolnshire and Rutland	21.2	21,583	8.8
Leicestershire	25.2	36,225	9.3
Northamptonshire	27.7	34,421	11.9
Norfolk	21.8	27,094	8.9
Cambridgeshire	24.7	37,193	11.2
Suffolk	24.4	26,410	9.1
Bedfordshire and Luton	22.7	24,183	10.7
Hertfordshire	21.0	53,926	10.7
Essex	18.3	50,152	8.5
London North	17.1	27,130	8.4
London West	16.5	63,606	9.0
London Central	14.8	156,134	10.5
London East	17.6	111,478	11.2
London South	17.5	47,637	9.4
Northumberland	19.7	12,917	13.8
Tyne and Wear	24.5	36,330	7.9
County Durham	27.0	18,030	11.0
Tees Valley	25.9	29,294	11.7
Cumbria	20.2	19,682	10.8
Lancashire	23.9	52,402	9.0
Greater Merseyside	21.8	56,933	10.0
Greater Manchester	23.9	117,998	10.5
Cheshire and Warrington	20.8	36,457	8.8
Milton Keynes, Oxfordshire and Buckinghamshire	20.0	69,644	10.7
Berkshire	20.7	42,966	9.4
Hampshire, The Isle of Wight and Portsmouth	22.4	82,316	10.5
Surrey	20.2	59,094	11.7
Sussex	23.5	69,340	11.1
Kent and Medway	22.1	63,652	10.4
Devon and Cornwall	24.0	56,417	9.5
Somerset	23.8	17,550	9.1

**Table 5.15: Incidence of skills gaps by local LSC area (continued)**

	% of establishments with skills gaps	Number of skills gaps	No of skills gaps as % of employment
Bournemouth, Dorset and Poole	21.8	30,516	11.3
West of England	23.0	39,938	8.2
Wiltshire and Swindon	21.7	26,083	8.9
Gloucestershire	20.0	20,582	8.6
North Yorkshire	27.5	38,614	11.7
West Yorkshire	28.8	133,133	14.4
South Yorkshire	31.5	55,771	11.4
The Humber	24.4	38,447	11.6

**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Employee-weighted.

**Weight:** Local 14-sector weight.

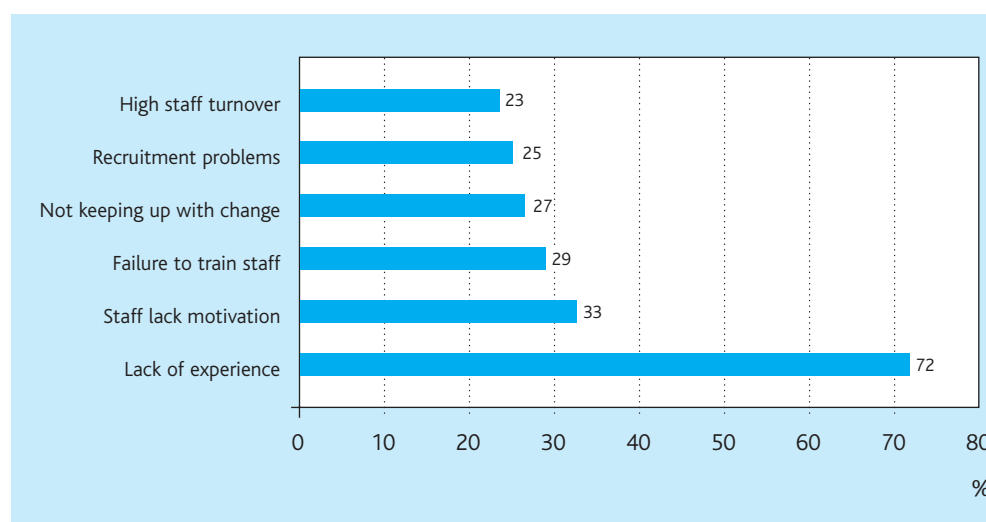
5.69 The local LSC data relating to skills gaps indicates that the highest densities were found in areas that have been dependent upon traditional manufacturing that has been in long-term decline (The Black Country and Birmingham and Solihull). This begs the question about the relationship between the incidence of skills gaps and industries in decline. For instance, are skills gaps more likely to emerge here because well skilled and qualified employees voluntarily quit employment they regard as insecure for more permanent employment elsewhere? (See paragraphs 6.59 onwards).

### Cause of skills gaps

5.70 Employers experiencing skills gaps were asked what were the main causes of their staff not being fully proficient<sup>6</sup>. Figure 5.14 shows, at an overall level, the reasons given. It should be noted that results are based on skills gaps followed up in detail during the interview, rather than on establishments with skills gaps; i.e. it uses an employee-based measure with results showing the proportion of skills gaps that are caused by various factors, as opposed to the proportion of establishments that report skills gaps with these causes. The results reveal that the main cause was staff lacking experience (72 per cent of all skills gaps). This of course begs the question of why staff are lacking in experience: because of taking on many new staff, introducing new production processes, or shifting into new markets? Other important reasons related to staff lacking motivation (33 per cent) and failure to train staff (29 per cent).

*A lack of staff with experience was the most common reason cited for skills gaps.*

<sup>6</sup> Employers were asked about the causes of skills gaps for one occupation only, selected randomly where more than one occupation with a skills gap was reported.

**Figure 5.14: Causes of skills gaps**

**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Employee-weighted.

*The key areas in which employees were viewed as lacking skills were primarily generic ones.*

5.71 The key areas in which employees were viewed as lacking skills can be classified as generic skill areas, i.e. communication (61 per cent), customer handling (55 per cent), team working (52 per cent) and problem solving (47 per cent). That said, technical and practical skills were lacking from just over two in five (43 per cent) of employees with skills gaps that were followed up.

### Impact of skill deficiencies

*What is the impact of skill deficiencies on organisational performance and national economic performance?*

5.72 A question writ large throughout this chapter has been whether the level of skill deficiencies reported matters. To a large extent the answer to that question depends on whether the aggregate impact on organisational performance is such that national economic growth is less than it might be otherwise. The information below reports employers' perceptions of the impact of recruitment problems and skills gaps respectively on organisational performance. The impact, however, on aggregate national economic performance might be a little more complex than these answers suggest, for the following reasons.

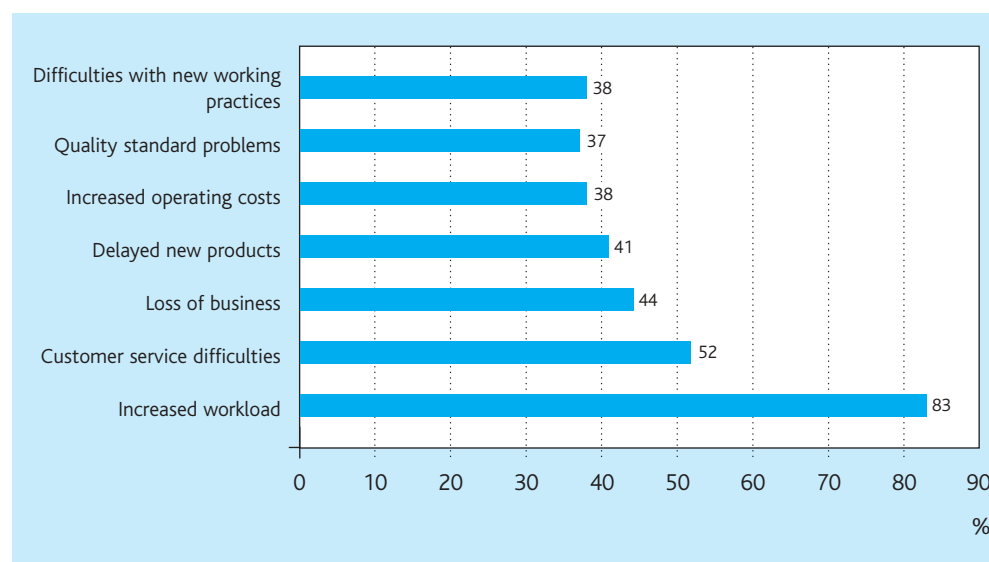
- Recruitment problems (especially SSVs) are often such that they can contribute to, possibly even cause, economic slowdown in the national economy (Haskel and Martin, 1998; Blake *et al.*, 2000).
- The relationship between skill input and productivity levels has been demonstrated to be a causal one that encourages both investment in human resources and capital equipment (O'Mahoney, 1999).
- Employers are only able to report on manifest skills gaps but not latent ones. Latent skills gaps are defined as the gap in skill levels between well and poorly performing organisations that are otherwise the same but go unreported by organisations. Latent skills gaps are often substantial in number (Bosworth *et al.*, 2000).

For some employers the extent of their skill deficiencies included both external recruitment problems and internal skills gaps. Overall, around 1 in 10 employers who experienced internal skills problems also encountered problems in the external labour market. By contrast around 4 in 10 of those experiencing problems finding skilled recruits were also lacking skills within their current workforce.

### **Implications of recruitment problems**

5.73 Figure 5.15 reveals the impact skill shortage vacancies had upon the performance of the establishment. The major impact of SSVs was an increased workload for other (current) employees. This was described as an impact by 83 per cent of all establishments experiencing SSVs. Half of establishments with SSVs (52 per cent) experienced difficulties meeting their customer service aims, with slightly fewer (44 per cent) experiencing loss of business or orders to competitors, and slightly fewer again reporting delays developing new products (41 per cent). Similar proportions of establishments which suffered from SSVs experienced increased operating costs (38 per cent), difficulties meeting their own quality standards (37 per cent), and difficulties introducing new working practices (36 per cent). One in 25 employers who had struggled to find skilled staff to fill vacant positions reported that they had experienced none of the impacts described above.

*The most commonly cited impact of SSVs on performance was an increased work load for existing employees.*

**Figure 5.15: Impact of SSVs**

**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Establishment weighted—all with SSVs.

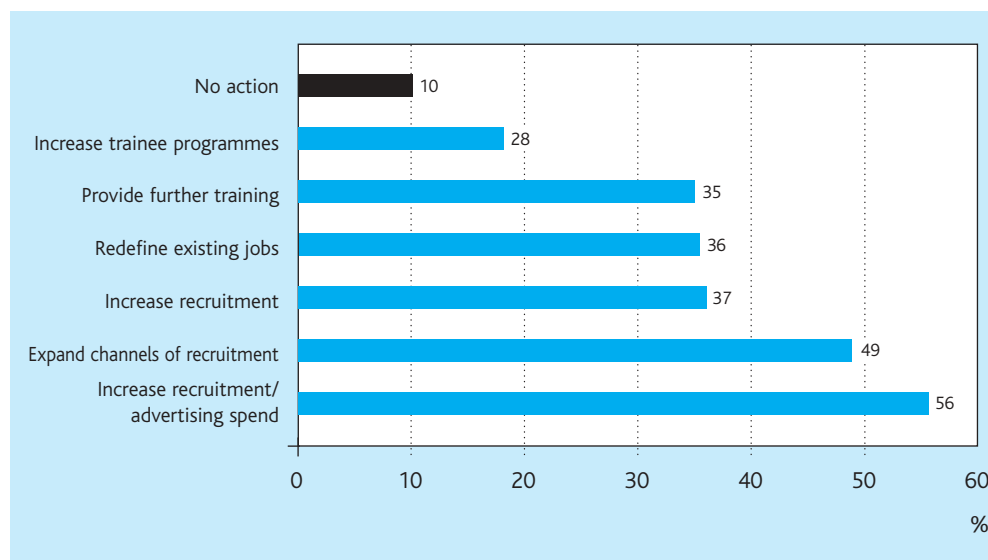
*SSVs also had an impact on costs and loss of business.*

*The most common response to SSVs was to increase expenditure on recruitment/advertising*

- 5.74 Overall the impact of SSVs on organisational performance was substantial. The impact was both on short-term aspects that affected immediate profits and success (i.e. increased costs and loss of business), and on the longer-term success of the establishment (i.e. delaying new product launches and failing to meet customer service and quality standards).
- 5.75 Actions taken by employers in response to SSVs are outlined in Figure 5.16. These involved direct changes to recruitment activity, with the most common responses being to increase expenditure on recruitment and advertising (56 per cent of establishments), expanding their recruitment channels (49 per cent), or to increase recruitment (37 per cent). A second order of responses incorporated redefining existing jobs and providing further training opportunities; each of which was undertaken by just over a third of establishments with SSVs. Just over a quarter of employers experiencing SSVs opted to increase trainee programmes.



**Figure 5.16: Employers' responses to SSVs**



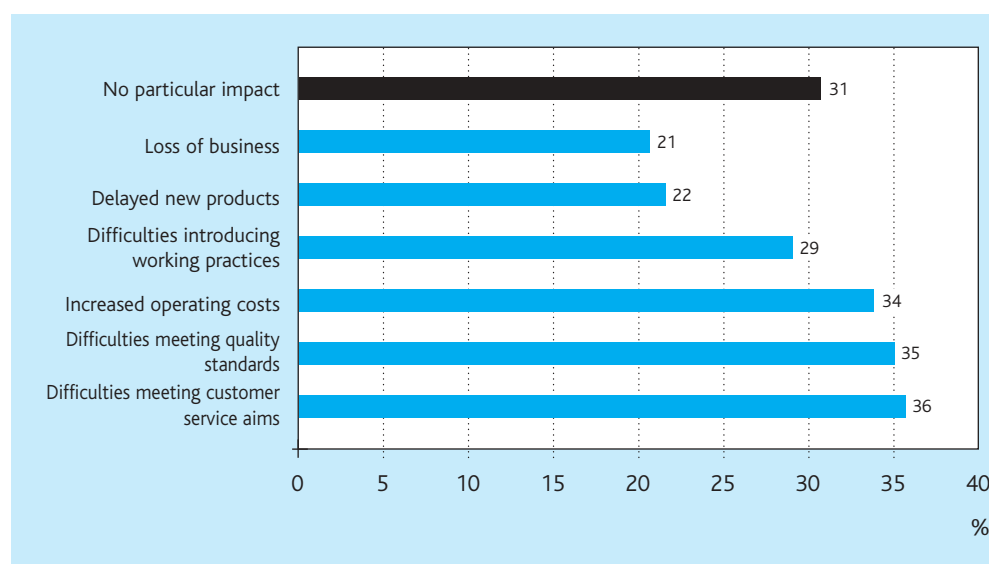
**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Establishment weighted—all with SSVs.

### Implications of skills gaps

5.76 While difficulties meeting customer service aims were high on the list of impacts of both skills gaps and SSVs (albeit at lower levels in terms of skills gaps - 36 per cent versus 52 per cent), loss of business and delays introducing new products were considerably more likely to be the impact of skills gaps (see Figure 5.17). While around one in five establishments with skills gaps stated that they had encountered these impacts as a result, almost twice as many reported these impacts where SSVs were concerned (44 per cent and 41 per cent respectively). By contrast, increased costs and difficulties meeting quality standards were as likely to result from internal skills gaps as from SSVs.

*Delays introducing new products and loss of business were the most common impacts of skills gaps.*

**Figure 5.17: Impact of skills gaps**

**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Establishment weighted—all with skills gaps.

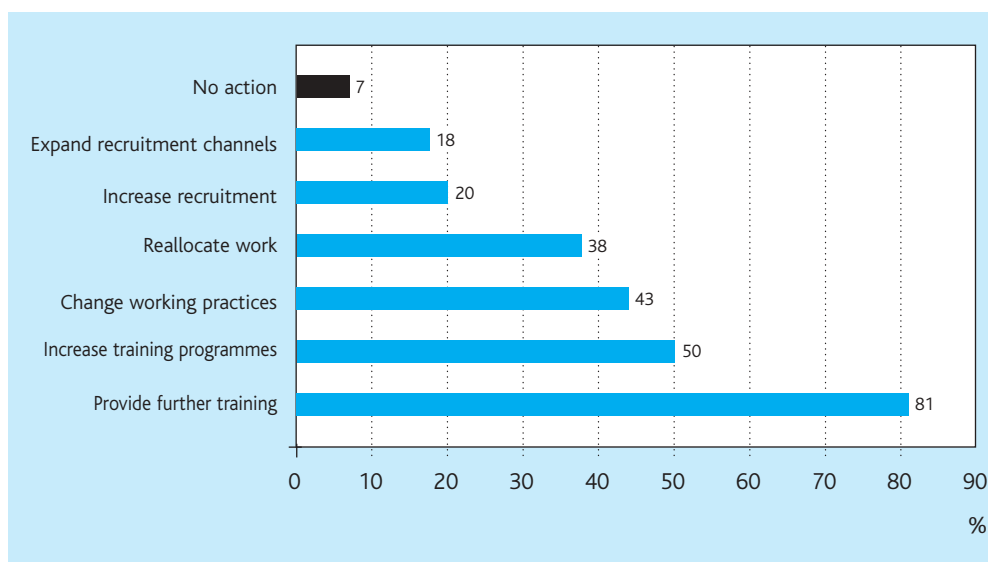
*Employers may adapt more readily to skills gaps than SSVs.*

5.77 It is notable that a greater proportion of employers with internal skills gaps saw no impacts resulting from them (31 per cent) than saw no impacts from SSVs (4 per cent). This suggests that employers adapt more easily to internal skills deficiencies than to external ones. Another explanation may be that employers tend to recruit in response to demand (new orders or high workloads) and at these times to delay recruiting because of the skill shortcomings of applicants has a significant and noticeable effect. But the everyday skill shortcomings of existing staff may be often rationalised as part of working life, especially so if the extent to which staff lack full proficiency is small as might be expected.

*Further training was the most common response to facing skills gaps.*

5.78 The most common response to internal skills deficiencies was to provide further training. Four in five employers with skills gaps took this course of action (see Figure 5.18). The main additional action taken - by two in five employers - was to change working practices (43 per cent) and/or reallocate work (38 per cent). Around one in five establishments with skills gaps increased recruitment activity as a response.

**Figure 5.18: Responses to skills gaps**



**Source:** LSC National Employers Skills Survey, 2003 (IFF/IER).

**Base:** Establishment weighted—all with skills gaps.

*Skill mismatches are damaging to the economy.*

*Previous evidence on over-qualification may have been mis-stated.*

## Conclusion

- 5.79 The data on skill mismatches reveals they are substantial and damaging to organisational performance. The evidence presented above has dealt with manifest skill deficiencies, but there is also a need to consider a range of issues about mismatches.
- 5.80 Previous *Skills in England* reports have touched upon over-qualification: the extent to which individuals do not use the skills and abilities acquired in obtaining a qualification in their current job. The evidence on rates of return to graduation detailed in this chapter suggests, implicitly, that the extent of over-qualification may have been previously mis-stated. Given the evidence on the rates of return to graduation, which are substantial, this suggests that employers recognise the current or potential productivity of this group of employees otherwise they would be unprepared to pay a premium.
- 5.81 NESS2003 provides valuable and detailed information that distinguishes between HtFVs related to a shortage of skills and those that arise for reasons other than the supply of skills. Understanding the relationship between skill supply and wages is a complex one. Employees will choose to join and stay with a company for a range of reasons, of which wage levels are just one, albeit important, determinant. Where employers report that a vacancy is one related to a skills shortage, it is exceedingly difficult to determine whether this is because they are paying at, above or below the going rate for that particular skill. If they are willing to pay at or above the average rate and still encounter recruitment difficulties, then this would suggest an absolute shortage of a particular skill in the local or national labour market.
- 5.82 Since the first Employers Skill Survey in 1999, much effort has been expended on understanding the relationship between skill structures in the workplace and organisational performance. If a business case is to be made to encourage employers to invest in skills then evidence needs to be collected about the returns to that investment. NESS2003 is able to make considerable inroads to addressing this issue, especially in determining the impacts of HtFVs, SSVs and skills gaps employers report on their day-to-day operations. The evidence in NESS2003 suggests that where employers experience skill deficiencies there is a substantial and detrimental impact on their performance linked to opportunity costs (e.g. managers spend time recruiting, rather than on other productive activities) and foregone income, where business is lost or development of new products and services are delayed.
- 5.83 Much of the information about the incidence and extent of HtFVs and SSVs raises a number of questions about employers' recruitment practices. Since the Survey of Employers' Recruitment Practices (SERPs) in 1992 there has been little research about employers' practices in this area. The Manchester Evening News Annual Recruitment Survey in 2001 (Hogarth and Hasluck, 2001) revealed that employers' recruitment practices had changed substantially over the 10-year period since SERPs with much more emphasis upon informal methods of recruitment. The evidence would suggest that informal methods had arisen because conventional, traditional means were no

longer guaranteed to bring about a flow of good applicants. This has implications for the number of vacancies and explaining whether or not they are hard to fill.

5.84 Much of the current policy debate is about stimulating employer demand for skills, but from a survey perspective relatively little is known about the processes within the workplace that give rise to specific demands for skills and the extent to which these result in skill deficiencies. NESS2003 potentially throws light on this issue in that it asks questions about the causes of skill deficiencies - such as the introduction of new technology, etc. - and the investment made in training and development.

5.85 Related to understanding the link between recruitment practices and skills shortages is the role of various initiatives in reducing the incidence of recruitment problems. For example, does Investors in People reduce skill deficiencies? NESS2003 reports a relatively high incidence of the use of formal processes (e.g. existence of training plans, formal methods to assess skills gaps, etc.). This suggests that the approach to workforce training and development is highly formalised (and possibly becoming more so). This will of course have implications for the reporting of mismatches in the future. If more employers begin to formally assess their employees for skills gaps, this might well increase the incidence of skills gaps insofar as employers are made more aware of their employees' development needs.

5.86 Finally, much of the information generated about skill mismatches prompts questions about the meaning of existing measures. Is the existence of skills gaps good or bad for the economy? This is not the silly question it might at first seem. Previous evidence, based on survey and case study analysis, indicates that establishments report a relatively high incidence of skills gaps where they are engaged in a process of change and are striving to achieve higher levels of performance. In these instances skills gaps would appear to indicate a skill deficiency only insofar as the establishment is more dynamic than its counterparts who report few skills gaps and are settled in their existing markets. There is clearly a need to understand the business context in which skills gaps arise.

5.87 The analysis of skill mismatches, and in particular the results stemming from NESS2003, suggest that skill mismatches are much in evidence; but understanding their causes and consequences is complex.



Skills in England 2003

Volume 2

Chapter 6: Future Skill Needs





## Chapter 6: Future Skill Needs

### Introduction and Summary

- 6.1 Past trends in the demand for and supply of skills, as described in Chapter 3, provide some indication of priorities for investment in education and training. But, given that lead times in such investments are often quite long, typically three years for NVQ Level and equivalent qualification, ideally, it is the position five and ten years hence that decision-makers need to have in mind. Although no one possesses a crystal ball that can reveal the precise pattern of future skill needs, various mechanisms have been developed which enable some idea of the future to be obtained. There is now a new set of employment projections available, which has been commissioned by the SSDA in partnership with the LSC and other bodies. These projections present the most detailed and comprehensive picture of changing employment patterns ever produced in the UK. As well as considerable industrial detail, this also includes benchmark projections for individual local LSC areas. The main focus is upon what employers' requirements are likely to be and how these are influenced by changes in the economy and the labour market. This chapter also considers some aspects of supply side developments, and the implications for the balance of supply and demand, and skill deficiencies.
- 6.2 The chapter begins with a brief overview of the macro economy and the implications for the labour market and the demand for skills. It summarises expected changes in the economy at national level and how this is expected to impact on employment in general. Economic growth rates are expected to be maintained despite some uncertainties in the world economy. Inflation will remain low.
- 6.3 The discussion then focuses on trends in employment structure in some detail, beginning with sectoral and industrial change, before moving on to occupations. The importance of considering replacement demands as opposed to simply focusing on changes in the level of employment is also emphasised. Possible changes in the demand for generic skills are also considered, based on earlier forecasts. There is then a brief discussion of the supply of qualifications and skills. The chapter concludes with an assessment of the priorities in terms of the balance between supply and demand.
- 6.4 The evidence suggests that the scale and nature of expected future skill needs will be a great challenge for Government and public agencies, as well as for individuals and employers. Major structural change is projected to continue, with further decline in manufacturing and primary sector employment, offset by expansion of employment in the service sector. Further changes in the occupational structure of employment are expected. These changes will require new skills and qualifications from the workforce. Related changes will continue to favour jobs typically undertaken by part-time women.
- 6.5 The occupational structure of employment is projected to continue to change in favour of managerial, professional, associate professional and technical, and personal service occupations. In many cases these jobs will require high-level formal qualifications. Some of the most rapid growth is anticipated for caring

*Ideally decision-makers would like to know what the future demand for and supply of skills will be.*

*The macroeconomic context for the projections is one of continued growth with low inflation.*

*Major structural change will continue...*

*...with sharply increasing demand for many high-level occupations...*

personal services and customer service occupations, which are not quite so demanding. Other areas of rapid growth are for culture, media and sports occupations, business and public service (and associate) professionals, teaching, research and science/technology (and associate) professionals and corporate managers. Together, these occupations are expected to see an increase of over 2.5 million jobs over the next decade.

- 6.6 Job losses are anticipated amongst administrative, clerical and secretarial, skilled metal and electrical trades, process, plant and machine operatives and elementary occupations, especially those related to clerical and service activities.
- 6.7 The projected net change in employment (expansion demand) tells only a part of the story. It is crucial to recognise that there will be many job openings, and important education and training requirements, for many occupations where employment levels are expected to fall. These arise because of the need to 'replace' the existing skills that will be 'lost' as a result of retirements and other aspects of the normal process of labour turnover. The scale of replacement demand is projected to substantially outstrip the scale of expansion demand (by a factor of almost 10 to 1). This varies across occupations and sectors, but even where substantial job losses are projected, the replacement demand elements are usually more than sufficient to offset this. It is essential, therefore, for employers, education and training providers and public agencies to recognise the different characteristics and requirements of these two different components of future skill needs.
- 6.8 Some occupations are projected to experience rapid growth in both expansion and replacement demand elements. Employers recruiting these occupational groups will face stiff competition and may need to work with providers, as well as themselves engaging in training and recruitment activities in order to ensure that their needs are met.
- 6.9 It is in areas where employment is expected to decline that employers will face the greatest challenge. Where employers are laying off workers, meeting replacement demands for those organisations that are continuing in operation can be problematic. The fact that these types of jobs are in decline can discourage new entrants, as well as those displaced from other companies, from taking up such jobs. Meeting such needs can be especially challenging from the points of view both of employers and of education and training providers.
- 6.10 Changes in the occupational structure are likely to drive up the demands for formal qualifications. The occupations projected to grow fastest are those with high proportions of qualified people typically employed. Those occupations expected to decline tend to have low shares of qualified people.
- 6.11 Analysis of likely changes in key generic and other skill requirements also suggests important changes. Verbal and communication skills (especially among managers), numerical skills (especially among clerical and secretarial occupations) and planning skills (especially amongst sales occupations) are all projected to increase in importance. Key skills such as problem solving, team

*...although there will be losses for a number of occupations.*

*However, replacement demands are also important...*

*...and there will be problems in meeting the skill needs in both rapidly growing...*

*...and in declining occupations.*

*The demand for formal qualifications will also increase...*

*...as will the need for key generic and other work-based skills.*

working and computing are increasing significantly in many occupations. Changes in autonomy (closeness of supervision) and the training and learning times needed to obtain and effectively discharge a job are also expected to increase in importance. Education courses and programmes need to reflect the increasing value placed upon such skills by employers.

- 6.12 Substantial regional variations in the pattern of expected future skill needs are projected. This reflects the particular economic structures of the regions. Specific skill needs in each region will need to be compared with likely availability. Significant variations in provision are likely to be needed in each region. Variations in regional patterns of growth and decline across a wide range of occupations will have important implications for developments in the supply of skills required at the regional level. Providers will have to tailor their provision to meet these specific needs.
- 6.13 The growth in total employment levels is expected to continue to favour most parts of England. Particularly strong growth is expected in the demand for managers in London, the South East and East of England; for professionals in London; for associate professional and technical occupations in London (and to a lesser extent the South East and East of England); for personal service occupations in the Midlands, the South East and the East of England; and for sales and customer service occupations in the South West, in the Midlands, and in Yorkshire and The Humber.
- 6.14 Projecting the supply of skills in terms of occupations or key/generic skills is very difficult. Most forecasts therefore focus on qualifications, and are conducted at an aggregate level.
- 6.15 Demographic considerations suggest a downturn in numbers acquiring formal qualifications but this is expected to be more than offset by increases in educational participation rates. Flows of people acquiring qualifications are projected to continue to rise. The impact of this on the stocks of people holding qualifications will be to see further significant increases.
- 6.16 Given the focus on highest qualifications held, the main growth will be at NVQ Levels 4 and 5. Numbers with highest qualifications at NVQ Levels 2 and 3 will not increase much, although the overall numbers holding these qualifications will increase significantly. The numbers with no formal qualifications at all will shrink to around 2 million (mainly older people).
- 6.17 Surveys of employers suggest that they anticipate the main problems in the future will be in terms of various key and generic skills including communication, customer handling, team working and management skills. IT skills are also critical.

*Although there are many common patterns across regions, particular economic structures mean that demands vary significantly.*

*The fastest growth in demand is expected to be for particular occupations in the southern regions of England.*

*Substantial growth is expected in the supply of those with formal qualifications, especially at NVQ Levels 4 and 5.*

## Macroeconomic Trends

6.18 Since the publication of SIE 2002 a major new set of occupational/employment projections has been produced for the UK (Wilson *et. al*, 2003). These projections were commissioned by the SSDA in partnership with the LSC. These include the most detailed set of results ever produced for the United Kingdom, including very detailed analyses by industry and geographical breakdowns to local LSC areas. The present chapter focuses on the results for England as a whole. Volume 4 details some of the results for individual local LSC areas. This section outlines the macroeconomic scenario which underlies the employment projections.

6.19 Broad measures of national output such as Gross Domestic Product (GDP) and Gross Value Added (GVA) are projected to display long-term growth rates of approximately 2.5 per cent per annum over the next decade. Continued low inflation among the major OECD countries is assumed. Sterling is expected to maintain a stable value against the Euro. The projections are based around an assumption of a modest acceleration in public expenditure growth in real terms. The main tax rates are assumed fixed.

6.20 General labour market prospects are for further employment growth. In particular, the following points can be noted.

- The long-term rate of employment growth is expected to be maintained at just under 0.5 per cent per annum.
- Between 2002 and 2012, almost 1.3 million additional jobs are projected for England as a whole.
- Just under three-quarters of the additional jobs are projected to be taken by women, and most will be part-time in nature.
- The level of unemployment is expected to remain stable, increasing slightly over the longer term. For most people unemployment will be a transitory experience, although a significant minority will suffer long-term unemployment.

6.21 Output prospects for the broad sectors are as follows.

- Primary and utilities, including agriculture, mining, electricity, gas and water, are expected to display the weakest growth (below 0.5 per cent per annum).
- Manufacturing output growth is forecasted to grow somewhat more slowly than in the recent past, averaging around 1.7 per cent per annum. This is underpinned by high growth in technology and R&D-related industries, while textiles, clothing and leather and metals are weaker performers.
- Construction output is projected to grow at a slightly higher rate.

*The macroeconomic scenario underlying the detailed employment projections is one of sturdy growth and modest inflation.*

*General labour market prospects also remain optimistic...*

*Projections of output by sector are in line with recent historical trends.*

- Growth is projected to be much faster in distribution, transport, etc. Distribution and retailing are expected to grow faster than the average, but the main engine of growth here is transport and communications, where output is forecast to grow by over 4 per cent per annum, with communications displaying the strongest growth of any services outside of computing.
- Business and miscellaneous services are also expected to grow rapidly at around 3 per cent per annum over the longer term, with the fastest growth in computers and related services and in other business services.
- Non-marketed services output is forecast to grow by around 2.5 per cent per annum, with the main increase being for education and health and social work.

6.22 Changes in the industrial composition of employment are a key driver of the changing pattern of demand for skills. Significant changes are expected to take place over the next few years (see Table 6.1 and Figure 6.1). Employment in the primary and manufacturing sectors is expected to continue its downward trend. This is offset by growth in many parts of the service sector, especially in business and miscellaneous services. Some growth is also expected in non-marketed services and distribution, transport etc. As Figure 6.1 makes clear, if anything manufacturing employment is now expected to decline more rapidly, while growth in services is expected to decelerate compared with trends observed in the past 10 years.

6.23 Employment prospects to 2012 for the broad sectors are as follows.

- The primary and utilities sector is expected to continue to experience significant job losses, but losses are projected to slow after 2005.
- The long-term decline in employment in manufacturing is expected to continue, with a loss of over 0.5 million jobs between 2002 and 2012.
- Construction is projected to maintain fairly stable employment between 2002 and 2012.
- Employment in the distribution, hotels, transport and communications sectors is expected to grow - especially in distribution, which accounts for most of the projected increase of almost 400,000.
- Employment in business and miscellaneous services is forecast to increase by over 100,000 a year between 2002 and 2012, with all industry groups within the sector contributing to growth.
- There is a projected increase of around 400,000 in the number of jobs in non-marketed services, concentrated in education and health services.

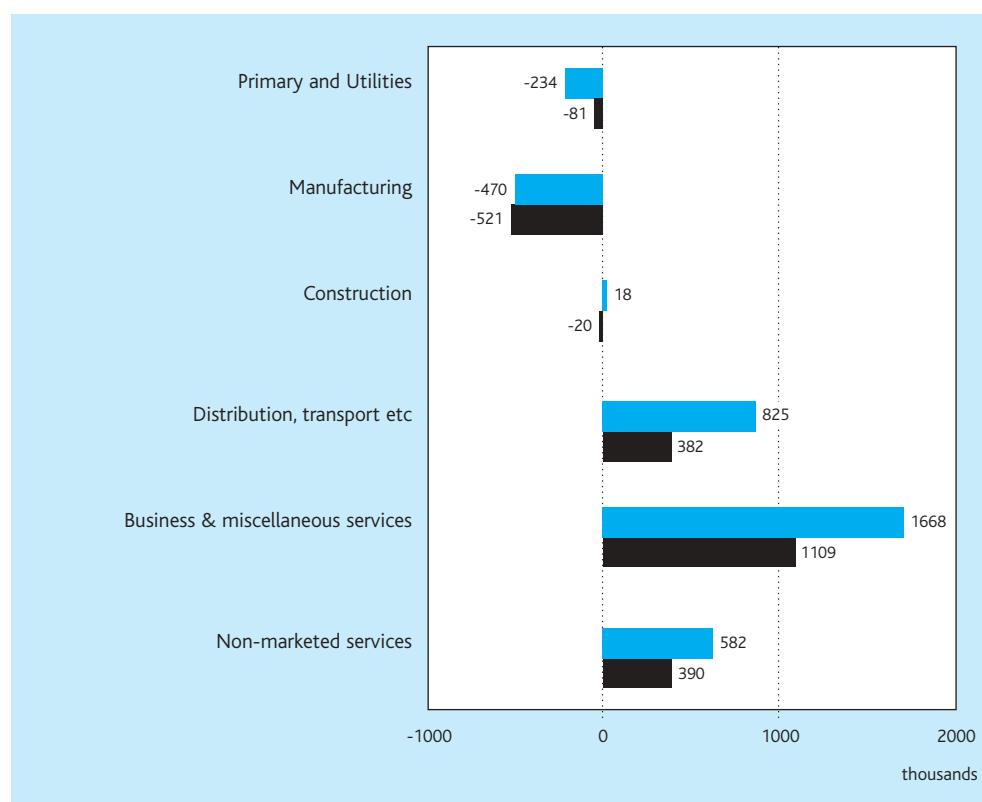
*Sectoral changes are key drivers for the future demand for skills.*

*The prospects for employment change by industry are for job losses in manufacturing and gains in services.*

**Table 6.1: Expected future changes in employment in England by broad sector: 2002-2012**

	Changes, 2002-12				% share of employment in:	
	Output (GVA)		Employment		2002	2012
	%	% p.a.	000s	%		
Primary and utilities	3.4	0.3	-81	-16.7	2.0	1.5
Manufacturing	18.5	1.7	-521	-15.9	13.2	10.5
Construction	19.5	1.8	-20	-1.3	6.3	5.9
Distribution, etc	36.3	3.1	382	5.2	29.8	29.8
Business and misc. services	37.2	3.2	1,109	16.9	26.4	29.4
Non-marketed services	28.2	2.5	390	7.0	22.4	22.8
Total	29.5	2.6	1,259	5.1	100.0	100.0

Source: Wilson et al. (2003).

**Figure 6.1: Employment change by broad sector**

Source: Wilson et al. (2003).

**Note:** Primary and utilities = agriculture, mining and utilities  
 Distribution, etc = retail and wholesale distribution, hotels and catering, and transport and communications.  
 Business and misc. = professional services, banking and business services and other personal services.  
 Non-marketed services = health, education, public administration and defence.

## Detailed Changes in Employment Structure

6.24 A much more detailed picture of the changes expected and how these compare with recent historical experience is shown in Figures 6.2 and 6.3. These show trends in the 27 industries adopted by the LSC and SSDA for more detailed analysis. The importance of services as a source of additional jobs is clear. In most cases the pace of change is projected to be slow. However, computing and related industries remains the fastest growing industry although the rate of growth projected for the next 10 years is less than half that observed over the last decade. All the industries within manufacturing are projected to display a consistent picture of continued decline in employment levels. Especially rapid job losses are projected for textiles and clothing and in transport equipment. These will remain important areas of employment contributing large numbers of jobs. The replacement demands from such industries will continue to result in significant education and training needs in these areas.

6.25 Within manufacturing:

- engineering is the largest contributor to job loss; and
- metals and mineral products, and textiles and clothing, display the largest percentage job losses.

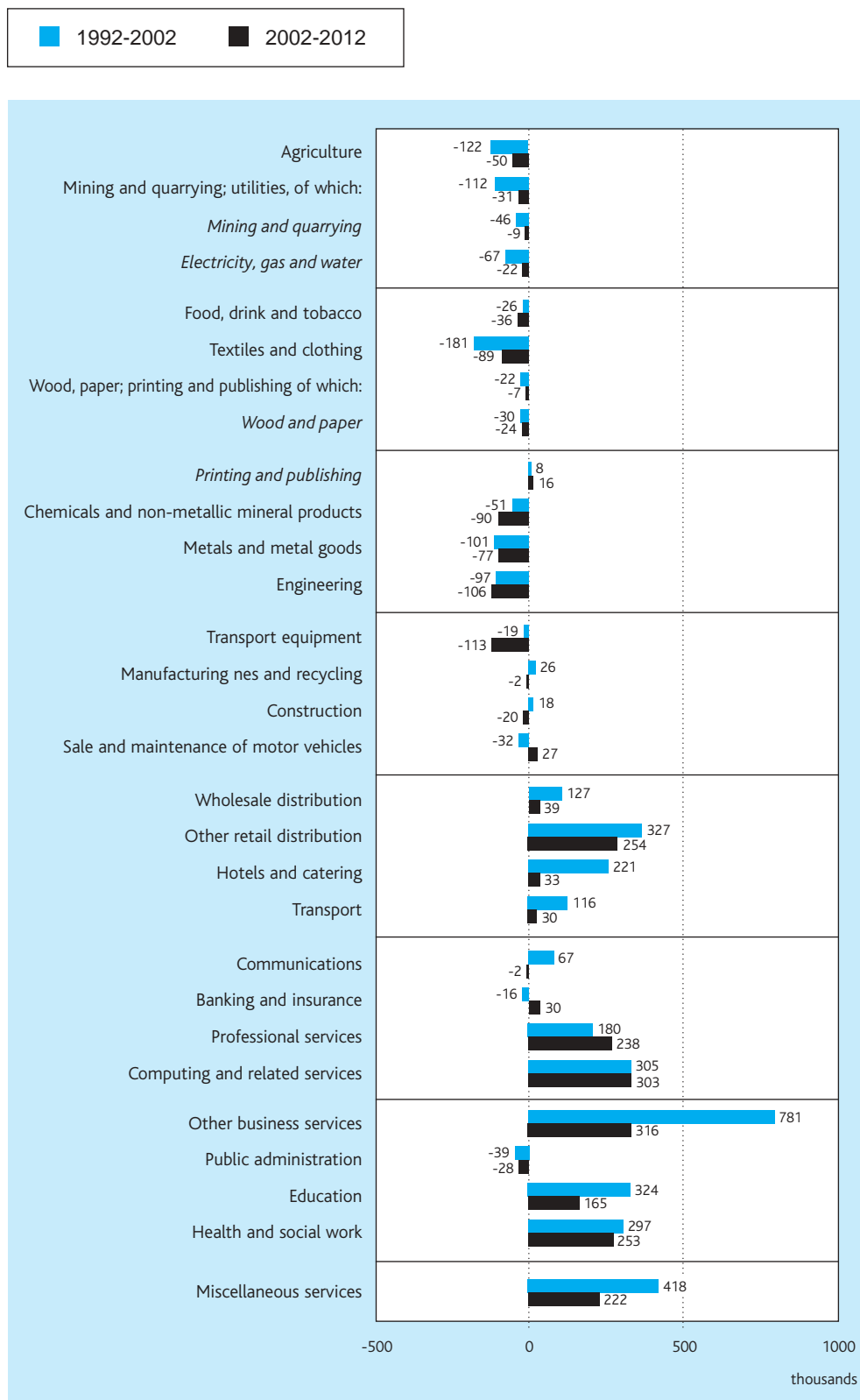
Amongst other services:

- rapid increases are projected in professional services;
- banking and business services and other services are forecast to see more modest increases in non-marketed services;
- all the projected employment growth is accounted for by health and education services; and
- public administration and defence is forecast to see small declines in employment.

*The new projections include the most detailed analyses by sector and geographical area ever produced in the UK.*

*Sectoral changes will continue to favour services at the expense of manufacturing and other production industries.*

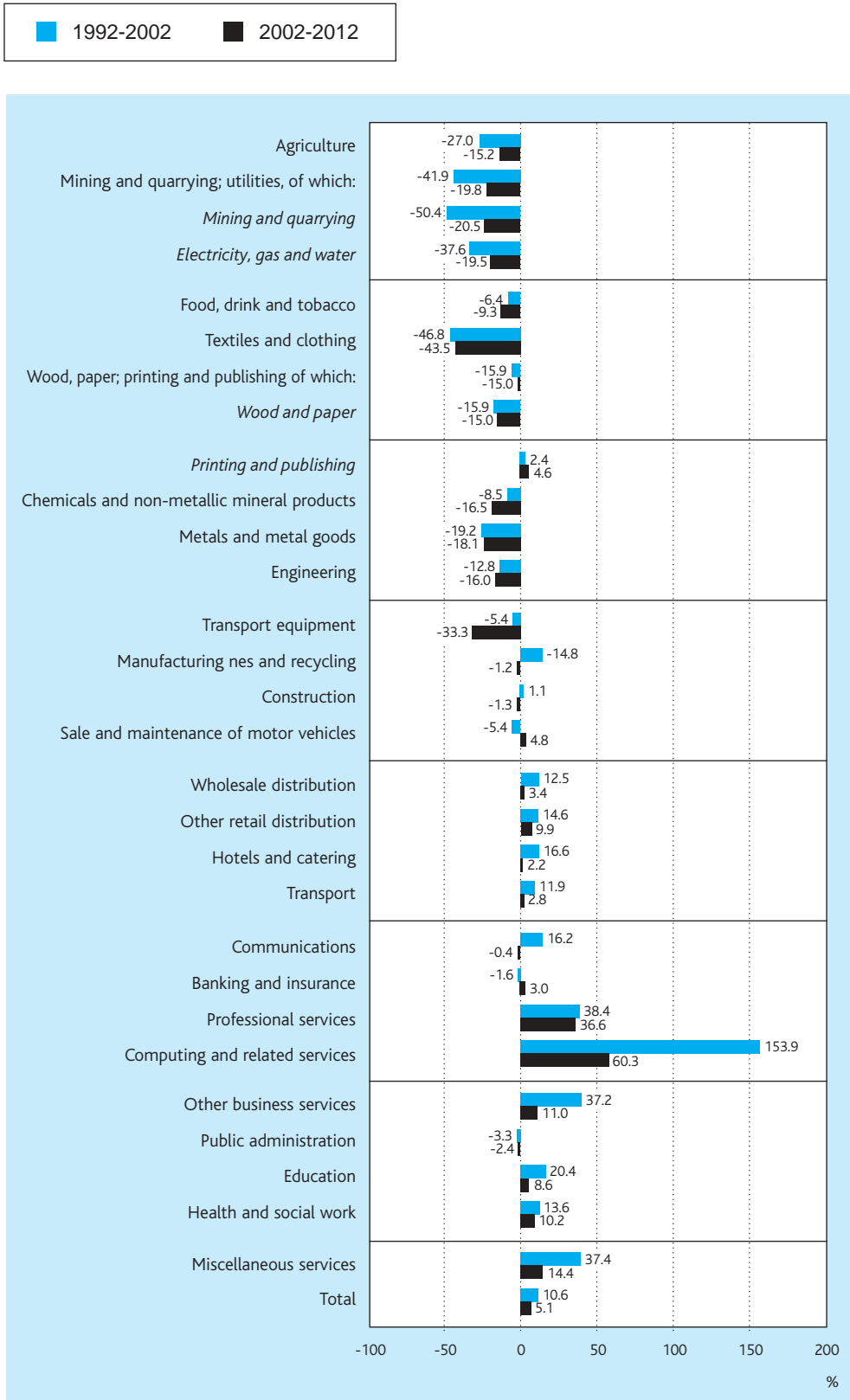
**Figure 6.2: Historical and projected changes in employment by detailed sector, England (000s)**



Source: Wilson et al. (2003).



**Figure 6.3: Historical and projected changes in employment by detailed sector, England (%)**



Source: Wilson et al. (2003).

## Employment Status and Gender

6.26 Changes projected by sector are expected to be accompanied by continuing shifts in the mix of employment by gender and status. This reflects both demand and supply-side factors, including the greater involvement of women in the formal economy and pressures from both supply and demand sides in favour of more flexible work patterns.

6.27 Changes in the industrial composition of employment are expected to have significant implications for aspects of employment structure. In particular:

- the projected decline of employment in the primary and manufacturing sectors is likely to be accompanied by the loss of many more full-time jobs, most of which have traditionally been held by men; and
- the growth of jobs in the service sector will create more opportunities for women, particularly those wanting to work part-time.

6.28 Female employment is expected to grow much faster than for males (see Figure 6.4). Women are expected to account for three-quarters of the additional jobs projected between 2002 and 2012. Growth is expected to be fastest for part-time employment for women, which accounts for around four-fifths of the additional jobs. In contrast to trends during the 1990s, the scale of self-employment is projected to decline. This reflects a tightening up of tax rules associated with self-employment status.

6.29 Female employment in England as a whole is expected to increase by just under a million over the period to 2012, while male employment is projected to increase by about 350,000.

6.30 By 2012 women are expected to account for almost 50 per cent of all employment, although this is heavily concentrated amongst part-time employee jobs.

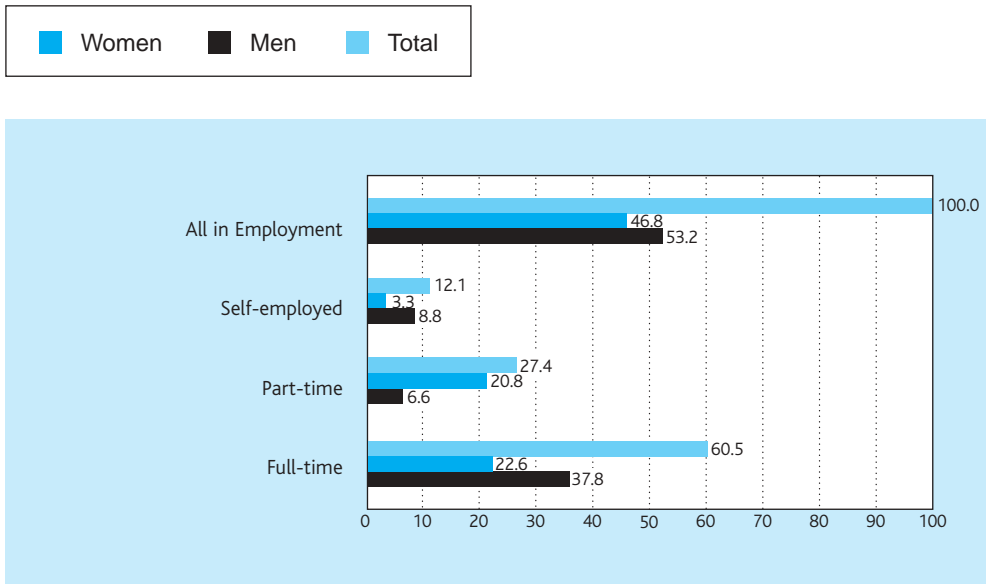
*Further changes in gender and status mix are projected.*

*Patterns of employment by status and gender are also expected to continue to change.*

*Increases for women are projected, especially for part-timers.*

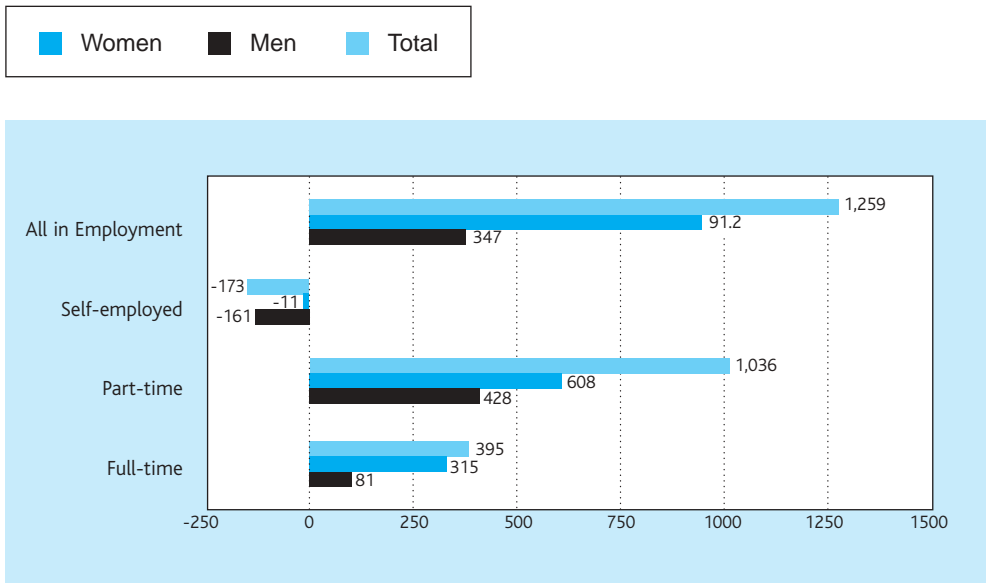
**Figure 6.4: Changing patterns of employment by gender and status, England % shares, 2002**

**2002 Shares**



Source: Wilson et al. (2003).

**Changes, 2002-2012 (000s)**



Source: Wilson et al. (2003).

## Occupational Trends

6.31 The detailed occupational projections are the first to take account of new evidence from the 2001 Census of Population on occupational structure (although they were produced too soon to take account of all the detailed data the Census provides). The new results suggest a number of changes in emphasis in terms of changing occupational/employment structures although the general patterns remain similar to those reported in SIE 2002.

6.32 The latest data from the 2001 Census of Population confirms that the economy is continuing to experience significant changes in the occupational structure of employment. Although the full Census data were not available in time to be incorporated in full detail in the latest projections, the historical data and projected trends have been amended to reflect the headline data made available by ONS.

6.33 The latest estimates suggest more rapid employment growth for managers and for sales and service occupations, offset by more rapid declines for administrative, clerical and secretarial occupations and many skilled trades.

6.34 Considerable changes in the occupational structure of employment are projected over the coming decade. The main driving forces are:

- shifts in the sectoral composition of output (themselves a function of changing patterns of consumer demand and national competitive advantage);
- technological change; and
- other changes in the way that work is organised.

Together, these factors are expected to continue to alter the mix of skills that are required in order to produce the changing patterns of output and services demanded.

6.35 Technological change and continuing pressures of international competition are expected to lead to the continued decline of manufacturing employment, although output levels are expected to rise strongly. The employment decline will result in a further loss of job opportunities for many skilled craft workers and for machine and transport operatives.

6.36 On the other hand, growth of service sector employment is expected to continue to lead to substantial growth in the number of jobs for many other occupations. The anticipated expansion of employment in many non-marketed, public services, for example, will lead to greater demand for many professional, managerial and clerical workers (doctors, nurses, teachers). Within the private sector, the emphasis is more on leisure and other personal service occupations, sales occupations, and for professional and associate professional jobs.

6.37 The changes in sectoral employment structure are expected to be reinforced by changes in the nature of many jobs within particular sectors. Many organisations will be restructuring the way that work is organised and making

*New projections of occupational employment structure are available.*

*The latest Census data confirms that sectoral shifts, technological change and other factors are continuing to affect the demand for different occupations.*

*But there are some changes compared with earlier estimates...*

*...and further change is in prospect.*

*Job losses are projected for many manual workers...*

*...although these will be offset by growth for non-manual and white-collar occupations.*

changes in response to technological innovation, especially related to information technology (IT). The application of IT and its integration with communication technology is at last beginning to have a dramatic effect on many traditional clerical and secretarial jobs.

- 6.38 The latest Census data confirms that the shares of employment in such occupations have begun to decline in many industries. The continued emphasis of such technologies is expected to begin to make inroads into the overall scale of such employment over the next decade.
- 6.39 The introduction of new information and communications (ICT)-based technologies in manufacturing is also expected to displace many skilled manual workers. Many jobs have been taken over by computer-controlled machinery, such as robots in motor manufacturing and assembly.
- 6.40 The management and operation of such technologies is expected to require increased employment for many other occupations. Managerial, professional and associate professional occupations, including technicians of various kinds will be needed to install, maintain, oversee and run such equipment.
- 6.41 ICT is also expected to continue to open up many new areas. This is particularly so in the service sector, where a myriad of new information-based services are expected to be invented and marketed. This will also create many new jobs of a professional, associate professional and managerial nature.
- 6.42 The latest projections are summarised in Figure 6.5, and indicate that the main beneficiaries will be:
- managers;
  - professionals;
  - associate professionals/technical occupations;
  - personal service occupations; and
  - sales and customer service occupations.
- 6.43 In contrast, the projections indicate that significant reductions in employment are expected for:
- administrative, clerical and secretarial occupations;
  - skilled trades;
  - machine and transport operatives; and
  - elementary occupations.
- 6.44 In all cases, flexibility and further skill development while on the job are likely to be required in order to adapt to the rapidly evolving labour market requirements implied by ICT developments.

*New technologies will lead to job losses in many areas...*

*...but will also create many new opportunities...*

*...especially for managers, professionals and associate professionals.*

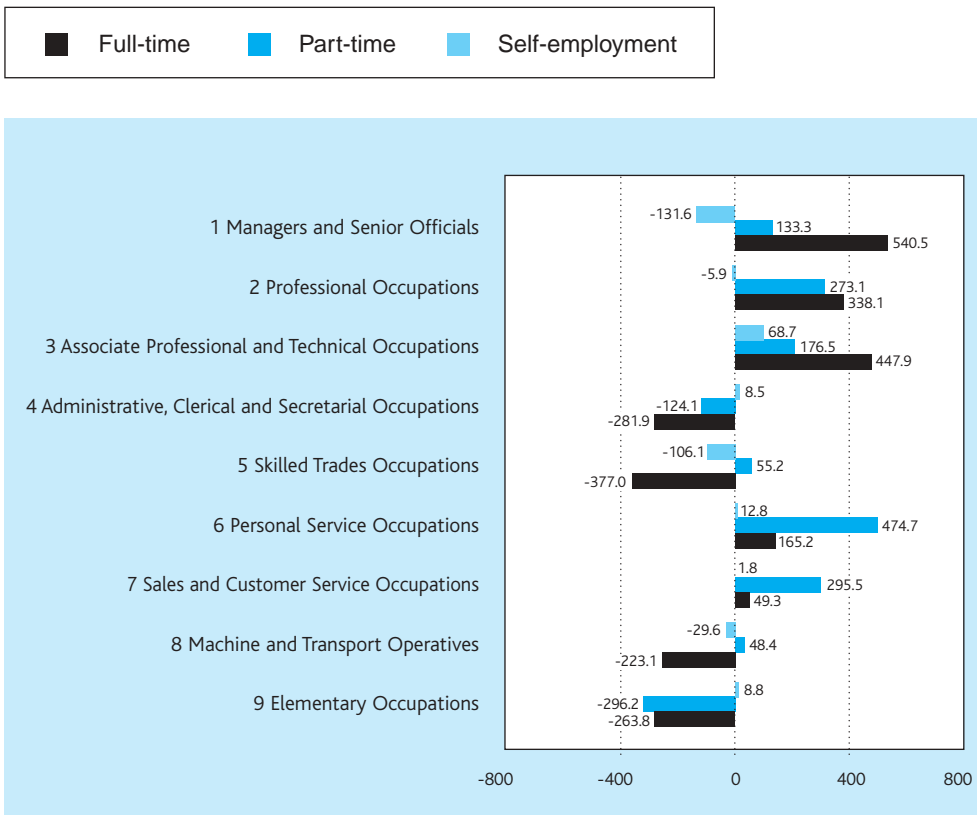
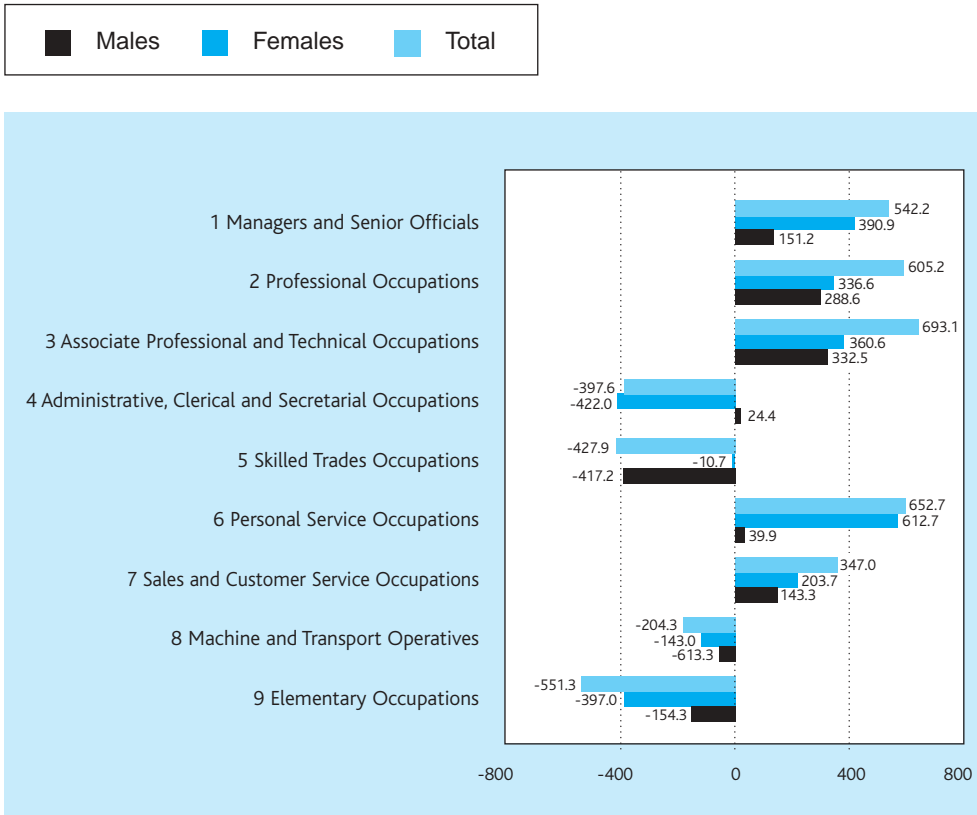
*Job losses will be concentrated amongst administrative, clerical and various blue-collar jobs.*

*Patterns vary by gender.*

*In general, the projected changes represent the continuation of long established trends.*

- 6.45 The occupational structure of employment is different by gender and this is reflected in the changes anticipated. Significant differences are expected for men and women. These are summarised in Figure 6.5. For men, the biggest projected increases are for professionals and associate professionals. For women the largest increases are projected for personal services occupations. Substantial growth is also projected for women in managerial, associate professional and professional occupations.
- 6.46 Job losses for men are concentrated primarily amongst skilled trades. For women it is amongst administrative, clerical and secretarial occupations, operatives and unskilled elementary occupations (including routine clerical jobs and cleaners).
- 6.47 There are also some differences in terms of employment status (full-time, part-time and self-employment). While the growth in associate professional jobs overall is mainly in full-time jobs, in professional jobs a substantial increase in part-time and self-employment is also expected. For managers, the main growth is in full-time employment. In both administrative/clerical/secretarial occupations and in sales and customers services, a substantial growth in part-time employment is projected, offsetting a sharp decline in full-time jobs.
- 6.48 Generally these projected changes can be seen as a continuation of long-term trends. Significant increases are projected for white-collar, non-manual employment, especially in the service sector. On the downside blue-collar, manual jobs, largely but not exclusively associated with manufacturing and primary sectors, are projected to decline. The main exception is for administrative, clerical and secretarial occupations. For this group, developments in IT/computing are now expected to lead to a loss of jobs compared with the previous trend of steady growth for many years. This process particularly impacts on women.

**Figure 6.5: Occupational change by gender and status, England, 2002-12 (000s)**



Source: Wilson et al. (2003).

*More detailed occupational projections reveal a more complex pattern.*

6.49 Projections at the more detailed level of the 25 sub- major occupational groups are presented in Table 6.2 and Figure 6.6. These highlight that the largest employment increases are expected for:

- managers; and
- caring personal service occupations.

Substantial increases are also projected for:

- teaching and research professionals;
- science and technology professionals;
- business and public service professionals;
- business and public service associate professionals;
- culture media and sports occupations;
- sales occupations; and
- customer service occupations.

These eight groups account for the growth of 2.3 million jobs over the period 2002-2012.

6.50 Corporate managers will remain by far the largest occupational category, alone accounting for 3.5 million jobs. Despite job losses, it is expected that administrative and clerical occupations, clerical and services-related elementary occupations, caring personal service occupations, sales occupations, business and public service professionals, and business and public service associate professionals will remain the most significant areas of employment. These seven occupational groups are projected to account for well over half of all jobs in 2012. As noted below, even where occupations are expected to see declining job numbers, this does not mean that there will not continue to be large numbers of job openings in these areas, with concomitant education and training implications.

*Managers, administrative and clerical occupations will continue to be the largest categories of employment.*



**Table 6.2: Occupational change, SOC sub-major group, England, 2002-2012**

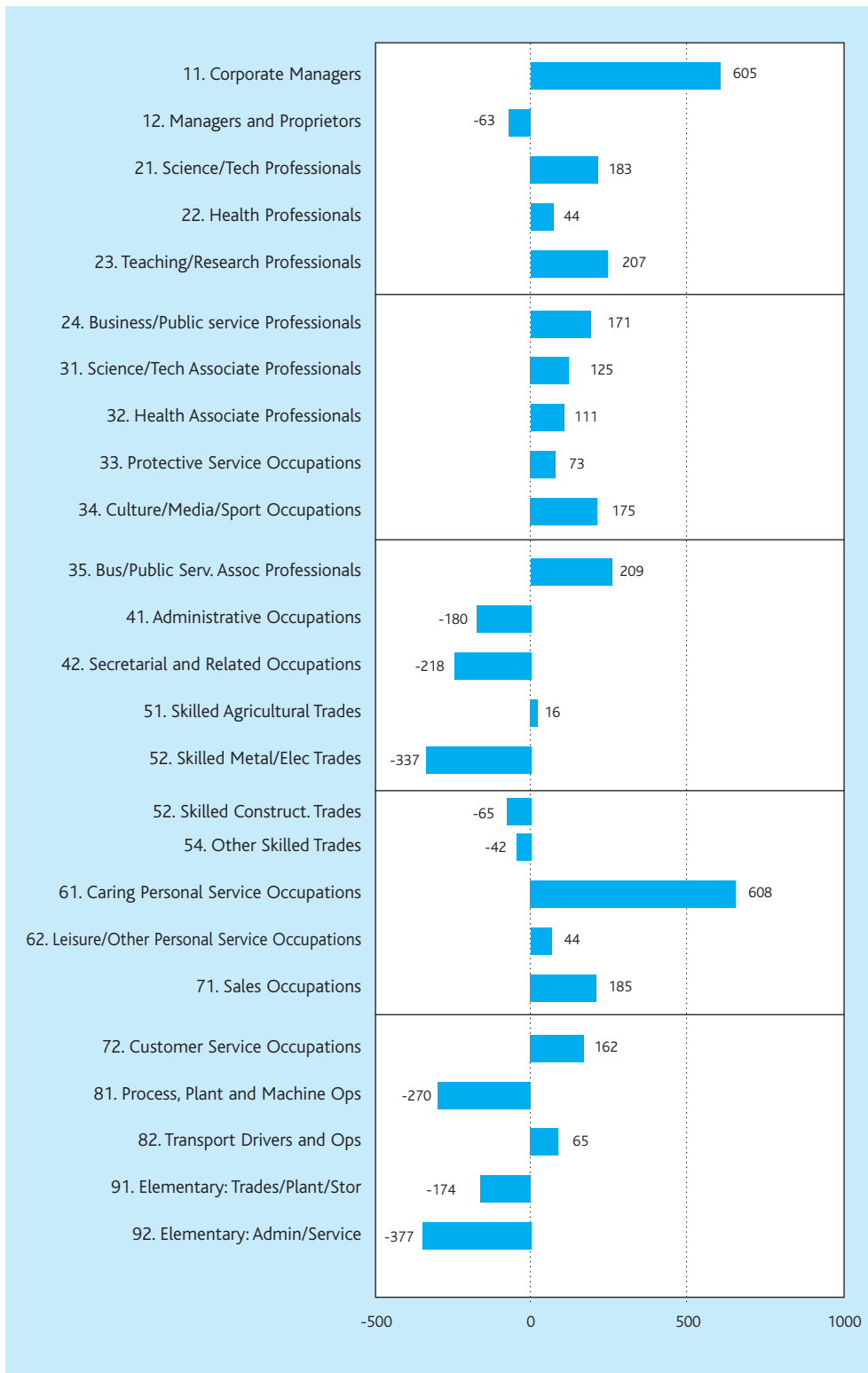
	2002		2012		Change 2002-12		% shares	
	000s	%	000s	%	000s	%	2002	2012
Corporate Managers	2,853	21.2	3,458	21.2	605	2.1	11.5	13.3
Managers/Proprietors in Agriculture and Services	941	-6.7	879	-6.7	-63	-6.7	3.8	3.4
Science and Technology Professionals	783	23.4	966	23.4	183	23.4	3.2	3.7
Health Professionals	217	20.2	261	20.2	44	20.2	0.9	1.0
Teaching and Research Professionals	1,119	18.5	1,326	18.5	207	18.5	4.5	5.1
Business and Public Service Professionals	685	24.9	855	24.9	171	24.9	2.8	3.3
Science and Technology Associate Professionals	504	24.9	630	24.9	125	24.9	2.0	2.4
Health and Social Welfare Associate Professionals	831	13.4	942	13.4	111	13.4	3.3	3.6
Protective Service Occupations	334	22.0	408	22.0	73	22.0	1.3	1.6
Culture, Media and Sports Occupations	546	31.9	721	31.9	175	31.9	2.2	2.8
Business and Public Service Associate Professionals	1,310	15.9	1,518	15.9	209	15.9	5.3	5.8
Administrative and Clerical Occupations	2,398	-7.5	2,218	-7.5	-180	-7.5	9.7	8.5
Secretarial and Related Occupations	871	-25.0	653	-25.0	-218	-25.0	3.5	2.5
Skilled Agricultural Trades	278	5.6	294	5.6	16	5.6	1.1	1.1
Skilled Metal and Electrical Trades	1,110	-30.3	773	-30.3	-337	-30.3	4.5	3.0
Skilled Construction and Building Trades	877	-7.4	813	-7.4	-65	-7.4	3.5	3.1
Textiles, Printing and Other Skilled Trades	535	-7.9	492	-7.9	-42	-7.9	2.2	1.9
Caring Personal Service Occupations	1,322	46.0	1,931	46.0	608	46.0	5.3	7.4
Leisure and Other Personal Service Occupations	493	9.0	537	9.0	44	9.0	2.0	2.1
Sales Occupations	1,621	11.4	1,806	11.4	185	11.4	6.5	6.9
Customer Service Occupations	345	47.0	508	47.0	162	47.0	1.4	1.9
Process, Plant and Machine Operatives	1,158	-23.3	888	-23.3	-270	-23.3	4.7	3.4
Transport and Mobile Machine Drivers and Operatives	895	7.3	961	7.3	65	7.3	3.6	3.7

Table 6.2: Occupational change, SOC sub-major group, England, 2002-2012 (continued)

	2002	2012	Change 2002-12		% shares 2002	% shares 2012
			000s	%		
Elementary Occupations: Trades, Plant and Machine Related	949	774	-174	-18.4	3.8	3.0
Elementary Occupations: Clerical and Services-Related	1,856	1,479	-377	-20.3	7.5	5.7
<b>Total</b>	24,832	26,091	1,259	5.1	100.0	100.0

Source: Wilson et al. (2003)

**Figure 6.6: Occupational change, SOC sub-major group, England, 2002-2012**



Source: Wilson et al. (2003).

*Previous projections distinguished over 80 occupations.*

*At this level the patterns of change are very diverse.*

*Leisure, caring and business-related occupations, including ICT professionals, are projected to grow fastest.*

## More Detailed Occupational Projections

- 6.51 Previous studies have developed even more detailed occupational projections, (Wilson, 2001a). These included detailed results for 81 groups (three digit) of the SOC 2000 classification. While these are based on a different set of macroeconomic and employment projections than the most recent set of results presented above, they can still provide some useful additional information:
- to those planning education and training provision;
  - to providers of education and training;
  - to those providing careers information and advice; and
  - about the changing nature of the demand for skills.
- 6.52 These earlier results were for the whole of the UK. Corresponding data are not available for England but patterns of change are likely to be similar to those shown here. The patterns of change are quite diverse. The annual rates of change vary from very high rates of growth for occupations such as leisure and travel service occupations increasing by almost 5 per cent p.a. to quite precipitous job losses (for categories like housekeepers at -6 per cent a year).
- 6.53 Some of the occupational groups projected to experience the most rapid growth (more than 3 per cent a year) included:
- caring and personal services occupations;
  - healthcare and related personal service;
  - business and statistical professionals;
  - leisure and travel service occupations;
  - ICT professionals; and
  - childcare and related personal services.
- 6.54 A number of relatively large occupational groups were projected to experience quite rapid job losses (more than 2 per cent a year). These included cleansing service elementary occupations and plant and machine operatives.
- 6.55 These projections indicated quite wide variations in growth prospects within many of the broader groupings. This indicates the importance of considering more detailed breakdowns. For example, amongst managers, while the number of jobs for health and social services managers were projected to increase quite rapidly, the numbers of managers and proprietors in agriculture and service industries were projected to fall. These differences reflect different prospects for individual industries as well as detailed changes in work patterns within industries.

6.56 Other occupations which were projected to experience rapid growth were in the professional and associate professional occupations. These included:

- legal and professions;
- health professionals;
- design, media, artistic and literary; and
- sports and fitness.

In contrast, the draughts persons and building inspectors group was projected to show one of the fastest rates of decline.

6.57 Most blue-collar occupations were expected to see quite rapid job losses. These included:

- metal working trades;
- textile and garment trades;
- skilled craft jobs in metal forming;
- metal machining;
- electronics and vehicle assembly; and
- plant and machine operatives.

Some job growth was anticipated for transport drivers and operatives. Substantial job losses were expected for many of the least skilled categories, including:

- elementary agricultural trades; and
- cleansing service operatives.

Some growth was anticipated for elementary security and safety services.

6.58 Most clerical and secretarial occupations were projected to experience well below average employment growth in these earlier forecasts. These prospects would be even less optimistic given the declines now projected for the sub-major group as a whole in the latest projections.

## Replacement Demand

6.59 Projected changes in the level of employment may give a misleading impression of priorities for education and training. It is also important to consider so-called replacement demands. These reflect the need to replace the skills that will be lost because of the normal process of labour turnover as people retire from the workforce or leave for other reasons. The scale of such replacement demands can be significant.

*It is amongst particular blue-collar manual occupations, especially the least skilled categories, that the largest job losses are expected.*

*Replacement demands may be as important as projected net changes in employment*

*These reflect the need to replace those leaving the workforce because of retirement, etc.*

*Replacement demands easily outweigh projected job losses in all occupations...*

*...even in cases such as admin. and clerical or skilled trades, where quite sharp declines are projected in overall numbers.*

*Estimates have been produced by region although these are based on limited data.*

*They highlight the strong replacement demands, even for regions where overall employment prospects are less optimistic.*

- 6.60 Even in those occupations where there are significant employment declines projected there may well be many new job openings. These reflect the need to educate and train people with the appropriate skills to replace those leaving. The latest projections (Wilson *et al.* 2003) include estimates of both so-called expansion demand (which can be negative where employment levels are projected to fall) as well as replacement demands. For most occupations the latter is much more significant.
- 6.61 Combining replacement demands with the projected expansion demand, an estimate of the overall requirement for each occupation can be obtained. Results for each of the 25 occupational sub-major groups are set out in Table 6.3 and Figure 6.7. This information relates to the whole of England. Replacement demands outweigh the net projected decline in all occupations where job losses are expected. Between 2002 and 2012 there is expected to be an overall requirement of some 11.5 million new job openings. Retirements from the workforce are the main component of replacement demands.
- 6.62 Replacement demands more than offset the projected declines in employment in all occupations. For example, in occupations such as administrative and clerical occupations, secretarial and related occupations, skilled metal and electrical trades (as well as other skilled trades), process plant and machine operatives, and elementary occupations, total requirements are strongly positive despite negative expansion demand. In other cases, expected retirements will add to positive expansion demand to create even higher overall requirements for new entrants to these occupations.
- 6.63 In principle, replacement demands will vary across regions and sectors depending upon the gender and age structures of their workforces as well as variations in the rates of flows, including geographical and other mobility flows. But in practice, measuring these is far from straightforward. Currently, the estimates of age structures and rates of flows are based on the LFS. While this is adequate to generate reasonably robust estimates at national level, the sample size is too small to produce meaningful estimates differentiated by sector or by region. The estimates here are therefore based on the same assumptions about age structures and flow rates as at national (UK) level.
- 6.64 Nevertheless, such benchmark estimates are useful in emphasising that even for sectors and regions where quite sharp employment losses are projected, replacement demands are likely to be more than sufficient to outweigh these trends. Table 6.4 presents such estimates for the nine English Regions for SOC major groups. Table 6.5 presents corresponding estimates for 14 sectors.
- 6.65 The regional results highlight the fact that employment is projected to fall in all regions for occupational groups such as: SOC 4, admin, clerical and secretarial; SOC 5, skilled trades; SOC 8, transport and machine operatives; and SOC 9, elementary occupations. Replacement demands are substantial for all these groups, more than offsetting such negative trends. In every region total requirements are positive for all the SOC major groups. There will therefore be important education and training needs for people to enter such occupations, despite the fact that the overall numbers are projected to decline.

- 6.66 Similarly, at a sectoral level there are common patterns across all occupations. As at an aggregate regional level, expansion demand is negative in almost every industry for the same four occupational categories (SOC major groups 4, 5, 8 and 9). The few exceptions are all quite trivial. Replacement demands are positive throughout and in all cases outweigh any negative expansion demands.
- 6.67 In many industries total requirements for SOCs 4, 5, 8 and 9 are substantial. In all four occupational groups total requirements amount to at least 0.5 million new job openings over the period 2002-12. In the case of SOC 4 (administrative, clerical and secretarial occupations), there are projected to be well over a million such openings despite the overall decline in the total number of such jobs.
- 6.68 In the case of other occupations, replacement demands reinforce positive expansion demands to result in even greater numbers of new job openings, requiring educated and trained entrants. To a large extent the patterns by sector reflect the overall size in terms of employment. The largest requirements are therefore in sectors such as retail distribution and other business activities, while they are only tiny in utilities and mining and quarrying (which now employ relatively small numbers of people).

*Estimates by individual sector have also been produced...*

*...which illustrate similar trends.*

*The overall scale of replacement demands is driven primarily by the size of the sector in terms of employment.*

**Table 6.3: Replacement demand by SOC sub-major group, England, 2002-2012 (000s)**

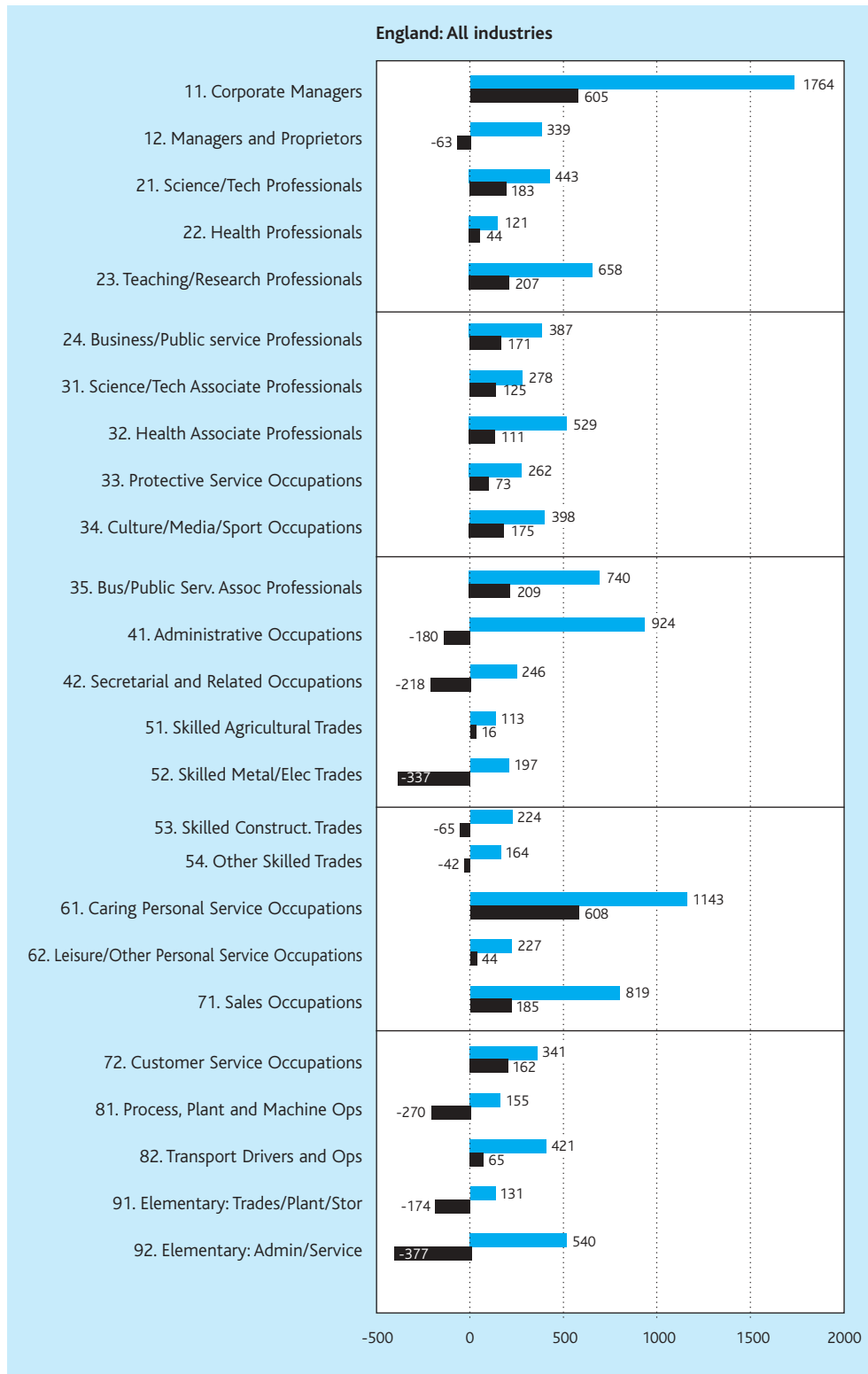
	(1) Expansion demand (or decline)	(2) Retirement and mortality	(3) Overall requirement (1+2)
1. Corporate Managers	601	1,162	1,763
2. Managers / Proprietors in Agriculture and Services	-47	403	356
3. Science and Technology Professionals	155	260	415
4. Health Professionals	45	76	121
5. Teaching and Research Professionals	228	453	681
6. Business and Public Service Professionals	164	215	379
7. Science and Technology Associate Professionals	124	153	277
8. Health and Social Welfare Associate Professionals	124	420	544
9. Protective Service Occupations	71	189	260
10. Culture, Media and Sports Occupations	178	222	400
11. Business and Public Service Associate Professionals	221	531	752
12. Administrative and Clerical Occupations	-131	1,105	973
13. Secretarial and Related Occupations	-188	468	280
14. Skilled Agricultural Trades	16	96	112
15. Skilled Metal and Electrical Trades	-341	533	192
16. Skilled Construction and Building Trades	-58	286	228
17. Textiles, Printing and Other Skilled Trades	-46	205	159
18. Caring Personal Service Occupations	616	534	1,150
19. Leisure and Other Personal Service Occupations	46	183	229
20. Sales Occupations	199	635	834
21. Customer Service Occupations	169	179	348
22. Process, Plant and Machine Operatives	-277	425	148
23. Transport and Mobile Machine Drivers and Operatives	64	355	419
24. Elementary Occs: Trades, Plant and Machine-Related	-181	306	125
25. Elementary Occs: Clerical and Services-Related	-491	912	421
<b>Total</b>	<b>1,259</b>	<b>10,306</b>	<b>11,565</b>

**Source:** Wilson et al. (2003).

**Note:** These estimates do not allow for any losses due to occupational or geographical mobility.



**Figure 6.7: Net requirements and expansion demand by SOC 2000 sub-major group, England, 2002-2012**



Source: Wilson et al. (2003).

Note: These estimates do not allow for any losses due to occupational or geographical mobility.

Table 6.4: Replacement demand by occupation by region, 2002-2012

a) Expansion demand (000s) Region	Occupational Group									All occs.
	1	2	3	4	5	6	7	8	9	
London	147	183	235	-153	-76	72	28	-49	-99	288
South East	127	97	117	-96	-36	119	58	-13	-61	312
East of England	80	68	81	-45	-35	69	29	-10	-47	189
South West	39	52	48	-43	-27	67	48	-14	-49	120
West Midlands	34	46	62	-12	-67	82	42	-25	-66	94
East Midlands	36	39	37	-19	-48	71	33	-23	-56	70
Yorks and the Humber	37	40	36	-1	-52	66	48	-20	-63	91
North West	33	68	65	-18	-66	83	44	-43	-81	86
North East	10	13	14	-10	-21	24	17	-8	-30	9
England	542	605	693	-398	-428	653	347	-204	-551	1259

Table 6.4: Replacement demand by occupation by region, 2002-2012 (continued)

Region	Occupational Group										All occs.
	1	2	3	4	5	6	7	8	9		
London	332	221	359	298	154	102	116	86	182	1,852	
South East	298	173	264	280	178	117	134	102	193	1,740	
East of England	175	102	152	165	125	71	86	81	130	1,086	
South West	149	96	135	148	125	78	91	74	128	1,024	
West Midlands	138	93	138	158	136	79	84	105	132	1,064	
East Midlands	116	71	102	116	96	66	67	81	106	820	
Yorks and the Humber	128	84	122	140	112	73	83	92	127	961	
North West	175	129	183	201	148	97	112	117	163	1,324	
North East	51	36	57	61	53	32	40	41	62	434	
England	1,561	1,004	1,513	1,567	1,127	717	813	780	1,223	10,305	

Table 6.4: Replacement demand by occupation by region, 2002-2012 (continued)

c) Overall requirement (000s) Region	1	2	3	4	5	6	7	8	9	All occs.
London	479	403	594	145	78	174	144	38	83	2,139
South East	424	269	381	185	142	237	193	89	132	2,051
East of England	254	169	233	120	90	140	114	71	83	1,275
South West	188	149	183	105	98	144	139	60	79	1,145
West Midlands	172	139	200	146	69	162	126	80	65	1,158
East Midlands	152	109	139	96	49	137	100	58	50	890
Yorks and the Humber	165	124	158	138	59	139	131	72	65	1,053
North West	208	197	247	183	82	180	157	74	81	1,410
North East	61	49	71	51	32	56	56	34	33	443
England	2,104	1,609	2,206	1,169	699	1,369	1,160	576	671	11,564

Source: Wilson et al. (2003).

Note: a) These estimates do not allow for any losses due to occupational or geographical mobility.

b) Shaded areas show projected declines.

c) Occupational groups:

1 Managers and senior officials

2 Professional

3 Associate prof. and technical

6 Personal service

4 Admin. clerical and secretarial

5 Skilled trades

6 Personal service

7 Sales and customer service

8 Transp. and machine operatives

9 Elementary

Table 6.5: Replacement demand by occupation by sector, England, 2002-12

Sector	Occupational Group										All occs.
	1	2	3	4	5	6	7	8	9	10	
1. Agriculture, hunting, forestry and fishing	-2	0	0	-1	-12	8	0	-6	-38	-50	
2. Mining and quarrying	0	-1	0	-1	-3	0	0	-2	-2	-9	
6. Electricity, gas and water	0	-1	0	-8	-7	0	-1	-2	-3	-22	
3. Food, drink and tobacco	4	1	3	-4	-12	0	2	-15	-15	-36	
4. Engineering	-1	0	1	-18	-44	-1	0	-25	-17	-106	
5. Rest of manufacturing	0	-4	13	-43	-139	4	5	-130	-84	-379	
7. Construction	35	14	20	-13	-67	1	5	2	-18	-20	
8. Retail distribution	69	31	77	-38	-57	88	199	1	-51	320	
9. Hotels and restaurants	-6	3	16	-5	5	44	16	1	-41	33	
10. Transport, storage and communication	40	11	23	20	-59	17	27	-17	-33	28	
11. Banking and insurance	21	17	23	-50	-1	2	21	1	-5	30	
12. Other business activities	237	257	302	-96	-3	115	50	17	-23	857	
13. Public admin. and defence	25	10	18	-58	-13	26	5	-10	-31	-28	
14. Education	25	165	31	-26	-7	56	3	-9	-72	165	
15. Health and social work	54	49	62	-51	-8	227	3	-11	-73	253	
16. Non-marketed services	41	52	105	-6	-1	65	11	2	-46	222	
All Sectors	542	605	693	-398	-428	653	347	-204	-551	1,259	

Table 6.5: Replacement demand by occupation by sector, England, 2002-12 (continued)

b) Replacement demand (000s) Sector	1	2	3	4	5	6	7	8	9	All occs.
1. Agriculture, hunting, forestry and fishing	9	1	2	4	41	9	1	9	40	116
2. Mining and quarrying	2	1	1	2	4	0	0	3	2	16
6. Electricity, gas and water	4	4	4	11	10	1	4	4	4	45
3. Food, drink and tobacco	19	5	13	15	23	1	11	42	26	154
4. Engineering	40	21	30	29	66	3	6	43	23	261
5. Rest of manufacturing	113	37	89	95	199	15	24	195	109	876
7. Construction	72	25	28	51	270	2	8	55	60	569
8. Retail distribution	321	38	143	188	197	55	539	116	159	1,757
9. Hotels and restaurants	195	7	38	50	69	24	32	13	276	704
10. Transport, storage and communication	61	21	46	129	91	23	26	147	87	630
11. Banking and insurance	60	24	50	209	12	6	36	7	21	425
12. Other business activities	309	215	327	391	73	109	69	56	110	1,658
13. Public admin. and defence	60	44	125	153	16	22	11	16	58	504
14. Education	46	396	117	59	9	75	10	17	89	818
15. Health and social work	134	109	357	113	18	285	18	17	73	1,124
16. Non-marketed services	117	57	143	67	29	88	18	40	87	645
All Sectors	1,561	1,004	1,513	1,567	1,127	717	813	780	1,223	10,305

Table 6.5: Replacement demand by occupation by sector, England, 2002-12 (continued)

b) Total requirements (000s) Sector	1	2	3	4	5	6	7	8	9	All occs.
1. Agriculture, hunting, forestry and fishing	7	1	2	3	29	17	2	3	2	66
2. Mining and quarrying	2	0	1	1	1	0	0	1	0	7
6. Electricity, gas and water	4	3	4	3	3	1	3	2	1	24
3. Food, drink and tobacco	23	6	16	11	11	1	13	27	11	118
4. Engineering	39	21	31	11	21	3	6	17	6	155
5. Rest of manufacturing	113	33	101	52	59	18	29	65	25	496
7. Construction	107	39	48	38	203	3	13	57	42	549
8. Retail distribution	390	69	221	150	140	143	739	118	108	2,077
9. Hotels and restaurants	189	10	54	46	74	68	48	14	234	738
10. Transport, storage and communication	101	31	69	149	32	40	53	130	54	658
11. Banking and insurance	81	41	73	159	11	8	57	9	16	455
12. Other business activities	546	472	629	295	70	225	120	72	87	2,515
13. Public admin. and defence	85	54	143	95	3	47	16	6	26	476
14. Education	71	561	148	33	2	131	12	9	16	984
15. Health and social work	189	158	418	62	11	512	21	6	0	1,377
16. Non-marketed services	158	109	248	60	28	153	29	41	41	867
All Sectors	2,104	1,609	2,206	1,169	699	1,369	1,160	576	671	11,564

Source: Wilson et al. (2003).

Notes: See previous table.

*Previous forecasts provide some guide to the future demand for qualifications.*

*The demand for qualified people will depend on changes in occupational mix as well as changing qualification requirements within those jobs.*

*However, the link between occupation and qualification is not rigid and much of the recent growth in qualified employment has been as much supply as demand driven.*

*The combination of occupational change and rising average qualification requirements will lead to rapid growth, especially for higher-level qualifications.*

## Changes in the Demand for Qualifications

- 6.69 The latest set of employment projections produced on behalf of the SSDA/LSC do not include forecasts of qualifications. Previous results, however, published in Wilson (2001a) provide some useful indications of likely developments. Were they to be updated and linked to the most recent occupational projections, they would probably reveal a similar picture.
- 6.70 The future demand for qualified people will depend on a combination of the changes in occupational structure and changes in the proportion of people employed in these occupations requiring particular qualifications. The pattern of occupational employment is changing in such a manner as to increase the demand for better-qualified persons. The occupations which are increasing in importance tend to require higher qualifications, whereas those in decline are much less demanding.
- 6.71 In practice, there is not a rigid link between occupations and qualifications. For most occupations there is quite a wide range of qualifications which are acceptable. Typically, recent entrants are better qualified than those reaching retirement age. The average levels of qualifications held by those in employment have therefore risen because of this supply-side cohort effect. Nevertheless, as noted in Chapter 3, there is clear evidence that in many cases there is a real increase in requirements from the demand side as well.
- 6.72 The combination of rapid growth in the numbers employed in several occupational groups where the qualification levels are relatively high (e.g. corporate managers, professionals, and associate professionals in particular), together with the decline in several other occupational groups (e.g. administrative, clerical and secretarial and related occupations, as well as process, plant and machine operatives) where the qualification levels are relatively low, will in itself lead to an overall increase in the demand for higher-level qualifications. If this is combined with the projected changes in qualifications mix then substantial increases can be expected, as indicated in Table 6.6.



**Table 6.6: Projected change in demand for qualifications in England, 1999-2010 (000s)**

Occupation	Employment change <sup>b</sup>	Change in demand for those qualified to:				
		NVQ4+	NVQ3	NVQ2	NVQ1	No quals.
Corporate managers	244	336	156	-24	-188	-37
Managers in agriculture and services	-278	-47	-71	-14	-93	-53
Science and engineering profess.	228	211	29	-3	-7	-2
Health professionals	137	123	-1	2	14	0
Teaching professionals	448	442	-6	-1	13	0
Professional	358	363	18	-5	-18	0
Science and engineering assoc. profs.	77	74	21	-4	-10	-3
Health associate professionals	82	104	-13	-2	-7	0
Other associate professionals	327	318	64	0	-44	-11
Clerical	-82	52	-21	-5	-39	-69
Secretarial	-130	-8	-64	-15	-26	-17
Skilled construction trades	21	2	19	-4	27	-24
Skilled engineering trades	-28	-4	12	-13	-4	-18
Other skilled trades	-85	-10	4	-17	9	-70
Protective service	52	16	47	1	-3	-9
Personal service	422	66	34	41	379	-98
Sales representatives	-11	6	-9	-2	1	-6
Other sales	30	14	96	19	-21	-79
Indust. plant and machine operatives	41	-1	-16	2	154	-98
Drivers and mobile m/c operatives	17	1	-5	-3	47	-23
Other occupations in agriculture etc.	-24	-2	-7	-1	-8	-6
Other elementary	88	1	-2	14	225	-151
<b>Total</b>		<b>1933 <sup>b</sup></b>	<b>283</b>	<b>-33</b>	<b>402</b>	<b>-776</b>
As a percentage of new jobs <sup>a</sup>	100	106 <sup>a</sup>	15	-2	21	-40
Change as a percentage of current workforce qualified to each NVQ level in 2000		34	7	-1	8	-27

**Source:** Wilson (2001a), balance demand scenario.

**Note:** a) The percentages can exceed 100 per cent, since some offsetting changes are negative.

b) These results are based on an earlier round of occupational employment projections. However, general trends are unlikely to have changed significantly. They also relate to a slightly different period (1999-2010).

- 6.73 These results, although based on a different set of occupational employment projections and covering a slightly different period, can still provide a useful indication of underlying trends. The majority of the net increase in jobs was projected to be at NVQ Level 4 or above. Around a quarter of all the new jobs were expected to be for those qualified to NVQ Level 3 and just under a fifth at NVQ Level 2 or equivalent. The demand for those without any formal qualifications was projected to fall. The most rapid growth at NVQ Level 4 was amongst 'other' professionals, 'other' associate professionals and teaching professionals. At NVQ Level 3 or equivalent, the growth was projected to be greatest amongst personal service occupations and 'other' associate professionals.
- 6.74 In this scenario, nearly a third of those in employment were projected to be qualified to NVQ Level 4/5 or equivalent by the end of the decade. In contrast, fewer than 10 per cent were projected to have no formal qualifications. Similar patterns would be likely to emerge were these projections to be updated and linked to the latest occupational employment projections.

### Trends in Skill Requirements

- 6.75 As noted in Chapter 3, employers are also placing increasing emphasis upon various key and generic skills such as communication, IT, team working, problem solving, reasoning and work process skills. Previous projections have also considered how these might change in the coming decade. Results based on the 1997 Skills Survey were published in 2000/2001 (Wilson, 2001a).
- 6.76 Again, although these projections have not been updated, they can still provide some useful insight into the likely change in the pattern of demand for such skills. These results are discussed in greater detail in SIE 2002.
- 6.77 The results from the previous projections suggested that many skills were likely to become increasingly important, including verbal skills, numerical skills, planning skills and various types of communication skills. Manual skills were projected to be of decreasing importance. Verbal skill requirements were projected to increase, especially amongst managers. Numerical skills were projected to increase in importance among administrative, clerical and secretarial occupations. The need for planning skills was projected to rise among sales occupations. Communication skills were projected to increase most amongst managers (both within the workplace and when dealing with clients).
- 6.78 The Skills Surveys (Felstead *et al.*, 2002) also enabled an analysis of trends in other kinds of work skills including:
- autonomy (reflecting closeness of supervision and the extent of choice over job tasks);
  - required qualifications (reflecting the level of qualifications someone would need today to get the type of job an individual already held);

*The demand for basic, key and generic skills is also projected to increase.*

*Previous projections can provide some guidance on likely developments.*

*Verbal, numerical planning and various communications skills will be in greater demand.*

- training time (reflecting the amount of training since starting the type of work they do that had been undertaken);
- learning time (reflecting how long it took workers to learn how to do the job well); and
- a composite index of the above.

6.79 When changes in the demand for these kinds of skills were projected (Wilson, 2001a), they suggested an increase in training time needed, and in required qualifications. A small increase in learning time was also projected but there was no real change expected in relation to autonomy. There were some differences across occupations as noted below.

- **Autonomy** was projected to increase amongst craft and related occupations but to decline for both professional and sales occupations.
- **Learning time** was projected to rise amongst associate professional and craft occupations.
- **Training time** was expected to increase substantially amongst professional and personal service occupations, and also for clerical and craft occupations.
- **Required qualifications** was projected to rise amongst personal and protective service occupations as well as professional, associate professional and craft occupations.
- **Composite index** was expected to increase most amongst managerial, professional, associate professional, craft and personal services occupations.

## Regional Variations in Future Skill Needs

6.80 Employment prospects are projected to vary quite significantly across regions (see Figure 6.8). London and the South East are expected to show the fastest growth, although, as the figure clearly shows, the disparities are not as pronounced as over the last 10 years. Differences in general economic prospects, together with differences in their existing employment structures, mean that the skills needs of different regions will vary significantly. However, the same kinds of general trends in occupational mix within industries are expected. This is reflected in terms of the projected changes in occupational employment, qualifications and other indicators.

6.81 London, the South East, East of England and South West regions are expected to record quite rapid job growth over the coming decade. The West and East Midlands, Yorkshire and the Humber, and the North West are all projected to experience growth rates around the national average. The North East is projected to show little change. The four regions of the South East, South West, London and the East are projected to account for over 70 per cent of the expected additional 1.3 million jobs expected over the period to 2012.

*The amount of training time, learning time and levels of qualifications required are expected to increase in many occupations.*

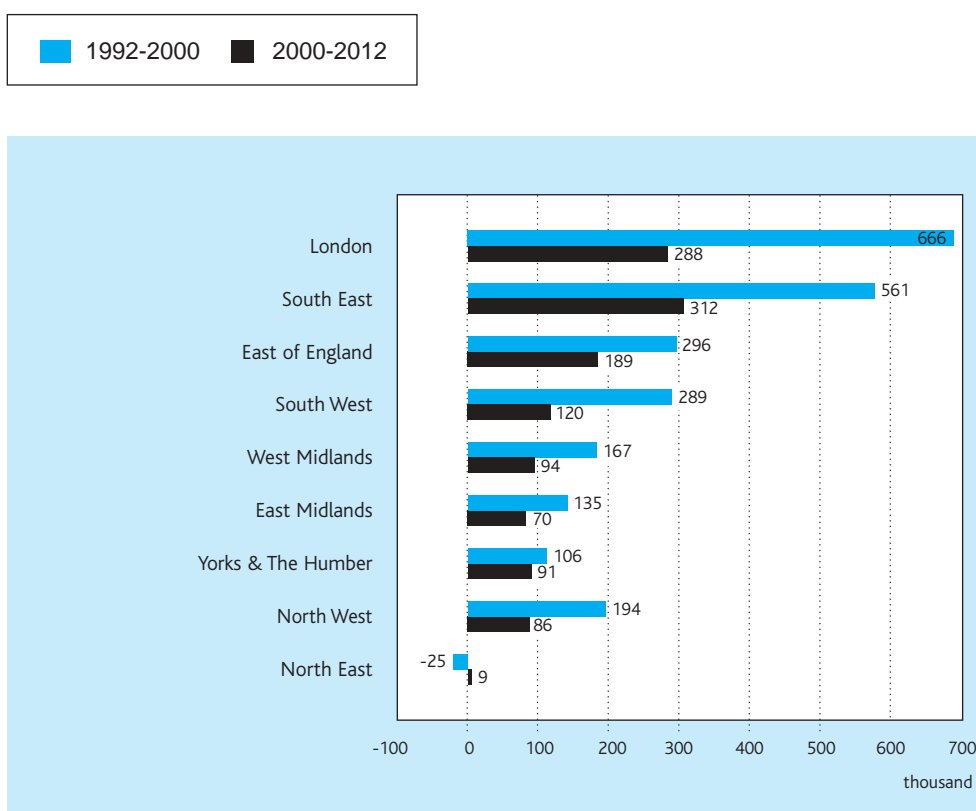
*Differences in existing economic structure and general prospects will mean marked variations in skills needs across regions...*

*...with the southern regions expected to see the most rapid growth.*

### Sectoral prospects by region

6.82 Details of broad sectoral employment prospects for individual regions are shown in Tables 6.8, 6.9 and 6.10. The dependence of particular regions on certain sectors of employment is illustrated in Table 6.7 and 6.8, which show the scale and share of employment in each sector. While it is clear that distribution, transport, etc; business and miscellaneous services; and non-marketed services now account for a very significant part of employment in all regions, the importance of manufacturing in many regions is also apparent. The changes expected over the decade to 2012 shown in Table 6.9 illustrate the preponderance of negative effects (shaded) in the top part of the table. These relate to primary, manufacturing and utilities. The declines in manufacturing are especially significant in both absolute and percentage terms for regions in the Midlands and the north of England.

**Figure 6.8: Employment change by region, 1992-2012**



*Source: Wilson et al. (2003).*

**Table 6.7: Projected employment levels by broad sector, 2002-2012 (000s)**

	London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Primary and Utilities	20	15	96	83	53	48	87	70	55	46
Manufacturing	293	243	439	375	355	308	312	262	471	396
Construction	211	186	279	304	206	208	168	194	150	128
Distribution, Transport, etc	1,315	1,302	1,262	1,379	817	883	751	805	741	784
Business and Misc. Services	1,794	2,131	1,229	1,405	658	791	564	623	550	651
Non-marketed Services	857	901	874	944	525	566	588	635	587	645
<b>Total</b>	<b>4,490</b>	<b>4,777</b>	<b>4,179</b>	<b>4,491</b>	<b>2,614</b>	<b>2,803</b>	<b>2,470</b>	<b>2,590</b>	<b>2,554</b>	<b>2,649</b>

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Primary and Utilities	53	43	54	44	44	35	23	20	485	404
Manufacturing	364	301	385	328	488	399	164	139	3,273	2,751
Construction	136	146	145	123	193	181	73	73	1,562	1,542
Distribution, Transport, etc	564	594	681	739	971	990	287	296	7,389	7,772
Business and Misc. Services	391	446	470	561	701	832	200	223	6,556	7,665
Non-marketed Services	464	511	578	609	796	842	297	304	5,567	5,957
<b>Total</b>	<b>1,972</b>	<b>2,042</b>	<b>2,313</b>	<b>2,404</b>	<b>3,194</b>	<b>3,280</b>	<b>1,045</b>	<b>1,054</b>	<b>24,832</b>	<b>26,091</b>

*Source: Wilson et al. (2003).*

Table 6.8: Employment shares by broad sector, 2002-2012 (column %)

	Regions:		London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Primary and Utilities	0	0	2	2	2	2	2	2	4	3	2	2
Manufacturing	7	5	11	8	14	11	13	10	13	10	18	15
Construction	5	4	7	7	8	7	7	8	7	8	6	5
Distribution, Transport, etc	29	27	30	31	31	32	30	31	30	31	29	30
Business and Misc. Services	40	45	29	31	25	28	23	24	23	24	22	25
Non-marketed Services	19	19	21	21	20	20	24	25	24	25	23	24
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Primary and Utilities	3	2	2	2	1	1	2	2	2	2
Manufacturing	18	15	17	14	15	12	16	13	13	11
Construction	7	7	6	5	6	6	7	7	6	6
Distribution, Transport, etc	29	29	29	31	30	30	27	28	30	30
Business and Misc. Services	20	22	20	23	22	25	19	21	26	29
Non-marketed Services	24	25	25	25	25	26	28	29	22	23
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Wilson et al. (2003).

Table 6.9: Projected employment changes by broad sector, 2002-2012

	London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Primary and Utilities	-5	-24.8	-13	-13.2	-5	-9.6	-17	-19.7	-9	-16.0
Manufacturing	-50	-17.2	-64	-14.6	--48	-13.4	-50	-16.0	-75	-15.9
Construction	-25	-11.8	25	8.9	2	1.0	27	16.0	-23	-15.1
Distribution, Transport, etc	-13	-1.0	117	9.3	67	8.1	54	7.2	42	5.7
Business and Misc. Services	337	18.8	176	14.3	133	20.2	60	10.6	101	18.4
Non-marketed Services	44	5.1	71	8.1	41	7.7	47	8.0	58	9.9
<b>Total</b>	<b>288</b>	<b>6.4</b>	<b>312</b>	<b>7.5</b>	<b>189</b>	<b>7.2</b>	<b>120</b>	<b>4.9</b>	<b>94</b>	<b>3.7</b>

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Primary and Utilities	-10	-18.3	-10	-18.7	-9	-20.2	-3	-14.9	-81	-16.7
Manufacturing	-63	-17.3	-57	-14.8	-89	-18.2	-25	-15.2	-521	-15.9
Construction	10	7.2	-22	-15.3	--13	-6.6	-1	-1.2	-20	-1.3
Distribution, Transport, etc	30	5.2	58	8.5	19	1.9	9	3.2	382	5.2
Business and Misc. Services	55	14.2	92	19.5	131	18.7	23	11.6	1,109	16.9
Non-marketed Services	47	10.2	31	5.3	47	5.9	6	2.0	390	7.0
<b>Total</b>	<b>70</b>	<b>3.5</b>	<b>91</b>	<b>3.9</b>	<b>86</b>	<b>2.7</b>	<b>9</b>	<b>0.9</b>	<b>1,259</b>	<b>5.1</b>

Source: Wilson et al. (2003).

Table 6.10: Projected employment levels by industry, England, 2002-2012 (000s)

Regions:	London		South East		East of England		South West		West Midlands		East Midlands		Yorks. and Humber		North West		North East		All Regions	
	2002		2012		2002		2012		2002		2012		2002		2012		2002		2012	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Agriculture	8	6	74	65	38	34	66	52	39	33	34	28	35	31	22	18	14	11	330	280
Mining and quarrying: utilities, of which:	13	9	22	18	15	14	21	18	16	13	18	15	19	12	22	17	9	8	155	124
Mining and quarrying	3	2	6	4	4	4	7	6	3	2	7	5	8	6	4	4	4	3	45	36
Electricity, gas and water	10	7	16	14	11	10	14	12	14	11	11	10	11	7	17	13	5	5	110	89
Food, drink and tobacco	33	24	31	30	43	37	39	33	37	38	56	53	63	57	63	57	18	17	383	347
Textiles and clothing	21	11	8	4	12	8	12	8	18	10	51	25	31	20	44	24	9	5	206	116
Wood, paper, printing and publishing, of which:	113	111	79	80	59	60	47	45	38	35	43	44	53	53	60	58	18	19	510	502
Wood and paper products	11	12	21	19	19	18	16	15	16	12	18	14	20	17	27	20	9	8	157	134
Publishing and printing	102	99	57	61	40	42	31	30	22	23	25	30	33	36	33	38	9	11	352	368
Chemicals and non-metallic mineral products	30	25	81	72	56	43	41	36	72	60	57	52	65	52	110	90	35	28	547	457
Metals and metal goods	21	15	48	36	37	37	33	26	104	85	42	36	65	52	49	42	23	19	424	347
Engineering	41	30	131	107	87	75	74	62	98	83	59	48	59	52	80	70	32	28	661	555
Transport equipment	17	10	33	21	37	24	46	31	77	57	35	21	21	15	54	34	19	13	339	226
Manufacturing nes and recycling	17	17	27	25	24	25	19	20	27	27	22	23	28	27	27	26	11	11	203	201
Construction	211	186	279	304	206	208	168	194	150	128	136	146	145	123	193	181	73	73	1562	1542
Sale and maintenance of motor vehicles	63	63	104	114	63	71	66	68	66	68	51	55	55	59	69	65	23	25	560	587
Wholesale distribution	200	200	223	238	122	135	93	97	130	131	94	100	101	107	148	139	33	36	1143	1182
Other retail distribution	392	399	439	493	296	333	278	312	256	296	196	218	251	276	351	380	108	116	2568	2823
Hotels and catering	296	288	247	265	159	152	193	205	143	144	112	101	135	149	200	216	66	63	1549	1583
Transport	257	252	171	183	117	129	78	81	100	105	82	89	102	111	149	132	37	39	1091	1122
Communications	107	99	78	86	60	64	43	41	46	40	29	31	39	38	55	58	20	17	477	475



**Table 6.10: Projected employment levels by industry, England, 2002-2012 (000s) (continued)**

Regions:	London		South East		East of England		South West		West Midlands		East Midlands		Yorks. and Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Banking and insurance	328	334	164	169	84	91	90	96	75	80	42	42	71	78	104	101	30	28	989	1019
Professional services	144	217	145	184	79	107	58	66	52	73	39	50	45	65	67	100	20	27	650	888
Computing and related services	130	217	136	203	54	88	38	55	38	68	26	43	25	42	45	73	11	17	503	806
Other business services	830	943	523	559	287	329	230	226	247	274	178	192	202	234	299	351	83	87	2879	3195
Public administration	218	209	168	162	98	94	126	126	106	104	84	82	119	115	169	172	73	70	1163	1135
Education	263	272	313	342	185	203	202	225	222	247	165	188	201	214	273	293	89	92	1913	2078
Health and social work	377	420	392	440	242	269	260	284	259	293	215	240	258	279	354	378	135	141	2491	2744
Miscellaneous services	362	421	261	290	153	176	147	181	138	155	106	120	126	142	187	208	56	64	1536	1757
<b>Total</b>	<b>4490</b>	<b>4777</b>	<b>4179</b>	<b>4491</b>	<b>2614</b>	<b>2803</b>	<b>2470</b>	<b>2590</b>	<b>2554</b>	<b>2649</b>	<b>1972</b>	<b>2042</b>	<b>2313</b>	<b>2404</b>	<b>3194</b>	<b>3280</b>	<b>1045</b>	<b>1054</b>	<b>24832</b>	<b>26091</b>

Source: Wilson et al. (2003).

6.11: Employment shares by industry, England, 2002-12 (column %)

Regions:	London		South East		East of England		South West		West Midlands		East Midlands		Yorks. and Humber		North West		North East		All Regions	
	2002		2012		2002		2012		2002		2012		2002		2012		2002		2012	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Agriculture	0.2	0.1	1.8	1.5	1.5	1.2	2.7	2.0	1.5	1.2	1.7	1.4	1.5	1.3	0.7	0.6	1.3	1.1	1.3	1.1
Mining and quarrying; utilities, of which:	0.3	0.2	0.5	0.4	0.6	0.5	0.9	0.7	0.6	0.5	0.9	0.7	0.8	0.5	0.7	0.5	0.9	0.8	0.6	0.5
Mining and quarrying	0.1	0.0	0.1	0.1	0.2	0.1	0.3	0.2	0.1	0.1	0.4	0.3	0.3	0.2	0.1	0.1	0.3	0.3	0.2	0.1
Electricity, gas and water	0.2	0.1	0.4	0.3	0.4	0.4	0.6	0.5	0.5	0.4	0.6	0.5	0.5	0.3	0.5	0.4	0.5	0.5	0.4	0.3
Food, drink and tobacco	0.7	0.5	0.7	0.7	1.6	1.3	1.6	1.3	1.5	1.4	2.8	2.6	2.7	2.4	2.0	1.7	1.7	1.6	1.5	1.3
Textiles and clothing	0.5	0.2	0.2	0.1	0.5	0.3	0.5	0.3	0.7	0.4	2.6	1.2	1.3	0.9	1.4	0.7	0.9	0.5	0.8	0.4
Wood, paper; printing and publishing, of which:	2.5	2.3	1.9	1.8	2.3	2.1	1.9	1.7	1.5	1.3	2.2	2.1	2.3	2.2	1.9	1.8	1.7	1.8	2.1	1.9
Wood and paper products	0.2	0.3	0.5	0.4	0.7	0.6	0.7	0.6	0.6	0.4	0.9	0.7	0.9	0.7	0.8	0.6	0.9	0.7	0.6	0.5
Publishing and printing	2.3	2.1	1.4	1.3	1.5	1.5	1.2	1.2	0.9	0.9	1.3	1.5	1.4	1.5	1.0	1.2	0.8	1.0	1.4	1.4
Chemicals and non-metallic mineral products	0.7	0.5	1.9	1.6	2.1	1.5	1.7	1.4	2.8	2.3	2.9	2.5	2.8	2.2	3.4	2.7	3.3	2.7	2.2	1.8
Metals and metal goods	0.5	0.3	1.2	0.8	1.4	1.3	1.4	1.0	4.1	3.2	2.1	1.7	2.8	2.2	1.5	1.3	2.2	1.8	1.7	1.3
Engineering	0.9	0.6	3.1	2.4	3.3	2.7	3.0	2.4	3.8	3.1	3.0	2.4	2.6	2.2	2.5	2.1	3.1	2.6	2.7	2.1
Transport equipment	0.4	0.2	0.8	0.5	1.4	0.9	1.8	1.2	3.0	2.2	1.8	1.0	0.9	0.6	1.7	1.0	1.8	1.2	1.4	0.9
Manufacturing nes and recycling	0.4	0.4	0.7	0.6	0.9	0.9	0.8	0.8	1.1	1.0	1.1	1.1	1.2	1.1	0.8	0.8	1.0	1.1	0.8	0.8
Construction	4.7	3.9	6.7	6.8	7.9	7.4	6.8	7.5	5.9	4.8	6.9	7.1	6.3	5.1	6.1	5.5	7.0	6.9	6.3	5.9
Sale and maintenance of motor vehicles	1.4	1.3	2.5	2.5	2.4	2.5	2.7	2.6	2.6	2.6	2.6	2.7	2.4	2.4	2.1	2.0	2.2	2.4	2.3	2.2
Wholesale distribution	4.5	4.2	5.3	5.3	4.7	4.8	3.8	3.7	5.1	4.9	4.8	4.9	4.3	4.5	4.6	4.2	3.2	3.4	4.6	4.5
Other retail distribution	8.7	8.4	10.5	11.0	11.3	11.9	11.3	12.0	10.0	11.2	9.9	10.7	10.8	11.5	11.0	11.6	10.4	11.0	10.3	10.8
Hotels and catering	6.6	6.0	5.9	5.9	6.1	5.4	7.8	7.9	5.6	5.4	5.7	5.0	5.8	6.2	6.3	6.6	6.3	5.9	6.2	6.1
Transport	5.7	5.3	4.1	4.1	4.5	4.6	3.1	3.1	3.9	4.0	4.1	4.3	4.4	4.6	4.7	4.0	3.5	3.7	4.4	4.3
Communications	2.4	2.1	1.9	1.9	2.3	2.3	1.7	1.6	1.8	1.5	1.5	1.5	1.7	1.6	1.7	1.8	1.9	1.6	1.9	1.8

## 6.11: Employment shares by industry, England, 2002-12 (column %) (continued)

Regions:	London		South East		East of England		South West		West Midlands		East Midlands		Yorks. and Humber		North West		North East		All Regions	
	2002		2012		2002		2012		2002		2012		2002		2012		2002		2012	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Banking and insurance	7.3	7.0	3.9	3.8	3.2	3.2	3.7	3.7	2.9	3.0	2.2	2.0	3.1	3.3	3.2	3.1	2.8	2.6	4.0	3.9
Professional services	3.2	4.5	3.5	4.1	3.0	3.8	2.4	2.5	2.0	2.8	2.0	2.5	2.0	2.7	2.1	3.0	1.9	2.6	2.6	3.4
Computing and related services	2.9	4.5	3.2	4.5	2.1	3.1	1.5	2.1	1.5	2.6	1.3	2.1	1.1	1.8	1.4	2.2	1.1	1.6	2.0	3.1
Other business services	18.5	19.7	12.5	12.5	11.0	11.7	9.3	8.7	9.7	10.3	9.0	9.4	8.7	9.7	9.4	10.7	8.0	8.3	11.6	12.2
Public administration	4.8	4.4	4.0	3.6	3.8	3.4	5.1	4.9	4.2	3.9	4.2	4.0	5.1	4.8	5.3	5.2	7.0	6.6	4.7	4.3
Education	5.9	5.7	7.5	7.6	7.1	7.2	8.2	8.7	8.7	9.3	8.4	9.2	8.7	8.9	8.5	8.9	8.5	8.8	7.7	8.0
Health and social work	8.4	8.8	9.4	9.8	9.3	9.6	10.5	11.0	10.1	11.1	10.9	11.8	11.1	11.6	11.1	11.5	12.9	13.4	10.0	10.5
Miscellaneous services	8.1	8.8	6.3	6.5	5.9	6.3	6.0	7.0	5.4	5.9	5.4	5.9	5.5	5.9	5.8	6.3	5.3	6.1	6.2	6.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Wilson et al. (2003).

Table 6.12: Projected employment change by industry, England, 2002-2012

Regions:	London		South East		East of England		South West		West Midlands		East Midlands		Yorks. and Humber		North West		North East		All Regions (England)	
	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%
Agriculture	-1	-14	-9	-12	-4	-11	-14	-21	-6	-15	-6	-18	-4	-10	-4	-17	-3	-19	-50	-15
Mining and quarrying; utilities, of which:	-4	-31	-4	-18	-1	-6	-3	-16	-3	-19	-3	-18	-6	-35	-5	-23	-1	-8	-31	-20
Mining and quarrying	-1	-19	-1	-25	0	-8	-1	-21	0	-19	-2	-27	-2	-26	0	-10	-1	-18	-9	-21
Electricity, gas and water	-3	-34	-3	-15	-1	-5	-2	-13	-3	-19	-1	-12	-5	-41	-5	-27	0	-2	-22	-20
Food, drink and tobacco	-8	-26	-1	-2	-6	-15	-6	-14	1	3	-3	-6	-6	-9	-6	-10	-1	-4	-36	-9
Textiles and clothing	-10	-46	-4	-52	-3	-29	-4	-33	-7	-41	-26	-50	-10	-33	-21	-47	-4	-44	-89	-44
Wood, paper, printing and publishing, of which:	-2	-2	1	1	1	1	-2	-5	-3	-9	1	2	0	-1	-2	-4	1	5	-7	-1
Wood and paper products	1	10	-2	-10	-1	-8	-2	-10	-4	-26	-4	-22	-4	-18	-7	-25	-1	-13	-24	-15
Publishing and printing	-3	-3	3	6	2	5	-1	-2	1	3	5	18	3	9	4	13	2	23	16	5
Chemicals and non-metallic mineral products	-6	-19	-9	-12	-13	-24	-6	-14	-11	-16	-5	-9	-13	-21	-21	-19	-6	-19	-90	-17
Metals and metal goods	-6	-28	-13	-26	0	-1	-7	-21	-19	-18	-7	-16	-13	-21	-7	-14	-5	-20	-77	-18
Engineering	-11	-27	-24	-18	-12	-14	-12	-16	-15	-15	-10	-18	-7	-12	-10	-13	-5	-14	-106	-16
Transport equipment	-7	-43	-12	-36	-13	-36	-14	-31	-20	-26	-13	-39	-6	-27	-21	-38	-6	-34	-113	-33
Manufacturing nes and recycling	0	-3	-3	-9	1	3	1	5	0	1	1	3	-1	-4	-1	-5	1	6	-2	-1
Construction	-25	-12	25	9	2	1	27	16	-23	-15	10	7	-22	-15	-13	-7	-1	-1	-20	-1
Sale and maintenance of motor vehicles	0	0	9	9	8	12	2	3	2	3	4	8	4	7	-4	-5	2	8	27	5
Wholesale distribution	0	0	15	7	13	11	4	4	1	1	5	6	6	6	-9	-6	3	8	39	3
Other retail distribution	7	2	54	12	36	12	34	12	40	15	23	12	25	10	29	8	8	7	254	10
Hotels and catering	-7	-3	18	7	-7	-4	13	7	1	1	-11	-9	14	11	15	8	-3	-5	33	2
Transport	-5	-2	12	7	12	10	3	4	5	5	7	8	10	9	-16	-11	2	6	30	3
Communications	-8	-8	8	11	4	7	-2	-4	-6	-13	1	4	-1	-3	4	7	-2	-11	-2	0

**Table 6.12: Projected employment change by industry, England, 2002-2012 (continued)**

Regions:	London		South East		East of England		South West		West Midlands		East Midlands		Yorks. and Humber		North West		North East (England)		All Regions	
	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%
Banking and insurance	6	2	5	3	7	8	5	6	5	6	-1	-2	7	10	-2	-2	-2	-6	30	3
Professional services	72	50	39	27	28	36	8	13	21	41	11	29	19	43	33	49	7	34	238	37
Computing and related services	87	67	67	49	33	61	17	45	30	81	17	64	17	69	28	63	6	48	303	60
Other business services	113	14	37	7	41	14	-5	-2	27	11	14	8	33	16	52	17	4	5	316	11
Public administration	-9	-4	-6	-4	-4	-4	0	0	-2	-2	-1	-2	-4	-3	2	1	-3	-5	-28	-2
Education	9	3	29	9	18	10	23	11	26	12	23	14	13	7	21	8	3	4	165	9
Health and social work	43	11	48	12	27	11	25	9	34	13	25	12	21	8	24	7	6	5	253	10
Miscellaneous services	59	16	29	11	23	15	34	23	18	13	14	13	15	12	21	11	9	15	222	14
<b>Total</b>	<b>288</b>	<b>6</b>	<b>312</b>	<b>7</b>	<b>189</b>	<b>7</b>	<b>120</b>	<b>5</b>	<b>94</b>	<b>4</b>	<b>70</b>	<b>4</b>	<b>91</b>	<b>4</b>	<b>86</b>	<b>3</b>	<b>9</b>	<b>1</b>	<b>1,259</b>	<b>5</b>

Source: Wilson et al. (2003).

6.83 Tables 6.10, 6.11 and 6.12 illustrate a more detailed industrial breakdown for the 27 sector matrix industries. Patterns at this level of detail are more varied and reflect the detailed industrial specialisms of the regions. Nevertheless, the overall messages in terms of industrial structural changes are common across most regions. Again, primary and utilities and manufacturing industries present a picture of consistent employment decline, with just one or two minor exceptions. The position in some of the service industries is more mixed. Communications and public administration are projected to see job losses in most regions. Transport and hotels and catering are expected to see job losses in London and some other regions but others manage to buck this trend. It is in business and professional services, miscellaneous services and non-marketed services such as education and health that most regions are projected to gain employment.

### Occupational prospects by region

6.84 Subject to the differences imposed by their different industrial structures, trends in occupational structure are expected to follow similar patterns in most regions to those at national level. However, these different industrial structures mean that there are some substantial variations in occupational prospects across the regions over the coming decade.

6.85 Tables 6.13-15 illustrate the common patterns of change across the regions for SOC Major Groups. In particular, Table 6.15 shows how declining employment (shaded cells) are in the same categories in every region. Job losses are projected to be concentrated in:

- administrative, clerical and secretarial occupations;
- skilled trades;
- transport and machine operatives; and
- elementary occupations.

6.86 Other occupations are projected to grow in all regions. There is expected to be especially strong growth in demand for managers and senior officials in London, the South East and East of England; for professionals and associate professional occupations in London; and for personal service occupations in the South East, East of England and the Midlands.

6.87 **Managers** account for an above average share of employment in London, the South East and the East of England. This is projected to become even more pronounced, with some of the largest increases in employment for these categories being in these regions. More modest growth is anticipated in other regions.

6.88 The share of employment in **professional occupations** is projected to increase across all regions. London, the East of England and the South East are again projected to be the main hot spots. The North East is expected to have the lowest rate of employment increase for professionals across the English regions, but even here this represents a substantial increase.

*Occupational changes are projected to follow a similar pattern across all regions.*

*Job losses are concentrated in the same occupations.*

*Employment gains will benefit managers, professional and associate professionals especially.*

- 6.89 The shares of employment in **associate professional and technical occupations** are also above average in London. Employment for these occupations is also expected to grow most rapidly here and in the South East and East of England. Growth in the North East and Yorkshire and the Humber is barely half that expected for the UK as a whole.
- 6.90 **Administrative, clerical and secretarial occupations** also account for a disproportionately large share of employment in London and the South East, although this is changing. Trends here are generally downward. All regions are now projected to experience job losses for these occupations.
- 6.91 Both shares and levels employed in **personal service occupations** are expected to rise in all regions. In many cases these changes are very significant, especially in the South East, West Midlands, East Midlands and the East of England. Growth is expected to be slowest in the North East and London.
- 6.92 All regions are also projected to experience employment growth in **sales and customer service occupations**. The fastest increases are for Yorkshire and the Humber. For customer service occupations, increases of around 50 per cent are expected for this occupational group in all regions outside London and the South East. For the much larger sales occupations group, rates of increase are much more modest but in absolute terms they are often as significant as for the customer care group.
- 6.93 Employment amongst **skilled trades** is expected to decline in all regions. London, the West Midlands and the North West are all projected to see large job losses, concentrated in the skilled metal and electrical trades.
- 6.94 **Machine and transport operatives** are projected to see significant job losses across England as a whole. Some modest job gains are expected for transport and mobile plant drivers and operatives outside London.

*Rates of increase in the northern regions are expected to be much less for associate professionals.*

*The demand for personal service, sales and customer care occupations is expected to grow everywhere.*

*The demand for skilled manual workers is projected to decline in most regions...  
...as is the demand for process plant and machine operatives.*

**Table 6.13: Projected employment levels by occupation, 2002-2012 (000s)**

	Regions:		London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Managers and senior officials	809	956	723	850	425	505	361	400	335	368		
Professional occupations	625	807	484	581	284	352	265	317	256	302		
Associate professional and technical occupations	842	1077	618	734	356	436	317	365	320	381		
Administrative, clerical and secretarial occupations	629	477	582	486	342	297	307	264	328	316		
Skilled trades occupations	386	309	440	404	310	275	314	287	334	267		
Personal service occupations	266	338	297	417	181	250	195	262	199	281		
Sales and customer service occupations	288	317	325	384	207	235	219	267	202	244		
Machine and transport operatives	227	179	268	255	211	201	196	182	278	253		
Elementary occupations	417	318	442	381	299	252	294	246	302	236		
<b>Total</b>	<b>4,490</b>	<b>4,777</b>	<b>4,179</b>	<b>4,491</b>	<b>2,614</b>	<b>2,803</b>	<b>2,470</b>	<b>2,590</b>	<b>2,554</b>	<b>2,649</b>		



**Table 6.13: Projected employment levels by occupations, 2002-2012 (000s) (continued)**

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Managers and senior officials	281	317	309	347	428	461	123	133	3,795	4,337
Professional occupations	198	237	230	269	358	427	104	116	2,804	3,410
Associate professional and technical occupations	237	274	282	318	423	488	131	145	3,525	4,218
Administrative, clerical and secretarial occupations	239	219	292	291	421	403	128	118	3,269	2,872
Skilled trades occupations	239	191	279	227	366	301	132	110	2,799	2,372
Personal service occupations	165	236	185	251	245	328	82	106	1,815	2,468
Sales and customer service occupations	159	192	200	249	271	315	95	111	1,966	2,313
Machine and transport operatives	211	188	242	222	310	267	109	102	2,053	1,849
Elementary occupations	243	187	293	231	372	291	142	113	2,804	2,253
<b>Total</b>	<b>1,972</b>	<b>2,042</b>	<b>2,313</b>	<b>2,404</b>	<b>3,194</b>	<b>3,280</b>	<b>1,045</b>	<b>1,054</b>	<b>24,832</b>	<b>26,091</b>

Source: Wilson et al. (2003).

Table 6.14: Employment shares by occupation and region, 2002-2012 (column %)

	London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Managers and senior officials	18	20	17	19	16	18	15	15	13	14
Professional occupations	14	17	12	13	11	13	11	12	10	11
Associate professional and technical occupations	19	23	15	16	14	16	13	14	13	14
Administrative, clerical and secretarial occupations	14	10	14	11	13	11	12	10	13	12
Skilled trades occupations	9	6	11	9	12	10	13	11	13	10
Personal service occupations	6	7	7	9	7	9	8	10	8	11
Sales and customer service occupations	6	7	8	9	8	8	9	10	8	9
Machine and transport operatives	5	4	6	6	8	7	8	7	11	10
Elementary occupations	9	7	11	8	11	9	12	9	12	9
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Table 6.14: Employment shares by occupation and region, 2002-2012 (column %) (continued)

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Managers and senior officials	14	16	13	14	13	14	12	13	15	17
Professional occupations	10	12	10	11	11	13	10	11	11	13
Associate professional and technical occupations	12	13	12	13	13	15	13	14	14	16
Administrative, clerical and secretarial occupations	12	11	13	12	13	12	12	11	13	11
Skilled trades occupations	12	9	12	9	11	9	13	10	11	9
Personal service occupations	8	12	8	10	8	10	8	10	7	9
Sales and customer service occupations	8	9	9	10	8	10	9	11	8	9
Machine and transport operatives	11	9	10	9	10	8	10	10	8	7
Elementary occupations	12	9	13	10	12	9	14	11	11	9
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Wilson et al. (2003).

Table 6.15: Projected employment changes by occupation and region, 2002-2012

	Regions:		London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Managers and senior officials	147	18.1	127	17.5	80	18.8	39	10.9	34	10.0		
Professional occupations	183	29.2	97	20.0	68	23.8	52	19.7	46	18.0		
Associate professional and technical occupations	235	27.9	117	18.9	81	22.7	48	15.1	62	19.4		
Administrative, clerical and secretarial occupations	-153	-24.3	-96	-16.4	-45	-13.2	-43	-14.1	-12	-3.7		
Skilled trades occupations	-76	-19.8	-36	-8.2	-35	-11.2	-27	-8.5	-67	-20.1		
Personal service occupations	72	26.9	119	40.1	69	38.2	67	34.0	82	41.4		
Sales and customer service occupations	28	9.8	58	18.0	29	13.9	48	21.7	42	20.7		
Machine and transport operatives	-49	-21.4	-13	-5.0	-10	-4.8	-14	-7.2	-25	-9.0		
Elementary occupations	-99	-23.8	-61	-13.8	-47	-15.6	-49	-16.6	-66	-21.9		
<b>Total</b>	<b>288</b>	<b>6.4</b>	<b>312</b>	<b>7.5</b>	<b>189</b>	<b>7.2</b>	<b>120</b>	<b>4.9</b>	<b>94</b>	<b>3.7</b>		

Table 6.15: Projected employment changes by occupation and region, 2002-2012 (continued)

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Managers and senior officials	36	12.7	37	12.0	33	7.7	10	8.5	542	14.3
Professional occupations	39	19.5	40	17.3	68	19.1	13	12.4	605	21.6
Associate professional and technical occupations	37	15.6	36	12.7	65	15.3	14	10.7	693	19.7
Administrative, clerical and secretarial occupations	-19	-8.1	-1	-0.4	-18	-4.2	-10	-8.1	-398	-12.2
Skilled trades occupations	-48	-20.0	-52	-18.7	-66	-17.9	-21	-16.0	-428	-15.3
Personal service occupations	71	43.1	66	35.7	83	33.9	24	29.1	653	36.0
Sales and customer service occupations	33	20.7	48	24.0	44	16.4	17	17.6	347	17.6
Machine and transport operatives	-23	-10.8	-20	-8.1	-43	-13.9	-8	-6.9	-204	-10.0
Elementary occupations	-56	-23.0	-63	-21.3	-81	-21.8	-30	-20.8	-551	-19.7
<b>Total 70</b>	<b>3.5</b>	<b>91</b>	<b>3.9</b>	<b>86</b>	<b>2.7</b>	<b>9</b>	<b>0.9</b>	<b>1259</b>	<b>5.1</b>	

Source: Wilson et al. (2003).

**Table 6.16: Projected employment levels by SOC sub-major group, by region, 2002-12 (000s)**

	London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Corporate Managers	622	778	557	692	323	404	260	310	255	300
Managers/Proprietors in Agriculture and Services	188	178	166	158	102	101	101	91	79	68
Science and Technology Professionals	144	185	162	197	96	122	72	85	74	90
Health Professionals	53	66	32	38	20	26	18	20	19	22
Teaching and Research Professionals	209	264	173	200	102	121	121	150	114	129
Business and Public Service Professionals	219	292	118	146	66	82	53	63	50	61
Science and Technology Associate Professionals	93	116	92	113	56	73	47	58	46	55
Health and Social Welfare Associate Professionals	172	228	126	139	75	81	82	85	84	97
Protective Service Occupations	71	86	61	81	32	44	23	25	31	38
Culture, Media and Sports Occupations	179	251	96	121	55	76	47	62	41	54
Business and Public Service Assoc. Professionals	326	396	243	281	138	163	118	135	118	137
Administrative and Clerical Occupations	443	351	410	361	245	224	228	205	247	252
Secretarial and Related Occupations	186	126	172	125	97	73	80	59	81	64
Skilled Agricultural Trades	22	25	48	54	29	33	41	41	37	37
Skilled Metal and Electrical Trades	152	103	171	127	121	90	111	81	147	98
Skilled Construction and Building Trades	121	104	139	143	102	97	105	110	97	83
Textiles, Printing and Other Skilled Trades	90	78	81	80	57	55	57	56	53	49
Caring Personal Service Occupations	176	247	211	316	129	191	147	209	150	227
Leisure and Other Personal Service Occupations	91	90	87	101	51	59	49	53	48	53

**Table 6.16: Projected employment levels by SOC sub-major group, by region, 2002-12 (000s) (continued)**

	Regions:		London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Sales Occupations	228	237	265	299	170	182	186	218	166	186		
Customer Service Occupations	61	80	60	85	36	53	34	49	36	57		
Process, Plant and Machine Operatives	82	36	137	103	118	97	115	93	179	143		
Transport and Mobile Machine Drivers and Operatives	145	142	132	152	93	104	81	89	99	110		
Elementary Occupations: Trades, Plant and Machine-Related	97	71	143	124	106	93	106	91	117	91		
Elementary Occupations: Clerical and Services-Related	320	247	298	257	193	159	188	154	186	145		
<b>Total</b>	<b>4,490</b>	<b>4,777</b>	<b>4,179</b>	<b>4,491</b>	<b>2,614</b>	<b>2,803</b>	<b>2,470</b>	<b>2,590</b>	<b>2,554</b>	<b>2,649</b>		

*Source: Wilson et al. (2003).*

**Table 6.16: Projected employment levels by SOC sub-major group, by region, 2002-12 (000s) (continued)**

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Corporate Managers	208	249	225	266	316	361	86	98	2,853	3,458
Managers/Proprietors in Agriculture and Services	73	68	84	80	112	101	37	35	941	879
Science and Technology Professionals	57	71	55	68	97	117	26	31	783	966
Health Professionals	17	21	20	24	26	28	12	14	217	261
Teaching and Research Professionals	81	91	105	117	169	206	46	49	1,119	1,326
Business and Public Service Professionals	43	54	50	60	66	75	20	22	685	855
Science and Technology Associate Professionals	36	45	44	57	68	86	23	28	504	630
Health and Social Welfare Associate Professionals	63	67	73	72	114	127	41	45	831	942
Protective Service Occupations	22	26	33	39	45	51	17	19	334	408
Culture, Media and Sports Occupations	28	35	35	42	52	66	13	14	546	721
Business and Public Service Assoc. Professionals	88	100	97	109	144	159	38	38	1,310	1,518
Administrative and Clerical Occupations	178	171	221	232	324	326	101	97	2,398	2,218
Secretarial and Related Occupations	60	48	71	59	97	78	27	21	871	653
Skilled Agricultural Trades	27	27	29	30	31	33	13	13	278	294
Skilled Metal and Electrical Trades	96	65	107	71	152	101	52	37	1,110	773
Skilled Construction and Building Trades	72	63	90	76	109	97	42	40	877	813
Textiles, Printing and Other Skilled Trades	44	36	53	50	75	70	23	21	535	492
Caring Personal Service Occupations	127	195	139	201	182	261	61	84	1,322	1,931
Leisure and Other Personal Service Occupations	38	41	45	50	63	67	21	22	493	537



**Table 6.16: Projected employment levels by SOC sub-major group, by region, 2002-12 (000s) (continued)**

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Sales Occupations	133	152	169	198	224	242	81	91	1,621	1,806
Customer Service Occupations	27	41	32	51	47	73	14	20	345	508
Process, Plant and Machine Operatives	136	109	147	121	175	125	69	60	1,158	888
Transport and Mobile Machine Drivers and Operatives	74	79	95	101	135	142	41	42	895	961
Elementary Occupations: Trades, Plant and Machine-Related	95	77	113	93	122	93	50	41	949	774
Elementary Occupations: Clerical and Services-Related	148	110	180	138	249	198	93	72	1856	1,479
<b>Total</b>	<b>1,972</b>	<b>2,042</b>	<b>2,313</b>	<b>2,404</b>	<b>3,194</b>	<b>3,280</b>	<b>1,045</b>	<b>1,054</b>	<b>24,832</b>	<b>26,091</b>

Source: Wilson et al. (2003).

Table 6.17: Employment shares by SOC sub-major group, by region, 2002-12 (column %)

	Regions:									
	London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Corporate Managers	13.9	16.3	13.3	15.4	12.4	14.4	10.5	12.0	10.0	11.3
Managers/Proprietors in Agriculture and Services	4.2	3.7	4.0	3.5	3.9	3.6	4.1	3.5	3.1	2.6
Science and Technology Professionals	3.2	3.9	3.9	4.4	3.7	4.4	2.9	3.3	2.9	3.4
Health Professionals	1.2	1.4	0.8	0.8	0.8	0.9	0.7	0.8	0.7	0.8
Teaching and Research Professionals	4.6	5.5	4.1	4.5	3.9	4.3	4.9	5.8	4.4	4.9
Business and Public Service Professionals	4.9	6.1	2.8	3.3	2.5	2.9	2.2	2.4	2.0	2.3
Science and Technology Associate Professionals	2.1	2.4	2.2	2.5	2.1	2.6	1.9	2.2	1.8	2.1
Health and Social Welfare Associate Professionals	3.8	4.8	3.0	3.1	2.9	2.9	3.3	3.3	3.3	3.7
Protective Service Occupations	1.6	1.8	1.5	1.8	1.2	1.6	0.9	1.0	1.2	1.4
Culture, Media and Sports Occupations	4.0	5.3	2.3	2.7	2.1	2.7	1.9	2.4	1.6	2.1
Business and Public Service Assoc. Professionals	7.3	8.3	5.8	6.3	5.3	5.8	4.8	5.2	4.6	5.2
Administrative and Clerical Occupations	9.9	7.3	9.8	8.0	9.4	8.0	9.2	7.9	9.7	9.5
Secretarial and Related Occupations	4.1	2.6	4.1	2.8	3.7	2.6	3.2	2.3	3.2	2.4
Skilled Agricultural Trades	0.5	0.5	1.2	1.2	1.1	1.2	1.7	1.6	1.4	1.4
Skilled Metal and Electrical Trades	3.4	2.2	4.1	2.8	4.6	3.2	4.5	3.1	5.8	3.7
Skilled Construction and Building Trades	2.7	2.2	3.3	3.2	3.9	3.5	4.2	4.2	3.8	3.1
Textiles, Printing and Other Skilled Trades	2.0	1.6	1.9	1.8	2.2	2.0	2.3	2.1	2.1	1.9
Caring Personal Service Occupations	3.9	5.2	5.0	7.0	5.0	6.8	5.9	8.1	5.9	8.6
Leisure and Other Personal Service Occupations	2.0	1.9	2.1	2.2	2.0	2.1	2.0	2.1	1.9	2.0

**Table 6.17: Employment shares by SOC sub-major group, by region, 2002-12 (column %) (continued)**

	Regions:		London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Sales Occupations	5.1	5.0	6.3	6.7	6.5	6.5	7.5	8.4	6.5	7.0	6.5	7.0
Customer Service Occupations	1.4	1.7	1.4	1.9	1.4	1.9	1.4	1.9	1.4	1.9	1.4	2.2
Process, Plant and Machine Operatives	1.8	0.8	3.3	2.3	4.5	3.5	4.7	3.6	7.0	5.4	7.0	5.4
Transport and Mobile Machine Drivers and Operatives	3.2	3.0	3.2	3.4	3.6	3.7	3.3	3.4	3.9	4.2	3.9	4.2
Elementary Occupations: Trades, Plant and Machine-Related	2.2	1.5	3.4	2.8	4.1	3.3	4.3	3.5	4.6	3.4	4.6	3.4
Elementary Occupations: Clerical and Services-Related	7.1	5.2	7.1	5.7	7.4	5.7	7.6	6.0	7.3	5.5	7.3	5.5
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

*Source: Wilson et al. (2003).*

Table 6.17: Employment shares by SOC sub-major group, by region, 2002-12 (column %) (continued)

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Corporate Managers	10.6	12.2	9.7	11.1	9.9	11.0	8.2	9.3	11.5	13.3
Managers/Proprietors in Agriculture and Services	3.7	3.3	3.6	3.3	3.5	3.1	3.5	3.3	3.8	3.4
Science and Technology Professionals	2.9	3.5	2.4	2.8	3.0	3.6	2.5	2.9	3.2	3.7
Health Professionals	0.9	1.0	0.9	1.0	0.8	0.9	1.1	1.4	0.9	1.0
Teaching and Research Professionals	4.1	4.5	4.5	4.9	5.3	6.3	4.4	4.6	4.5	5.1
Business and Public Service Professionals	2.2	2.6	2.1	2.5	2.1	2.3	1.9	2.1	2.8	3.3
Science and Technology Associate Professionals	1.8	2.2	1.9	2.4	2.1	2.6	2.2	2.7	2.0	2.4
Health and Social Welfare Associate Professionals	3.2	3.3	3.2	3.0	3.6	3.9	3.9	4.3	3.3	3.6
Protective Service Occupations	1.1	1.3	1.4	1.6	1.4	1.5	1.6	1.8	1.3	1.6
Culture, Media and Sports Occupations	1.4	1.7	1.5	1.8	1.6	2.0	1.2	1.3	2.2	2.8
Business and Public Service Assoc. Professionals	4.4	4.9	4.2	4.5	4.5	4.8	3.6	3.6	5.3	5.8
Administrative and Clerical Occupations	9.0	8.4	9.6	9.6	10.1	9.9	9.7	9.2	9.7	8.5
Secretarial and Related Occupations	3.1	2.4	3.1	2.5	3.0	2.4	2.6	2.0	3.5	2.5
Skilled Agricultural Trades	1.4	1.3	1.3	1.3	1.0	1.0	1.3	1.3	1.1	1.1
Skilled Metal and Electrical Trades	4.9	3.2	4.6	3.0	4.7	3.1	5.0	3.5	4.5	3.0
Skilled Construction and Building Trades	3.7	3.1	3.9	3.2	3.4	2.9	4.0	3.8	3.5	3.1
Textiles, Printing and Other Skilled Trades	2.2	1.7	2.3	2.1	2.3	2.1	2.2	2.0	2.2	1.9
Caring Personal Service Occupations	6.4	9.5	6.0	8.3	5.7	8.0	5.8	7.9	5.3	7.4
Leisure and Other Personal Service Occupations	1.9	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.1

**Table 6.17: Employment shares by SOC sub-major group, by region, 2002-12 (column %) (continued)**

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Sales Occupations	6.7	7.4	7.3	8.2	7.0	7.4	7.8	8.6	6.5	6.9
Customer Service Occupations	1.4	2.0	1.4	2.1	1.5	2.2	1.3	1.9	1.4	1.9
Process, Plant and Machine Operatives	6.9	5.3	6.4	5.0	5.5	3.8	6.6	5.7	4.7	3.4
Transport and Mobile Machine Drivers and Operatives	3.8	3.8	4.1	4.2	4.2	4.3	3.9	4.0	3.6	3.7
Elementary Occupations: Trades, Plant and Machine-Related	4.8	3.8	4.9	3.9	3.8	2.8	4.8	3.9	3.8	3.0
Elementary Occupations: Clerical and Services-Related	7.5	5.4	7.8	5.7	7.8	6.0	8.9	6.8	7.5	5.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Wilson et al. (2003).

Table 6.18: Projected employment changes by occupation, 2002-12

	Regions:									
	London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Corporate Managers	157	25	135	24	80	25	50	19	45	18
Managers/Proprietors in Agriculture and Services	-10	-5	-8	-5	-1	-1	-11	-10	-12	-15
Science and Technology Professionals	41	28	35	22	26	27	13	18	17	23
Health Professionals	13	24	6	20	6	30	2	11	3	19
Teaching and Research Professionals	55	27	27	16	19	18	28	23	15	13
Business and Public Service Professionals	74	34	28	24	17	25	9	17	11	21
Science and Technology Associate Professionals	23	24	21	23	17	31	11	24	10	21
Health and Social Welfare Associate Professionals	56	32	13	10	6	8	3	3	14	16
Protective Service Occupations	14	20	20	33	11	34	2	11	7	22
Culture, Media and Sports Occupations	72	40	25	27	21	39	14	31	13	31
Business and Public Service Assoc. Professionals	70	22	38	15	25	18	17	14	19	16
Administrative and Clerical Occupations	-92	-21	-49	-12	-21	-9	-22	-10	5	2
Secretarial and Related Occupations	-60	-32	-47	-27	-24	-25	-21	-26	-17	-21
Skilled Agricultural Trades	3	13	6	12	4	15	0	0	0	0
Skilled Metal and Electrical Trades	-49	-32	-44	-26	-31	-26	-30	-27	-49	-33
Skilled Construction and Building Trades	-17	-14	4	3	-5	-5	5	5	-14	-15
Textiles, Printing and Other Skilled Trades	-13	-14	-2	-2	-3	-5	-2	-3	-4	-7
Caring, Personal Service Occupations	72	41	105	50	62	48	62	42	77	51
Leisure and Other Personal Service Occupations	0	0	14	17	8	15	5	9	5	10

Table 6.18: Projected employment changes by occupation, 2002-12 (continued)

	London		South East		East of England		South West		West Midlands	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Sales Occupations	9	4	33	13	12	7	33	18	21	12
Customer Service Occupations	19	31	25	42	17	46	15	45	21	58
Process, Plant and Machine Operatives	-46	-56	-33	-24	-21	-18	-22	-19	-36	-20
Transport and Mobile Machine Drivers and Operatives	-3	-2	20	15	11	12	8	9	11	11
Elementary Occupations: Trades, Plant and Machine-Related	-26	-27	-19	-13	-13	-13	-15	-14	-25	-22
Elementary Occupations: Clerical and Services-Related	-73	-23	-42	-14	-33	-17	-34	-18	-41	-22
<b>Total</b>	<b>288</b>	<b>6</b>	<b>312</b>	<b>7</b>	<b>189</b>	<b>7</b>	<b>120</b>	<b>5</b>	<b>94</b>	<b>4</b>

Source: Wilson et al. (2003).

Table 6.18: Projected employment changes by occupation, 2002-12 (continued)

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Corporate Managers	41	20	41	18	44	14	12	14	605	21
Managers/Proprietors in Agriculture and Services	-5	-7	-4	-4	-11	-10	-2	-5	-63	-7
Science and Technology Professionals	14	24	13	23	20	21	4	17	183	23
Health Professionals	4	26	4	21	2	8	3	21	44	20
Teaching and Research Professionals	10	13	12	12	36	22	3	8	207	19
Business and Public Service Professionals	10	24	11	22	10	14	2	12	171	25
Science and Technology Associate Professionals	9	25	12	28	17	25	6	25	125	25
Health and Social Welfare Associate Professionals	4	7	-2	-2	13	11	4	10	111	13
Protective Service Occupations	4	18	6	19	6	13	3	16	73	22
Culture, Media and Sports Occupations	7	24	8	22	14	26	1	7	175	32
Business and Public Service Assoc. Professionals	13	15	11	12	15	11	1	2	209	16
Administrative and Clerical Occupations	-7	-4	11	5	1	0	-4	-4	-180	-7
Secretarial and Related Occupations	-12	-20	-12	-16	-19	-20	-6	-22	-218	-25
Skilled Agricultural Trades	0	0	1	4	1	5	0	-1	16	6
Skilled Metal and Electrical Trades	-31	-32	-36	-34	-50	-33	-16	-30	-337	-30
Skilled Construction and Building Trades	-9	-12	-13	-15	-12	-11	-2	-5	-65	-7
Textiles, Printing and Other Skilled Trades	-8	-19	-4	-7	-5	-7	-3	-12	-42	-8
Caring Personal Service Occupations	68	53	61	44	79	43	23	37	608	46
Leisure and Other Personal Service Occupations	3	9	5	10	4	6	1	6	44	9



Table 6.18: Projected employment changes by occupation, 2002-12 (continued)

	East Midlands		Yorks and The Humber		North West		North East		All Regions (England)	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Sales Occupations	19	14	29	17	19	8	10	12	185	11
Customer Service Occupations	14	52	19	61	26	55	7	50	162	47
Process, Plant and Machine Operatives	-27	-20	-26	-18	-50	-29	-8	-12	-270	-23
Transport and Mobile Machine Drivers and Operatives	4	6	6	7	7	5	1	2	65	7
Elementary Occupations: Trades, Plant and Machine-Related	-17	-18	-21	-18	-29	-24	-9	-18	-174	-18
Elementary Occupations: Clerical and Services-Related	-39	-26	-42	-23	-52	-21	-21	-22	-377	-20
<b>Total</b>	<b>70</b>	<b>4</b>	<b>91</b>	<b>4</b>	<b>86</b>	<b>3</b>	<b>9</b>	<b>1</b>	<b>1,259</b>	<b>5</b>

Table 6.19: Projected changes in occupational structure by region

Government Office Regions	London	South East	East of England	South West	West Midlands	East Midlands	Yorkshire and The Humber	NorthWest	North East	England
11 Corporate Managers	+	+	+							+
12 Managers and Proprietors										
21 Science/Tech Professionals	+	+	+		+	+	+	+		+
22 Health Professionals									+	+
23 Teaching/Research Prof.	+			+				+		+
24 Business/Public service Prof.	+	+	+		+	+	+			+
31 Science/Tech Associate Prof.	+	+	+	+	+	+	+	+	+	+
32 Health Associate Prof.	+									
33 Protective Service Occupations	+	+	+		+					+
34 Culture/Media/Sport Occs	+	+	+	+	+	+	+	+		+
35 Bus/Public Serv. Assoc. Prof.	+									
41 Administrative Occupations	-									
42 Secretarial and Related Occs	-	-	-	-	-	-	-	-	-	-
51 Skilled Agricultural Trades										
52 Skilled Metal/Elec Trades	-	-	-	-	-	-	-	-	-	-
53 Skilled Construct. Trades										
54 Other Skilled Trades										
61 Caring Personal Service Occs	+	+	+	+	+	+	+	+	+	+
62 Leisure/Oth Pers Serv Occs										
71 Sales Occupations										
72 Customer Service Occupations	+	+	+	+	+	+	+	+	+	+
81 Process, Plant and Mach Ops	-	-	-	-	-	-	-	-	-	-
82 Transport Drivers and Ops										
91 Elementary Trades/Plant/Stor	-									
92 Elementary Admin/Service	-									

Source: Wilson et al. (2003).

level of employment in 2002 and/or 2012 is 100,000 or greater

+

2002-2012 growth is forecast to be 20 per cent or greater

-

2002-2012 growth is forecast to be -20 per cent or less

2002-2012 growth is forecast to be 10 per cent or greater. Row and column titles only.

2002-2012 growth is forecast to be -10 per cent or less. Row and column titles only.

- 6.95 The projections also enable a more detailed examination of occupational trends at regional level, using the 25 SOC 2000 sub-major occupational groups (see Tables 6.17, 18 and 19). Table 6.20 provides some further insights into how the importance of different occupational categories varies across regions, as well as those which are growing or declining most rapidly.
- 6.96 Although the overall patterns of change are common across regions, because of their different existing employment structures there are substantial regional variations in the projected changes. Table 6.21 provides an overview of this more complex picture. The shading and use of + and - signs in the cells helps to highlight which occupations are numerically important in different locations as well as which are growing or developing most rapidly. The shaded cells indicate employment of 100,000 or more in either 2002 or 2012.
- 6.97 This illustrates the dominance of London and the South East regions but also highlights the importance of particular types of jobs in other regions. The + signs indicates rates of growth of employment in excess of 20 per cent over the period 2002-2012. Certain occupations are expected to achieve this in every region (science/technology associate professionals, caring personal service occupations and customer services occupations). Rapid job losses in excess of 20 per cent, indicated by the '-' sign, are concentrated amongst low and unskilled occupations, especially in London, the West Midlands and the North West.
- 6.98 Specific features within individual regions can be highlighted by focusing on some of the most rapidly growing occupations. The fastest increases are expected in customer service occupations and caring personal service occupations (e.g. lower-skilled jobs in health care, child care and animal care). In the case of the former, a 47 per cent increase is projected for England as a whole. The fastest increases are expected in the East and West Midlands, Yorkshire and the Humber and the North East, with the slowest increases being in London. For the latter, rates of growth are less varied across regions.
- 6.99 Rapid growth, nationally, is also expected amongst professionals such as science and technology, health, and business and public service professionals. Amongst business and public service professionals (e.g. solicitors, surveyors, accountants, social workers and architects), a 25 per cent increase is anticipated for England as a whole. Here the largest increases are expected in London. The South East and the East of England also have average rates of increase. Much slower increases are expected elsewhere.
- 6.100 Another group projected to have rapid growth (of some 32 per cent between 2002 and 2012) is culture, media and sports occupations (e.g. designers, media, sport and fitness occupations). Here regional variations are less marked, although again it is London and the South East that are projected to have the fastest increases.
- 6.101 There are also some regional variations in the patterns of declining occupations. For the group expected to experience the most rapid decline nationally, skilled metal and electrical, where a decline of around 30 per cent is anticipated, regional variations are not great.

*There is considerable variation across regions at a detailed occupational level.*

*Healthcare, childcare and animal care occupations are projected to grow especially rapidly in the East and West Midlands.*

*Demand for business and public service occupations is expected to grow fastest in London and the South East.*

*Amongst declining occupations, some of the most rapid losses are for skilled metal and electrical trades.*

*Most of the operative jobs that are expected to be lost are in London.*

*Projecting the supply of skills is even harder than predicting demand.*

*It is important to distinguish between stocks and flows.*

*A variety of projections are produced, but they are all fairly aggregate.*

*Demographic considerations suggest a decline in numbers...*

6.102 Secretarial and related occupations (e.g. typists and receptionists) are expected to decline by around 25 per cent. Some regional variations are apparent, however, with the largest and fastest losses being experienced in London (22 per cent). Process, plant and machine operatives are expected to experience a decline of around 23 per cent in England as a whole, but with very large variations being expected across the regions. As many as 52 per cent of such jobs are anticipated to be lost in London.

### Prospects for the Supply of Skills

6.103 There is only very limited evidence about the future supply of skills. There are conceptual and practical problems of forecasting the supply in occupations or the supply of key and generic skills. Research in this area is therefore focused around qualifications rather than the various other measures of skill.

6.104 It is important to make a distinction between the stock of people in possession of formal qualifications and the various flows into and out of this stock. Most of the data on stocks relate to the highest qualification held and focus on those in employment rather than the total number available with particular qualifications. These problems are reflected in what is available in the way of forecasts. Data on the flow of people through the educational system as they acquire formal qualifications are abundant, especially for higher-level qualifications. Information on many other aspects of supply is much more limited, including mortality rates and migration flows as well as economic activity rates (which provide an indicator of outflows due to retirement). Given the ease of geographical mobility such flows are also an important factor at country/regional level, especially for those with higher-level qualifications. Available data are weak and so few serious attempts have been made to undertake projections at a regional level.

6.105 The DfES makes projections of participation in higher and further education, but these are not published in any detail. The Institute for Employment Studies has issued short-term projections of graduate output. The most comprehensive projections currently available, however, are those produced two years ago by the IER (Wilson, 2001a and 2001b). These focus upon higher-level qualifications (NVQ Level 3+).

6.106 Differentiating demand and supply is far from straightforward, especially for lower-level qualifications. The projections of demand discussed above are subject to quite large margins of error. The results should therefore be regarded as indicative rather than precise predictions. It is also important to recognise that the projections usually make no allowance for any equilibrating mechanisms to bring supply and demand into balance, although this is a basic assumption used for one of the main scenarios considered by IER (the balance scenario).

6.107 Demographic considerations lie at the heart of any projection of supply. The population is ageing and the size of the cohort of young people who are the most active in acquiring qualifications is declining. The overall size of the 21-year-old cohort fell by around a third between 1985 and 1998. This has

meant a significant fall in the potential numbers available to acquire qualifications. The share of young people in the total population is expected to continue to fall over the next two decades.

- 6.108 Educational participation rates in higher education (HE) have risen steadily. The measure used by IER has increased from 5-10 per cent up until the early 1980s to over 30 per cent in the mid 1990s. Rates are likely to remain high (at least 35 per cent and possibly as high as 45 per cent if the Government's target of 50 per cent for the Initial Entrant Rate for those aged 18-30 is met). As a consequence, numbers acquiring higher-level qualifications will continue to rise. Achievement of the Government's target for the increase in the Initial Entrant Rate will be dependent on policies relating to fees, grants and loans. Participation of other age groups in HE have also been rising, especially for mature students. These have been growing in importance and are expected to continue to do so.
- 6.109 Participation rates for young people in post-compulsory education have risen steadily and are approaching 100 per cent for 16-18-year-olds. Participation of other age groups in further education has also been rising, especially amongst more mature students. As a consequence, the acquisition of formal qualifications at NVQ Levels 2 and 3 will continue to rise.
- 6.110 At first degree level, currently around 250,000 a year are obtaining such qualifications. This could increase to over 350,000 a year if Government targets for the Initial Entrant Rate are met. But the composition of this flow is changing and there are question marks about quality standards. Regarding subject mix, there is a continuing shift away from science and a move in recent years towards a more modular approach involving multiple disciplines.
- 6.111 If Government targets for the Initial Entrant Rate are met by the end of the present decade, this could result in some 3 million more people in employment with degree level qualifications NVQ Levels 4 or 5. Even on much more modest assumptions, an increase of around 1.5 million is anticipated.
- 6.112 The numbers acquiring NVQ Levels 1-3 have also been rising rapidly, reflecting the increased participation rates in post-compulsory education. Many go on to acquire higher-level qualifications, so the impact on the stock of people with these as their highest qualification is not expected to change greatly.
- 6.113 As far as gender mix is concerned, the numbers of women acquiring formal qualifications have been increasing more rapidly than males at most levels. Women accounted for 50 per cent of the total inflow of newly qualified people at NVQ Level 4-5 in the late 1990s.
- 6.114 Until recently, net migration has not been of great significance. Since the early 1990s, from a position of balance, the numbers flowing in have outweighed outflows. Net migration appears to have peaked at just under 200,000 in the late 1990s. Just over 100,000 a year are currently coming into the country. This is greater than the natural increase resulting from

*But this is expected to be offset by rising educational participation rates.*

*The acquisition of formal qualifications is projected to continue to increase, especially at higher levels...*

*...but the impact on the stocks available with intermediate level qualifications will be modest.*

*Females will show the most rapid increases.*

*Migration is becoming an important consideration.*

births exceeding deaths. The range of skills held by immigrants ranges across the complete spectrum. However, an analysis by ONS suggests that, on average, immigrants are more highly skilled than the population as a whole. Migration therefore contributes positively to the stock of skills in the UK, especially for health service personnel (nurses and doctors). Migration could contribute as many as 250,000 extra people with NVQ Level 4 or 5 qualifications between 2000 and 2010, if recent trends continue.

*Labour market participation rates will also play a part.*

*Stocks of persons with qualifications will rise substantially, especially at higher levels (NVQ Levels 4 and 5).*

- 6.115 Falling labour market participation rates (earlier retirement and increasing participation in HE and FE) have been a key feature for most groups. The typical retirement age for men has steadily fallen, with many now leaving in their 50s. In the case of women, activity rates for prime-aged women have risen, but they have fallen for younger and older ones (for the same reasons as for males). According to earlier IER projections (Wilson, 2001a), women are expected to account for almost 50 per cent of the work force by 2010. Further reductions in activity rates for older people seem likely although the Government is concerned about the implications for pensions. A larger proportion of women have also been retiring early but the government has introduced legislation to raise the official retirement age from 60 to 65, in line with men.
- 6.116 The total numbers of those economically active, holding higher-level qualifications (NVQ Levels 4 and 5) increased by over 2.5 million between 1991 and 2000. Overall numbers were projected by IER to increase by at least a further 2.5 million over the decade to 2010, increasing substantially their shares of the workforce (see Wilson, 2001a). Outflows from retirement and mortality are far outweighed by inflows, especially of newly qualified entrants. As noted above, net migration has become more significant in quantitative terms in recent years. This may play an increasingly important role, especially for certain occupations such as health professional and associate professional.
- 6.117 Stocks of those with NVQ Level 1-3 as their highest qualification were not modelled explicitly in these projections. However, the numbers acquiring such qualifications increased substantially between 1991 and 2000. This resulted in a net increase of around 3 million in the stock of people with NVQ Levels 1-3 as their highest qualification (over two-thirds reaching NVQ Level 2 or 3). Many go on to acquire even higher qualifications; therefore the stock holding NVQ Level 1-3 as the highest qualification may decline, despite large (and even growing) numbers continuing to acquire such qualifications. Future stock numbers were therefore expected to change only slightly. The overall numbers with no qualifications fell by 3 million between 1991 and 2000 to around 3.6 million. Further, more modest, reductions were projected by IER (Wilson, 2001). The stock of those with no formal qualifications was projected to continue to shrink. However a rump of 1.5-2.5 million with no qualifications was projected to remain even by 2010.

## Future Skill Imbalances and Deficiencies

6.118 Respondents in ESS2002 were asked to identify which skills were likely to become more important over the next two to three years (Hillage, *et al.* 2002). All establishments reported that skill needs would change in at least one occupational area. In general, skill needs were expected to change in the future due to the introduction of: (a) working practices; and (b) new technology (both mentioned by just over half of all establishments). The key skills expected to become more important over the next two to three years were:

- communication;
- customer handling;
- team working; and
- management.

Employers reported that the importance attached to customer-handling skills stemmed from growing customer expectations.

6.119 Follow-up interviews were conducted with a small number of ESS2002 respondents to ascertain whether the skill needs they had identified were changing more quickly than the two to three year period specified. Most did not think that skill demand was changing more quickly; nearly all those who thought skills were changing at a faster pace referred to IT and other technical change, such as the introduction of e-commerce (Hillage, *et al.* 2002).

*Surveys of employers also suggest that the needs for certain types of generic skills will increase significantly in the future, especially for IT skills.*





Skills in England 2003

Volume 2

Chapter 7: Skills and Organisational Performance



## Chapter 7: Skills and Organisational Performance

### Introduction and Summary

- 7.1 As indicated earlier, policy is increasingly oriented towards stimulating a demand for skills. An important, possibly the main, element of this is to persuade employers to raise the level of skills they require and utilise in the workplace. To this end a number of plans have been put in place, such as the LSC's *Workforce Development Strategy*. But if employers are to be persuaded to deploy higher levels of skills, they require evidence that it will generate a return. In other words, the business case needs to be made.
- 7.2 There is a growing body of evidence linking skills to organisational performance, but the picture is complex. One element of the story is clear: on balance, firms with more skilled workers have higher productivity, which enables them to pay higher wages. What is much more difficult to show is that a more skilled workforce is associated with higher profitability.
- 7.3 A number of studies provide evidence highlighting the relationship between labour quality, skills and productivity differences between companies. A significant proportion of the benefit of higher skills finds its way to individuals in the form of higher wages because they represent a cost to the firm and may have the effect of reducing the potentially beneficial effects of higher productivity on profitability. But in the long run, higher wages are only sustainable if supported by productivity improvements.
- 7.4 As well as being in the possession of higher-level skills, organisations need to deploy this resource effectively to ensure that returns are obtained. This is not a trivial point. One only has to look to the massive literature on the effective management of people to see that there are no easy answers to this issue.
- 7.5 Effective deployment of staff also means harnessing their creativity. The evidence reveals that higher-level skills are closely related to various creative activities, including research and development (R&D) and innovation. For example, the evidence demonstrates that a highly skilled/highly competent workforce is:
- more able to engage in innovative activities required for the successful assimilation of externally produced technologies; and
  - more capable of setting up and sustaining new ventures linked to informal and formal R&D and other forms of creativity.
- 7.6 The relationship between skills and organisational performance needs to be seen in the context of the wider economic environment in which an organisation is situated. For example, in a stagnant or declining economy or sector, where product lines are ageing, and where competitive forces (often from cheaper foreign sources) tend to make a cost-reducing product market strategy the most profitable route, the contribution skills might make to alleviating such a situation is difficult to pinpoint. Cost-reduction strategies that focus on minimising the skills necessary in the production of goods and services reinforce a downward spiral, as wages are reduced and, thereby,

*Persuading employers to increase their investment in skills requires the business case to be made.*

*Evidence suggests a strong link between productivity and skills but the link to profitability is less clear-cut.*

*Productivity growth is related to improvements in labour quality.*

*Higher-skill levels can be a source of, and enable, greater creative and innovative activity.*

*A lack of creativity and innovation, linked to an ageing product mix, can be a catalyst for a low-skills trajectory - upon which the economy becomes hooked.*

*High-level skills play a central role in increasing the ability and willingness to undertake creative activities.*

consumer demand for higher specification and higher-quality products falls. The interaction of these factors can lock the economy into a vicious cycle of relative decline. Evidence suggests that in the UK too many firms are in this position (Bosworth *et al.*, 2004).

- 7.7 If the economy is to break out from such a cycle, an increasing proportion of firms need to create and take advantage of technological, market and organisational opportunities that offer the possibility of new (high-value-added) products and services. This requires a combination of informal and formal creative activities, such as R&D, as well as high levels of skills. The empirical evidence is clear: skills play a central role in reducing the risks of creative and innovative activities, making them an economically viable alternative to a cost-reduction strategy.
- 7.8 Any discussion about skills and organisational performance must pay attention to the central issue of management skills. This relates both to concern over the quality of UK management, and to management skill deficiencies within non-management occupations. Even the highest employee skills cannot play an effective role without equivalently high management skills and competencies. A wide range of evidence points to the importance of higher-management education and skills in:
- increasing strategic awareness;
  - giving greater access to sources of finance amongst small firms;
  - reducing the risks associated with following an up-market product strategy, and hence...
  - ...increasing the probability of adopting an up-market strategy; and
  - improving the likelihood that the firm will survive.
- 7.9 The evidence points, therefore, to the need for the deployment of more higher-level skills in the UK. But there are few incentives for companies to demand higher skills in a declining or stagnant economy or sector, characterised by a lack of innovative activity. Skill demands increase under conditions of change, in particular when there are new and profitable technological, market and organisational opportunities emerging. The empirical evidence highlights this as a major concern, because the majority of observed trends (i.e. in R&D, patenting, etc.) paint a picture of the UK economy in relative decline compared with its principal international competitors.
- 7.10 The prevailing view is that the level of skills and competencies of employees lie at the heart of organisational performance. They are a key source of competitive advantage (Prahalad, 1983; Pfeffer, 1994; Wright, *et al.* 1994). But the role played by skills in the real world is complex, and simply boosting the supply of skills will not necessarily improve performance. The role played by skills is linked not only to the types of products and services produced, but also to the introduction of new products and services, and to their modes of delivery to the customer. This applies with special force to the private sector, but much of the discussion below also relates to the public and non-profit making sectors within the British economy.

*Skills lie at the heart of organisational performance, but their role is complex.*

## Cutting the Cake: Who Receives the Rewards from Increased Skills?

- 7.11 When it comes to individual skills and competencies of employees, it is fairly easy to show that, on average, those with higher skills receive greater rewards (i.e. higher salaries). For example, on balance, greater formal qualifications are associated with higher salaries, and higher levels of certain generic skills are also rewarded by the market (see Chapter 5).
- 7.12 But it does not follow that companies employing a more skilled workforce will necessarily perform better in terms of earning higher profits. If, for example, individuals are rewarded for their higher skills in terms of higher salaries, then this is a higher cost to the firm, which, other things being equal, results in lower profits. But it is to be expected that firms investing in high-performance work practices (HPWPs) - including the education and training of their workforce - will also earn a return on this investment.
- 7.13 Of course, other things can never be equal between a high-skilled, high-salary firm and a low-skilled, low-salary one. If they were, the low-skill, low-salary combination would win hands-down every time. Clearly, in order for a high-skills firm to remain competitive with a low-skills company, labour productivity must be necessarily higher in a high-skill, high-salary company. In aggregate this reflects differences between countries. Mason and Wagner (2002, p. 88) note that "... German productivity ... is still large enough to help cover the relatively high labour costs (including social costs) that confront German employers."
- 7.14 Higher output per unit of labour (i.e. labour productivity) can come about by using more capital equipment per employee, which reduces the amount of output per unit of capital used (Porter and Ketels, 2003, pp. 11-12). Mason and Wagner (2002, p. 88) argue that "... the key factors underpinning German industry's continued productivity advantage - and thus its ability to provide employment for relatively high-cost employees - are its accumulated investments in various forms of capital."
- 7.15 But if the firm is to use more capital per unit of output and pay higher wages for the greater skill levels, this implies that output per unit of all inputs (i.e. total factor productivity, TFP) must also rise in order to maintain profit levels. The implications of this are fundamental - labour productivity and TFP must, on average, be higher in a more highly skilled company. What happens to profits depends crucially on whether all of the higher productivity goes to paying higher wages and maintaining the return on capital. To put it a different way, any move to higher skills is limited by the need for the firm to pay workers for these greater skills. Shareholders and managers will only favour a high-skills route if this is the most profitable option; if the move to lower skills and lower wages is more profitable, they will choose to reduce skill levels. In many cases this appears to be the option now being chosen by UK companies.

*Greater skills are rewarded with higher salaries, but firms employing a more skilled workforce do not necessarily earn higher profits.*

*In order for firms to pay higher salaries for greater skills, productivity levels must be greater than in low-skilled firms.*

*Higher skills are linked to greater capital intensity and, thereby, to higher productivity.*

*Shareholders and managers will only favour a high-skills route if this is the most profitable option - if the move to lower skills and wages is more profitable, they will choose to reduce skill levels.*

## Empirical Evidence Linking Skills Performance

### Rates of return on education

- 7.16 The central idea in human capital theory is that investment in skills is associated with higher future productivity and rewarded by higher future earnings. This represents a cornerstone in the link between the acquisition of knowledge and skills and economic outcomes. The main emphasis of empirical research is still probably on the returns on higher education, although there is a fairly extensive literature on the returns on other forms of training, particularly in the USA.
- 7.17 The key UK evidence on rates of return on higher education was summarised in *Skills in England 2002* (pp. 17-30) and summarily in Chapter 5 of the present report (see paragraphs 5.10 to 5.18). This evidence demonstrates that individuals who invest in, for example, a first degree, earn a wage premium over individuals that ceased their education earlier, holding just A-levels, other things being equal. The costs and benefits of undertaking the additional education can be compared and a rate of return calculated. The evidence suggests that the rate of return has only fallen slightly over time despite the increased numbers of students who have flowed through the higher education system and the fact that these individuals have borne a greater proportion of the costs of their education. The evidence also suggests that the rate of return in the UK remains high as compared with other countries (SIE, 2002, p. 30).
- 7.18 This evidence provides few insights when considering more general links between skills and organisational performance, except that the organisations that employ (in this case) more-qualified workers are, on balance, willing to pay them a premium over less-qualified workers.

### Labour quality, productivity and wages

- 7.19 To what extent do improvements in education and training feed through into creating a high-quality workforce that improves individual business performance that, in aggregate, stimulates economic growth? The results at first glance are not encouraging. In a now famous study, Jorgenson and Fraumeni (1992, p. 54) looked at the impact of improvements in the quality of US labour on the growth in output. They disaggregated average growth in US output over the period 1948-86 according to the contributions of the growth in the volume and quality of capital and labour respectively, with the residual representing the growth in output per unit of total input (i.e. TFP). Their estimates suggest that only 0.23 percentage points (about 7 per cent of the total output growth) can be attributed to improvements in labour quality.
- 7.20 This apparently small contribution of labour quality is confirmed in some other studies (O'Mahony, 1999). There are acknowledged methodological difficulties with these type of studies. Mason and Wagner (2002, p. 93), for instance, argue strongly that such analyses fail to take account of complementarities between production inputs; for example, that more highly qualified labour can squeeze more out of given plant and machinery than less highly qualified labour. More intensive analysis based on case studies has been able to tease out the complementarities referred to above.

*Many studies have examined the returns on formal education though fewer studies report formal estimates of returns on firm training.*

*The private rate of return to individuals investing in first degrees has remained high in the UK.*

*But growth accounting methods estimate that only a small proportion of economic growth at a macro level can be attributed to improvements in labour quality.*

7.21 A whole series of National Institute for Economic and Social Research (NIESR) projects comparing matched samples of companies in different countries with those in the UK conclude that skill differentials are linked with productivity differences. Mason and Wagner (2002, p. 20), for example, report that: "In production areas German advantages in physical capital-intensity and production scale were reinforced by higher levels of workforce skills...". The differences in formal qualifications held in corresponding plants in the two countries were marked.

7.22 Other studies provide evidence of links between labour quality, skills (and/or human capital) and productivity differences between companies (Griliches and Regev, 1995; Majumdar, 1998; Lynch and Black, 1995). Castigionasi and Ornaghi (2003) for example, estimate that 45 per cent of TFP growth in a panel of Spanish firms was attributed to improvements in the quality of labour.

### **Human resource and high-performance work practice investments and their impact on performance**

7.23 Understanding the relationship between skills and organisational performance is dependent upon how skills are deployed in the workplace. A highly skilled and qualified workforce is unlikely to generate productivity improvements if the workplace is unable to effectively utilise the talents of its employees. High-performance work practices (HPWPs) - a shorthand used to refer to the various policies and practices needed for the effective deployment of highly skilled employees - are required. Theory suggests that the link between skills and firm performance is most likely to lie in firm-specific or non-transferable skills that are generated through firm-level HPWPs, including investments in employee training. But direct evidence in support of this contention is rather weak. Barrett and O'Connell (2001), for example, review a number of empirical studies across several countries, which examine the link between returns on continuing vocational training and company productivity. Few of these studies report formal estimates of the returns similar to those available for higher education, but, in general, they suggest little support for the direct role of training in boosting firm-level productivity. In contrast, the general Human Resource (HR) and HPWP literature provides considerable support and greater insights about the role of company training. As demonstrated below, the contribution of training should be viewed within the wider system of work practices.

7.24 King (1995) focuses on the effects of three specific working practices:

- training;
- compensation linked to worker or firm performance; and
- employee involvement in decision making (op cit., p. 29).

Here, evidence is found to support the contribution of training to improved company performance. But the main conclusion is that, while all three practices reviewed appear to improve firm performance, "...these positive effects appear to be mutually reinforcing ... the impact on productivity of

*International comparisons of matched plants suggest that productivity differences are partly related to skill differentials.*

*And a range of studies report that growth in total factor productivity is related to improvements in the quality of labour.*

*Evidence of a direct effect of training on company performance cannot be found, except in the context of its role in a broader system of high-performance work practices (HPWPs).*

systems of inter-related practices appears to be greater than the sum of independent impacts when each component is implemented in isolation.” (op cit. p. 30).

- 7.25 King provides a specific example of why a system may be important: “... participation by workers in problem-solving committees may increase productivity if workers actively participate. Guarantees of job security may be necessary to induce workers to share the ideas that may lead to productivity improvements - and possible layoffs. Flexible assignment of workers to jobs might then be needed to make job security viable; assignment flexibility and long-term employment might then make training of workers more attractive to firms. ... Thus, a system of work practices designed with such complementarities in mind will likely result in greater improvements in firm performance.”
- 7.26 A whole stream of subsequent research has documented the effect of various different human resource practices on firm performance (see, for example, Huselid, 1995 and Youndt, *et al.* 1996). While there are issues concerning some of the methodologies, the results paint a consistent picture: “This stream of research has documented statistically and practically significant relationships between various measures of human resource practices and business unit and/or firm outcomes. Effect sizes in these studies typically indicate that a one standard deviation increase in the use/quality of a set HRM practices is associated with approximately a 20 per cent increase in profits (return on assets).” (Gardener *et al.* 2002, p. 3).

### Product Market Strategy, Skills and Dynamic Performance

- 7.27 There is a growing realisation amongst policy makers that firm product market strategy plays a central role in determining the demand for skills. The underlying idea is that both the supply of skills and demand for skills must be adjusted consistently and at the same time if there is to be a successful shift from a low- to a high-skills economy.
- 7.28 The skills demanded in any economy, sector or locality, at a given point in time, depend crucially on the nature of the products or services being produced there. In the main, lower levels of technology and product/service complexity, coupled with an ageing mix of products, reduce the skills demanded as well as remuneration levels. By implication, what happens to the demand for skills over time depends crucially on the changing mix of activities in terms of their technology, product complexity (or product/service specification) and stage of the product life cycle.
- 7.29 In order to understand the changing demand for skills (and why skills are viewed as a comparatively low-ranked issue by many firms in the UK), it is helpful to consider a more dynamic view of the firm. The analysis of Youndt *et al.* (1996) provides a bridge between the skills and competencies of the firm, HR systems and the product market strategies adopted. The bridging factor is in the degree of risk - the likelihood of success or failure - that the different skills bases produce in the adoption of different strategies.

*Individual HPWPs are likely to improve enterprise performance, but the major benefits come from adopting a system of complementary HPWPs.*

*There is overwhelming empirical evidence that systems of high-performance work practices improve firm performance - to be effective, skills development should be part of a broader package of HPWPs.*

*The demand for skills is a function of the age and complexity of products, and the product market strategies that firms adopt.*

*Managements' perception of the riskiness of alternative product market strategies are dependent on the skills and competence base.*



- 7.30 Take, for example, a firm with a low skills base that has an HR system to match (i.e. one with little emphasis on investment in skills or training). The risks of adopting a strategy based on cost reduction would be low, while the risks of adopting a quality-increasing strategy would be high, other things equal. In contrast, a high-skills firm, with an HR system that is designed to maintain or increase skill levels, would find the quality-increasing strategy much less risky than the low-skills firm.
- 7.31 A key finding is that firms that “do little” generally report having few skills problems (Bosworth, *et al.* 2000). A second key finding is that firms that adopt cost-reducing product market strategies<sup>1</sup> (rather than moving up-market by improving quality and moving to higher-value-added products) will not generally experience major skill problems, except in one regard: if they are low-paying companies, they may still find it difficult to recruit or keep certain workers.

*Firms adopting cost-reducing strategies are unlikely to experience major skill shortages unless they pay significantly under the odds.*

## Evidence Linking Skills, Product Market Strategies and Dynamic Performance

- 7.32 Higher levels of skills and competencies are likely to be required during the set-up and early growth period of a company. Firms may also require more skills and competencies during periods when they attempt to grow through change, particularly linked to changes in product mix and/or improvements in product quality (Bosworth, 2004). There is particular evidence that periods of major change, such as new product launches or merger activities are times of high risk, requiring high levels of skills and competence to ensure success (*op cit.*). Higher skills and competencies throughout the enterprise raise the probability of success and reduce the risk attached to higher-level product strategies.
- 7.33 Management skills play a key role (Bosworth, 1999 and 2004; Bosworth and Massini, 2001). The level and nature of the management skills (i.e. entrepreneurship and leadership skills) required are likely to differ between firms attempting to move up-market (where greater creativity, lateral thinking, flexibility, employee involvement in decision making, etc. may be required) and firms moving down-market (where a more managerial, hierarchical control climate may be needed). Moving down-market does not necessarily mean that the firm opts for lower quality as such, but that it continues to produce an existing, ageing product that is falling in quality relative to new products on the market.
- 7.34 It is managers who make the key decisions in terms of the goals and strategies of the company, the HPWP systems adopted (including training) and whether or not to undertake R&D, etc. A number of pieces of research have shown that firms with more qualified managers are: (i) more likely to adopt a formal goal for the enterprise; and (ii) more likely to be successful in terms of their profitability (Woods, 1992; Bosworth, *et al.* 1992; Barry, *et al.* 1997).

*UK firms may be doing too little to raise product quality/develop new higher-quality products.*

*Successful technological and organisational change depends upon high-skill levels, including management competencies.*

*Managers and management skills are crucial to the broader success of the enterprise.*

- 7.35 Evidence from the DfES's *Extent Causes and Implications of Skill Deficiencies*

<sup>1</sup> There is an important distinction here between efficiency-increasing and cost-reducing strategies, as the latter are more likely to be de-skilling (Bosworth, 2004)

*Investment in skills is central to the successful management of change.*

*There is strong evidence linking the education levels of managers with the choice of product market strategy.*

*Evidence suggests that, on average, undertaking high-risk, high-skilled investments, such as R&D, improves enterprise performance.*

study revealed that successful organisations were engaged in an ongoing process of change, designed to protect their product market position by moving out of market sectors where levels of value-added were falling (as usually happens over the product lifecycle) (Hogarth and Wilson, 2001). That process of change requires a substantial investment in the skills of the workforce.

- 7.36 Evidence from the *Employers Skill Survey, 1999* (ESS1999) revealed the importance of some of the factors related to the choice of high-level firm goals and product market strategies (Bosworth, 2001a). The results suggest that such goals were linked to the minimum level of qualifications typically required of managers. Where no qualifications were required of managers, the enterprise was less likely to choose a "quality of product or service" goal than a "sales" goal; but where a degree or higher degree was needed for entry to management, enterprises were more likely to choose a quality than a sales goal.
- 7.37 Enterprises that indicated a move to new higher-quality products was very important were most likely to require managers to hold a degree or higher. On the other hand, those reporting that improvements to existing products were very important were most likely to require A-levels or BTECH Higher as the highest qualification. Enterprises reporting that improving efficiency was very important, were most likely to require fewer than five GCSEs.
- 7.38 Of course, this is not proof that more highly qualified managers impose more quality-oriented goals on the firm (i.e. it is possible that firms adopting such goals appoint more highly qualified managers) - but it is suggestive of this result.
- 7.39 The ESS1999 results revealed that not only did companies that emphasised product innovation set higher minimum levels of management qualifications for new recruits, but that their existing managers were more likely to hold these minimum levels. Consistently, the results suggest the degree of emphasis placed on product quality and the proportion of managers in the enterprise possessing at least the minimum qualification for recruits increase in line.

## Research and Development, Innovation and Skills

- 7.40 Research and development (R&D) - which can be taken as a proxy for creative activities more generally - is strongly and positively related to enterprise performance. Organisational performance has generally been measured by one of two main indicators: (i) market valuation (i.e. the expected discounted sum of future dividends or profits); and (ii) TFP. These give broadly consistent results, invariably supportive of the role played by own-R&D in enterprise performance (Bosworth, 2004). For example, Hall (1993) - explaining market valuation amongst a large sample of US companies, reports that, although the mean level of R&D and advertising expenditures was almost the same, the associated effect on valuation for the period as a whole were around four to five times as high for R&D as for advertising.

- 7.41 R&D spillovers - the way in which one firm benefits from the pool of R&D knowledge created by other firms - are also important. Griliches (1992, pp. S43-44) argues that "... there has been a significant number of reasonably well done studies all pointing in the same direction: R&D spillovers are present, their magnitude may be quite large, and social rates of return remain significantly above private rates. ... R&D returns account for half of the growth in output per man and about three quarters of the measured TFP growth, most of the explanatory power coming from the spillover component ...".
- 7.42 Other evidence suggests that these spillover benefits do not fall like manna from heaven equally on all firms - the impact of the spillover on each firm depends upon the extent of their own R&D (Cohen and Levinthal, 1989). Bosworth *et al.* (1992), for example, show that the adoption of external technologies (i.e. technologies produced outside of the company but not necessarily spillovers) is aided by the existence of an R&D department within the company and by the existence of more highly qualified workers in R&D activities. Bosworth (1996) shows that in-house R&D has a significant positive impact on the adoption of new technologies, as well as on the total number of new technologies in use.
- 7.43 Mason and Wagner (2002, p. 93) argue that the greater skills of the German workforce help to keep production moving smoothly and this frees up time for strategic incremental process improvements. They provide many other instances of the role played by skills: for example, "... the speed with which new products are transferred to full production - and indeed the 'saleability' of these products - depends in large part on the knowledge and skills of employees engaged in new product design and development ..." (*op cit.* p. 94).

## New Ventures and Skills

- 7.44 All economies are dependent upon the creation of new businesses, and one of the key areas of innovation where special skills are required is in setting up new ventures. Here the type and mix of skills needed are likely to be quite different to those of managing large, established concerns. Storey (1986), for example, in an analysis of County Cleveland, found that individuals working in large firms were unlikely to possess such a wide range of knowledge compared with similar individuals working in a small firm.
- 7.45 While the necessary skills are broad ranging, including technical skills, the evidence suggests that new ventures particularly require social skills and competencies that feed into the social capital of the enterprise (i.e. the ability of the enterprise to mobilise resources because of its external contacts and relationships). Baron and Brush (1999) argue that "... one aspect of entrepreneurs' behaviour that may well influence their success is their social competence - the extent to which they possess and employ discrete social skills that enhance their ability to interact effectively with others (e.g. venture capitalists, potential partners, employees, customers)."

*Society benefits disproportionately from the pool of R&D knowledge, providing a rationale for Government support for R&D spending.*

*Each firm benefits from the pool of R&D generated by all firms, but the extent to which they benefit depends upon their own R&D efforts.*

*Higher skills help the firm to run smoothly, freeing resources to improve products and processes.*

*A wider range and different mix of skills are required in new ventures compared with larger, more established enterprises.*

*Social competencies are central to the establishment and survival of new ventures.*

*Key social skills needed by the entrepreneur include: social perception; impression management; persuasiveness; social adaptability; and communication skills.*

*Social skills and competencies are a sub-set of the generic skills that are becoming increasingly important for all employees.*

*Skills can help firms survive in less obvious ways - such as in the ability to raise essential finance.*

*There is evidence linking the survival of new start-ups to the education level of the entrepreneur.*

- 7.46 A number of social skills have been identified as important determinants of success in various business settings (Bosworth, 2004):
- (i) social perception - the accuracy with which traits, intentions, motives, etc. are perceived in others;
  - (ii) impression management - a variety of techniques (including personal appearance) that an individual can use to induce a positive reaction amongst others;
  - (iii) expressiveness - the ability of an individual to express emotions and feelings and, in doing so, generate enthusiasm amongst other people;
  - (iv) persuasiveness - the ability to change other peoples' views or behaviour;
  - (v) social adaptability - the ability to feel comfortable in or to quickly adapt to a wide range of social situations; and
  - (vi) communication skills - formal and informal forms of communication, including verbal and written reports.
- 7.47 While social skills and social capital are crucial, other features such as drive, creativity and flexibility are also important in understanding entrepreneurship (Wennekers, *et al.* 1997). These findings, with some modification, carry over to large as well as small enterprises - see the earlier discussion of the central role of management (and management skills). In addition, it is clear that social skills are part of the broader group of generic skills that are extremely important for all employees and employers (Pumphrey and Slater, 2002).

## Business Survival, Skills and Competencies

- 7.48 The obverse of new business creation is business survival. The issue of firm survival and its links with human capital has been given relatively little attention and, when links are made, these are often only in passing. But there are a few studies that appear to support a link between skills and business survival (Teixeira, 2002).
- 7.49 Bates (1990) reports that the likelihood of business discontinuance fell sharply for US firms whose owners had four or more years of college education. The effect was mainly an indirect one - college education improved access to debt capital and the improved access to finance increased the probability of survival of the small businesses. This link between skills and access to finance echoes that found in studies of new start-ups.
- 7.50 Reid (*circa* 2000), reporting on a study of Scottish entrepreneurs, compares the distinguishing features of surviving and non-surviving enterprises. While survival depended on a range of factors, survivors were more likely to have gone on into further or higher education than non-survivors. Taking a somewhat broader view of skills and competencies, Reid (*circa* 2000, pp. 1 and 31) concludes that "... firms which survived generally displayed wider and deeper competencies than firms which closed. This was evident in many ways, including commercial orientation and strategic awareness."

7.51 Hamermesh's (1988) study of US workers suggests that, other things being equal, additional years of schooling by workers reduced the probability of plant closure (proxied by the number of displaced workers). Gort and Lee's (2003) study of new manufacturing plants in the USA concludes that variations in managerial endowments are an important determinant of performance. In addition, they report that superior management efficiency was significantly related to the likelihood of the survival of the plant.

## Low-skills Trajectories and Low-skills Equilibrium

7.52 In a high-skills equilibrium<sup>2</sup>, all firms may train to a consistently high standard and pay appropriately for the upkeep of the training system, and the movement of workers between employers is not a major issue (Bosworth, *et al.* 2003). This is a system in which there is little incentive to poach, as all employers contribute to training, have trained workers, and can recruit trained workers. Certainly, natural turnover will cause a loss of firm-specific knowledge and there will be costs of hiring to replace lost workers. But natural turnover will generally be quite low and, in terms of general skills, those workers recruited will be characterised by a consistent high quality, which provides a firm foundation on which to build new firm-specific skills. In a high-skills economy, normal turnover of highly skilled individuals presents little problem, as they can be replaced with individuals of broadly the same level.

7.53 A high level of skills and competencies allows production to run smoothly, giving space to locate and introduce incremental process innovations. High TFP associated with high profit margins allows firms to invest in R&D activities leading to new high-value-added products. In addition, spillovers and externalities mean that despite the high level of training and R&D, private companies still under-invest, and there is an incentive for the Government to supplement training to equate marginal social cost with marginal social benefit.

7.54 In a low-skills economy, however, high-skilled firms that lose labour through turnover are faced by the need to make significant investments in training to increase the skills of recruits to the required levels. In this respect, skills are like R&D - there are distinct spillovers that come from having a larger, higher-quality pool that each firm can draw upon.

7.55 Finegold and Soskice (1988) argued that Britain is trapped in a low-skills equilibrium, "...in which the majority of enterprises staffed by poorly trained managers and workers produce low-quality goods and services" (*op cit* p.22). By this, the authors meant a systems failure, arising from a self-reinforcing network of societal and state institutions that interact to stifle the demand for improvements in skill levels. What is more, individuals and firms in this system act rationally in the face of the incentives that are present and, as a consequence, the economy as a whole ends up in a low- rather than a high-skills equilibrium. While individuals and firms may behave perfectly rationally, the end product of their combined decisions is not optimal, in the sense that society would prefer a high-skill/high-income outcome.

*Evidence also links the survival of larger and more established plants to management and employee qualifications and skills.*

*A high-skills equilibrium is associated with education and training spillovers that reduce the costs of training to employers.*

*A high-skills equilibrium still requires Government to support education, training, R&D, etc. that raise skill levels demanded.*

*The concept of spillovers and externalities applies equally to the pool of educated and trained workers as it does to the pool of R&D knowledge.*

<sup>2</sup> Germany is often offered as an example of a high-skills equilibrium and, despite the recent shocks to its economy - where there is some evidence of a vicious circle emerging, some authors remain optimistic that it will recover to its former position (Culpepper, 1999).

- 7.56 Systems failures offer a complex policy problem - they involve a wide range of interactions between institutional, environmental and incentive structures. Changing any one element may not - indeed, probably will not - bring the required policy outcome. It may even produce a perverse or chaotic result (Kaplun and Glass, 1995).

### Low-skills trajectories

- 7.57 Bosworth *et al.* (2003) argue that a low-skill equilibrium can be both relative (in the sense of countries or regions being at some point along the low-to-high-skill spectrum) and dynamic (in the sense of countries or regions moving towards one end of the spectrum or the other). In some respects, therefore, it is more useful to think of the process, especially at the more micro level of individual organisations, sectors or regions, as following a low-skills trajectory rather than being stuck in an equilibrium. It is important to stress that movements along a trajectory can be slow. In addition, it remains a systems problem - changing just one incentive or constraint may not produce the desired result.
- 7.58 One indicator of a low-skills equilibrium/trajectory is if UK products and services were of lower quality or specification than, say, their German counterparts. Given the importance of international quality differences for economic performance, the lack of systematic studies with this focus is of considerable concern (Bono and Mayhew, 2001). But there are key pieces of evidence (i.e. from R&D and patent data) to suggest that many parts of the UK economy are on such a trajectory (Bosworth, 2004).
- 7.59 The UK's track record in R&D has been poor relative to its major international competitors during the whole of the second half of the 20th century. The R&D/GDP ratio for the UK was about the same in the 1990s as it was in the 1960s. The trend of this ratio relative to the USA and Japan was markedly downwards. According to Porter and Ketels (2003, p. 36), "The R&D gap is increasing; the UK was one of the few advanced economies in which business spending on R&D has fallen relative to GDP in the 1990s".
- 7.60 Case study evidence points in the same direction - "Not only is the scale of automotive R&D much larger in Germany than Britain but the gap appears to be growing as some British-owned companies have recently started to cut back on R&D employment in Britain and expand it in Germany (or neighbouring countries)." (Mason and Wagner, 2002, p. 93).
- 7.61 Despite the general evidence of high social returns on R&D, the UK trends have been for weaker government R&D spending<sup>3</sup>, which is now low by international standards, and also remains much more biased towards defence R&D than for many of our main international competitors (Bosworth, 2004).
- 7.62 Other trends, such as UK patenting activity compared with its main industrial competitors, have also been widely noted (Patel and Pavitt, 1995; Greenhalgh, *et al.* 2000). In a study of the activities of UK companies in the 1980s and 1990s, Greenhalgh *et al.* (2000) conclude that "... a major fall in the rate of patenting in Britain appears not to be explained solely by a shift to

3 Note that there has been the recent introduction of R&D tax breaks, but these are offered by many other countries and are independent of the issue of government-funded R&D.

*At a micro level, the concept of a low-skills trajectory can be more useful than the concept of a low-skill equilibrium - but the adverse features remain.*

*R&D and patenting are indicators of innovation activity - upward movements are likely to be linked to rising demands for higher skills.*

*UK trends in R&D per unit of GDP look very unfavourable compared with its main international competitors.*

*Key areas of R&D formerly undertaken in the UK may be moving abroad.*

*Government funding for R&D exhibits adverse trends and is low by international standards.*

*Trends in patent activity reinforce the message from R&D - showing adverse patterns compared with the UK's main competitors.*

applications directly via Europe. The fall in IP protection affects areas of historical importance to high technology production in the UK." Bono and Mayhew (2001) emphasise the importance of high product specifications in stimulating the demand for high-level skills.

## Changing Strategies

- 7.63 The evidence reviewed in this chapter strongly suggests that high-level skills and high levels of organisational performance are closely associated and that probably they are causally linked. Previous Government interventions have focused upon boosting the supply of skills. This has the advantage that there are a number of obvious policy levers available to change the pattern and levels of education and training activity. Changing supply will not necessarily alter the real demand for skills from employers. Persuading companies towards a high-value-added, high-skill mix strategy is much more difficult to achieve, because there are so few policy levers on the demand side.
- 7.64 In many respects, the obvious policy lever appears to be that of communication and demonstration of good or best practice. Getting the message home is easier said than done, posing real challenges for the LSC, the SSDA and the SSCs. But it is a moot point whether or not this will be sufficient to make a step change in behaviour.
- 7.65 Government procurement policies and R&D initiatives are potentially very important. There are also important questions about market regulation, which can also act so as to lower the level of quality and specification of products and services demanded and provided.
- 7.66 The key issue in many respects is how organisations develop their own product market strategies and deploy their employees accordingly. Porter and Ketels (2003, p. 26) argue that the existence of sophisticated consumers can "educate companies" and "pressure them to produce superior goods and services". While larger UK companies are generally competing in world markets and are not tied to the demands made by UK consumers alone, domestic markets are clearly important, if not the dominant consideration, for the vast majority of UK companies. A lack of sophistication (willingness to pay) in domestic markets can result in a significant disincentive to produce high-quality goods or move up-market.
- 7.67 Porter and Ketels (2003, p. 26) argue that, overall, "The UK ranks high on overall buyer sophistication...". This may well be the case amongst higher-income consumers, but it is much less clearly the case amongst lower-income groups (where potential sophistication may be high, but is not exercised in purchasing patterns). It should be noted that the UK and USA exhibit greater inequality in income distributions than do most other advanced countries - thus, while average incomes may be high, this is comprised of a relatively small proportion of high-income earners and a relatively large proportion of low-income recipients. The implication appears to be that, while a small proportion of individuals may be able to exercise the highest levels of sophistication in buying, this may not be the case for other sections of the population.

*Changing the pattern of demand for skills is difficult to achieve.*

*Exhortation and demonstration effects may not be sufficient.*

*Increased demand for higher-specification products may produce an incentive for increasing skill levels amongst producers.*

*The sophistication of UK buyers may be high on average, but it is reduced by the highly unequal distribution of income.*

*Government has a potentially important role to play in influencing sophistication levels in their procurement policies.*

7.68 A further crucial area for raising the sophistication of demand is in the Government's procurement policy. Here, Porter and Ketels (2003, p. 27) report in their DTI paper that "... the UK ranks low on the sophistication of Government procurement...". While it is a moot point as to whether changes in procurement policy might reverse a low-skills trajectory, it is clear that Government has an important role to play in boosting the level of demand for skills required in the products and services it buys.



Skills in England 2003

Volume 2

Chapter 8: Skills and Active Labour Market Policy



## Chapter 8: Skills and Active Labour Market Policy

### Introduction and Summary

- 8.1 Learning and training can help people improve or gain new skills, become more productive and improve their employability. These returns on investment in human capital are widely recognised and acted upon by individuals and employers. Nevertheless, despite the large volume of training that is undertaken, there are some instances where there is under-investment in skills because of market failures.
- 8.2 Market failures arise for a variety of reasons. Individuals may lack the necessary information to make informed decisions about learning, or lack the incentive or financial resources to invest in skill acquisition. Employers may also lack the necessary incentives to engage in training (fears of poaching and labour turnover). Moreover, market failure is likely to be a dynamic process in which a failure to invest in skills leads to a reduced incentive to invest in skills. Individuals with low skills face a mutually reinforcing combination of poor jobs and poor training opportunities. On the other hand, employers engaged in low-skill activities may find they are locked into a low-skill equilibrium from which there is no incentive or ability to escape.
- 8.3 The fundamental rationale for Government intervention in the market for learning and skills is to address and overcome the market failures that limit investment in learning and skills. An account of such policy and the institutions through which policy is delivered was provided in Chapter 2 of this report. This chapter focuses on one specific, and important, aspect of such policy, namely the role played by training in relation to labour market disadvantage.

### Labour Market Disadvantage and Skills

- 8.4 People with low levels of skills (especially basic or key skills) are much more at risk of unemployment than other people. Similarly, where people have been inactive and out of the jobs market for some time, or have suffered from redundancy, their skills may be obsolete and form a barrier to their employment. While it may be obvious that their chances of employment would be improved by acquiring new skills, people in such circumstances are often least able to address that issue. Partly this is because much training is based in the workplace and partly it is because of the consequences of non-employment on motivation, ambitions and household finances. In short, those who most need training are least able to engage in it.
- 8.5 Active labour market policy (ALMP)<sup>4</sup> - policy intended to facilitate and encourage people into employment - takes many different forms, not all of which involve training. Nevertheless, enhancing the skills of non-employed and disadvantaged people has been a key element of Government policy designed to actively help non-employed people enter paid work. The role played by training in such policies varies considerably. In some instances

*There may be under-investment in human capital because of market failures.*

*Market failures reduce the incentives to invest and erect barriers to the acquisition of skills.*

*Market failures provide a justification for Government intervention to invest in learning and skills.*

*People with low skills are at above average risk of unemployment and...*

*...may be least able to invest in their skills.*

*Active labour market policy is intended to help non-employed people into work.*

<sup>4</sup> Active labour market policy seeks to actively achieve the movement of non-employed people into work, for instance by paying a subsidy to employers or supporting job search. Passive policies merely seek to support non-employed people and mitigate the consequences on non-employment, for instance by payment of benefits.

*Training can play different roles in such policy.*

*Active labour market policy in the 1970s...*

*...was swept away in the 1980s...*

*...but training programmes for young people continued.*

*Active labour market policy was reintroduced with the launch of New Deal.*

*A number of new training programmes have been developed.*

*The 2003 Skills Strategy White Paper sets out future training policy.*

intervention is primarily focused upon the development of skills and meeting the needs of employers. In other instances, training is primarily a mechanism for addressing the lack of employability of individuals.

## Active Labour Market Policy in the UK

- 8.6 ALMP in the UK is the product of a long history that exhibits numerous twists and turns in terms of underlying philosophy and emphasis in delivery. During the 1970s many programmes and initiatives were introduced, some of which focused on training (e.g. the Youth Training Scheme) while others were more concerned with job creation (e.g. the Temporary Employment Subsidy and the Community Programme). Most of these programmes were short-lived or were swept away by the post-1979 Conservative Government in favour of a tougher benefits regime. Although some training programmes for young people survived this shift in policy (Youth Training survived until 1997 when it was transformed into National Traineeship (NT) while Modern Apprenticeship (MA) was launched in 1995), ALMP in the UK between 1979 and 1997 was primarily focused on encouraging active job search<sup>5</sup>.
- 8.7 Since 1997 the scope of ALMP has extended greatly. Most significant has been the introduction of New Deal as part of the Welfare to Work initiative. New Deal for Young People (NDYP), introduced in 1998, offered up to 12 months full-time education and training as an option as well as other training opportunities in the form of short courses, work placements and the like. New Deal 25 Plus, also introduced in 1998, similarly offers opportunities for training to long-term unemployed adults. Both programmes offer such training opportunities in the context of a regime that places great emphasis on job search and the need to obtain a job as the first and foremost priority. Other New Deal programmes also offer support for training, for instance New Deal for Lone Parents, but such support has been more modest.
- 8.8 Alongside the development of New Deal has been the significant reform of more explicit training programmes. Modern Apprenticeships were extensively reformed in 1999 with the introduction of Foundation MAs providing work-based training up to NVQ Level 2 (and replacing National Traineeships) and Advanced MAs offering vocational training at NVQ Level 3. Subsequently, the MA programme, NVQ Learning, Life Skills training and Preparatory Training were moved under the umbrella heading of Work-based Learning for Young People (WBLYP) to mirror the Work-based Learning for Adults (WBLA) programme that had been operated by the Training and Enterprise Councils (TECs) until March 2001, when responsibility for WBLA was transferred to Jobcentre Plus (then called the Employment Service).
- 8.9 Many of the recent institutional changes have stemmed from the 1999 White Paper *Learning to Succeed* and 2001 White Paper *Opportunity for All in a World of Change*. Further change is mapped out in the 2003 Skills Strategy White Paper *21st Century Skills: Realising our Potential*.

<sup>5</sup> *This is, of course, an over-simplification as there were a number of initiatives intended to help the unemployed into work (for instance, Workstart providing a wage subsidy to employers in pilot areas) but these initiatives could not be described as being in the "mainstream".*

## International Comparisons

8.10 The OECD produces estimates of public spending on active labour market policies by OECD member states. The estimates cover the following categories of active labour market policy:

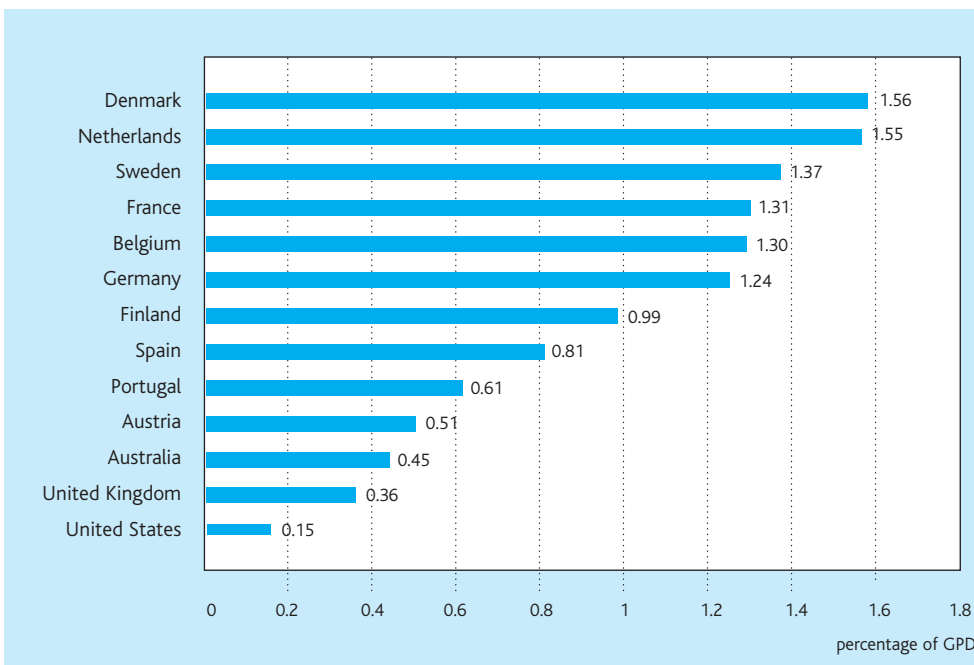
- public employment services and administration;
- labour market training;
- youth measures;
- subsidised employment; and
- measures for the disabled.

8.11 According to OECD estimates, the UK spent around 0.36 per cent of GDP on ALMP in 1999/00. This compares to 0.74 per cent in 1985 and 0.61 per cent in 1990. Part of the reason for this fall is the massive fall in unemployment that took place during the early 1990s that reduced the need for wide-scale measures. Nonetheless, the level of expenditure by the UK on active measures is low by international standards, as is evident from Figure 8.1<sup>6</sup>. The chart indicates that of the countries considered, only the United States spent less on ALMP (just 0.15 per cent) while, at the other extreme, Denmark and the Netherlands spent over 1.5 per cent of GDP on active labour market measures in approximately the same period.

*The OECD compiles estimates of public expenditure on ALMP.*

*The UK spent about 0.36 per cent of GDP on ALMP. Most OECD countries spent a larger proportion of GDP on active measures than did the UK.*

**Figure 8.1: Expenditure on all active labour market measures as percentage of GDP, selected OECD states**



**Source:** OECD Employment Outlook, July 2002.

**Note:** Estimates relate to either 1999/00 or 2000.

6 The period covered by the statistics varies by country. All figures cited refer to 1999/00 or 2000.

**Table 8.1: Expenditure of training-based measures by selected OECD state**

	Training for unemployed adults	Training for unemployed/ disadvantaged youth	Percentage of GDP Apprenticeships and other general youth training
Australia	0.02	0.01	0.05
Austria	0.16	0.02	0.02
Belgium	0.16	0.00	0.00
Denmark	0.67	0.10	0.00
Finland	0.26	0.06	0.11
France	0.22	0.24	0.18
Germany	0.34	0.07	0.01
Italy	0.00	0.01	0.21
Netherlands	0.25	0.00	0.04
Portugal	0.07	0.10	0.12
Spain	0.01	0.05	0.00
Sweden	0.30	0.02	0.00
United Kingdom	0.04	0.04	0.11
United States	0.04	0.03	0.00

**Source:** OECD Employment Outlook, July 2002.

**Note:** Estimates relate to either 1999/00 or 2000.

8.12 There is considerable variation across states in terms of balance of measures used. Table 8.1 sets out the pattern of spending across selected OECD states for the three main sub-groups of measures involving training. The table indicates that in 1999/00 around 0.04 per cent of UK GDP was spent on measures involving training for adults. This proportion was somewhat smaller than in previous years (the proportion was 0.06 in 1997/98) but was broadly in line with the proportion spent on similar measures in the USA and Australia but less than most other OECD countries, particularly Denmark (0.67 per cent), Germany (0.34 per cent), Sweden (0.30 per cent) and the Netherlands (0.25 per cent).

8.13 In terms of measures for young people, the UK spent 0.04 per cent of GDP on measures for unemployed and disadvantaged youth in 1999/00. This was a major increase over two years before (1997/98) when expenditure on such measures accounted for just 0.01 per cent of GDP. This fourfold increase reflects the impact of NDYP and places the UK in a middle ranking position, spending proportionately more than Australia, Austria, Belgium, Italy, the Netherlands, Sweden and the USA but less than Denmark, Portugal and, notably, France.

*The balance of measures varies across OECD states.*

*The UK spent around 0.04 per cent of GDP on training for adults. This was a smaller proportion than most other OECD countries.*

*The UK spent 0.04 per cent of GDP on measures for unemployed and disadvantaged youth. This type of spending has recently increased sharply.*

8.14 Finally, in respect of measures to support apprenticeships and other general training measures for young people, the proportionate spend in the UK is surprisingly high relative to many other OECD countries. The UK spent 0.11 per cent of GDP on such measures in 1999/00. Only Italy and France spent greater proportions of GDP on such measures. In five cases (Belgium, Denmark, Spain, Sweden and the USA) the OECD reported that there was negligible state spending on general training for young people.

## Training under New Deal

8.15 The introduction of New Deal marked a major shift in the direction of UK labour market policy and a return to active intervention to assist people who wished to work to return to employment. The New Deal is part of the Government's wider Welfare to Work strategy and consists of several different programmes. Early New Deal programmes were targeted on job seekers (both those claiming Jobseekers Allowance and lone parents on Income Support) but, latterly, New Deal programmes have been extended to other client groups (for instance, partners of the unemployed). This section considers only the three mainstream New Deals: NDYP, ND25plus, and NDLP.

### The New Deal programmes

8.16 The first nationally delivered New Deal Programme was NDYP. NDYP is mandatory for people aged 18–24 who have been claiming JSA for six months or more. The design of NDYP (which has remained unchanged since its launch) consists of three stages: Gateway; Options; and Follow Through<sup>7</sup>. Training is available to clients in a number of ways. In the initial Gateway phase, young people may be referred to short job-focused training relating to job search, confidence building and basic skills. After Gateway, participants may be referred to the Full-time Education and Training Option (FTET) and can undertake up to 52 weeks of education or training. Other Options also contained an element of training, for instance, the Subsidised Employment Option (which provides work placement for 26 weeks) requires employers to provide training for which they received a payment. Work placements made under the Voluntary Sector Option and the Environment Task Force Option also expect some training to be provided.

8.17 ND25plus is targeted on the adult long-term unemployed. When launched in 1998, this mandatory programme consisted of two stages: a 26-week Advisory Interview Stage followed by three opportunities: Subsidised Employment (SE), Education and Training (ETO) or Work-based Learning for Adults (WBLA). Since only the initial stage (AIP) was mandatory, few ND25plus clients proceeded to SE, ETO or WBLA. Most simply returned to job seeking on JSA (Hasluck, 2000b).

*UK spending on support for apprenticeship and general youth training is relatively high compared with many OECD countries.*

*New Deal marked a significant shift in labour market policy.*

*The first national New Deal programme was New Deal for Young People.*

*Training is provided during NDYP Gateway and in the Full-time Education and Training Option.*

*An element of training is also found in other Options.*

*New Deal 25 Plus targeted on adult long-term unemployed.*

*Training provided in the advisory phase and as opportunities.*

<sup>7</sup> For a review of the design and delivery of NDYP, see Hasluck (2000).

*ND25plus was enhanced in 2001 with a mandatory Intensive Activity Period.*

*New Deal for Lone Parents seeks to help lone parents off benefit and into work.*

*NDLP offers a tailored package of advice, training, help with childcare and in-work support.*

*133,500 young people participated in full-time education and training under NDYP.*

*This figure understates the amount of training since it ignores the many short courses provided by NDYP.*

*8,000 long-term unemployed adults entered full-time education and training under the first ND25plus programme, while 25,100 entered WBLA.*

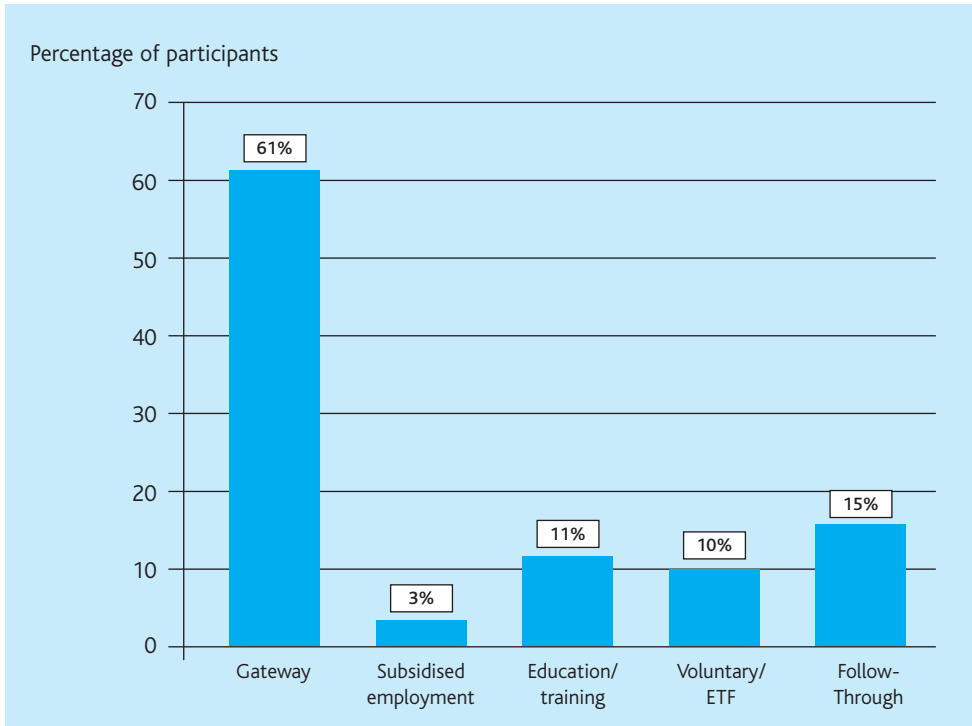
- 8.18 ND25plus was substantially enhanced in 2001 (Hasluck, 2002, Wilkinson, 2003). The changes included a reduction in the eligibility threshold to 18 months and changes to the structure of the programme. A mandatory 16-week Gateway was introduced followed by, if the client remained without work, a mandatory Intensive Activity Period (IAP). During the IAP clients are referred to work placements and work trials, short job-focused training and similar provision. Clients in the IAP may be referred to WBLA or FTET if the job seeker has failed to enter a job.
- 8.19 NDLP was introduced in prototype form in 1997 and rolled out as a national programme in 1998. The programme is open to all lone parents who are not in work with a child less than 16 years of age. Lone parents on Income Support whose youngest child is aged three years or above are invited to join the programme. The purpose of NDLP is to encourage lone parents to consider employment and to help them leave benefit and obtain work if they wish. Unlike NDYP and ND25plus, participation in NDLP is voluntary (Evans, McKnight and Namazie, 2002). NDLP consists mainly of an advisory service but also offers support for training and after-school care. Personal advisors also provide in-work support to those who have entered work.

### **The scale of training under New Deal**

- 8.20 The scale of training provision under the auspices of the three mainstream New Deal programmes should not be understated. In March 2003 9,700 young people were participating in the FTET Option of NDYP accounting for 40 per cent of all participants on Options (see Figure 8.2). Over the life of NDYP (up to March 2003) a cumulative total of 133,500 young people obtained training via the FTET Option. While a substantial number, it only amounts to 14 per cent of total starts on NDYP. This reflects the fact that training is not the primary purpose of New Deal but is used as a means by which to get clients into jobs. Having said that, the number on FTET massively underestimates the volume of training provided through NDYP since it excludes all of the basic skills, job search and short job-related training that is undertaken.
- 8.21 Prior to the enhancement of ND25plus in 2001, a total of 360,000 people entered the programme, of whom 8,000 participated in ETO and 25,100 joined WBLA (figures to March 2003). Since 2001 a further 237,200 people have started ND25plus. At March 2003 there were 62,700 people on ND25plus, of whom 12,800 were in the IAP. Of these, 4,000 were on a work experience or work placement, 2,700 were in BET or Basic Skills training, just 800 were on ETO and 3,400 were on some other form of training (Figure 8.3).

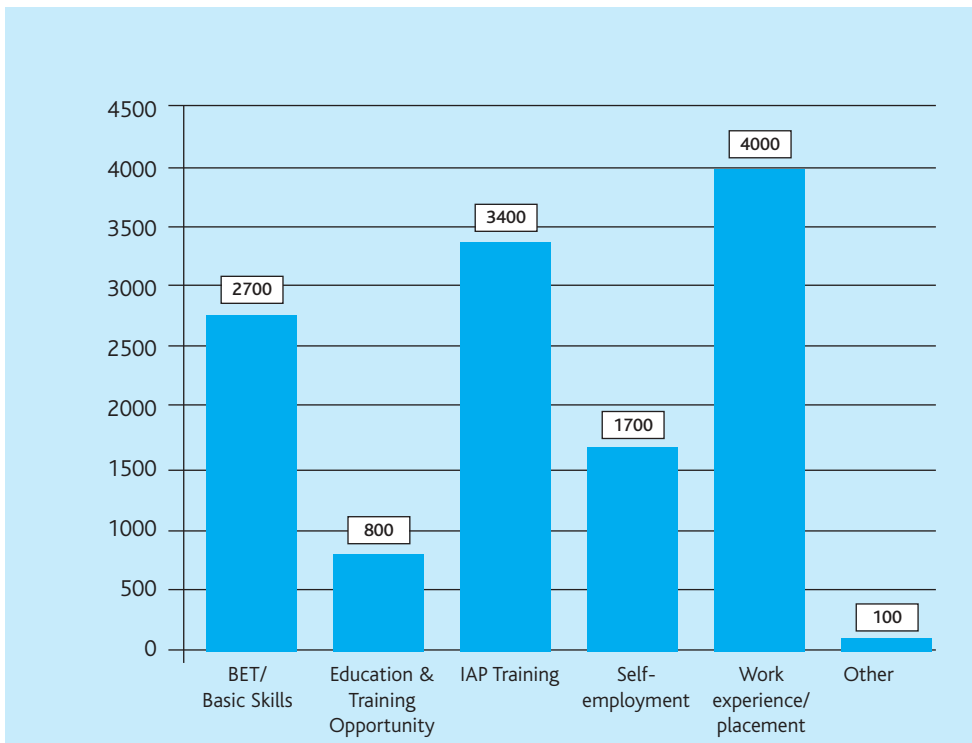


**Figure 8.2: Activities on NDYP, March 2003**

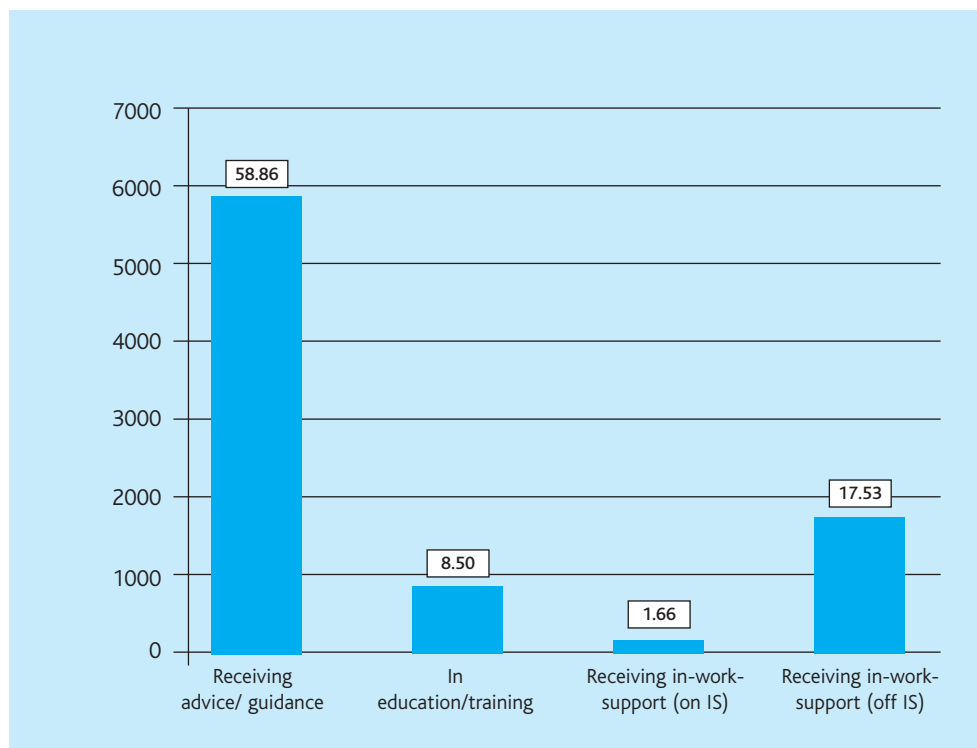


Source: New Deal Database.

**Figure 8.3: Activities on ND25plus IAP, March 2003**



Source: New Deal Database.

**Figure 8.4: Activities on NDLP, March 2003**

*Source: New Deal Database.*

8.22 Since October 1998 around 471,650 lone parents have agreed to participate in NDLP (to March 2003). Of these, 193,680 had left NDLP to enter employment. Around 39,500 NDLP participants had taken up education and training opportunities (see Figure 8.4). This represented just 8 per cent of all starts on the programme. Part of the reason for the low take-up of training opportunities is that the scale of financial support for training is much more modest than on other New Deal programmes although measures have been piloted to remedy this (Lakey *et al.*, 2002).

8.23 Unfortunately, no figures relating to the numbers or types of qualifications obtained by New Deal participants are available from officially published sources.

### Issues relating to training under New Deal

8.24 There has been extensive evaluation of New Deal programmes. Such evaluation has, as a broad generalisation, indicated that the programmes had positive effects and outcomes on the majority of participants. Nonetheless, evaluation has highlighted a number of issues relating to training.

8.25 One general concern has been the difficulty faced by New Deal in matching the needs of clients to available training supply. Several studies have identified the inflexibility of the further education sector as a source of difficulty. In some instances, colleges have only been able to offer entry to full-time

*39,500 lone parents have entered education and training opportunities from NDLP.*

education or training at the start of the academic year (September/October) with the result that New Deal clients have had prolonged spells in Gateway periods while waiting to start their training. In other instances, colleges were not able to offer any form of provision at all (Hasluck 2000c). This latter concern was particularly the case in regard to ND25plus, where the number of clients often made provision uneconomic, or where the client group was perceived by providers as being too difficult to train (Winterbotham *et al.*, 2002a).

- 8.26 While many New Deal clients enter some form of training, it must be recognised that such training is seen as a means to an end (job entry) and not an end in itself. One consequence of this is that obtaining qualifications is seen as secondary to enhancing employability and entering a job. Many New Deal clients complain that they were unable to complete their qualifications during the 52 weeks of FTET (especially where the qualification sought was at NVQ Level 3). Moreover, New Deal clients are expected to continue to actively seek work during any training and take up any job offers received. While, in reality, many New Deal clients actually cease job search while undertaking training, particularly while on FTET, others leave training for employment before their training is complete.
- 8.27 An issue of another type emerged from evaluation of NDYP where it was found that members of minority ethnic groups were much more likely to participate in the FTET Option than white participants despite the fact that members of minority ethnic groups were, on average, better qualified than their white counterparts. Around one third of minority ethnic entrants to NDYP were qualified at NVQ Level 2 or above, compared with a quarter of white entrants. This difference might reflect a greater preference for training, but, since members of minority ethnic groups were much less likely to enter subsidised employment, the suspicion remains that some members of minority ethnic groups were crowded into FTET more because of an inability to access employment than because training was required (Hasluck, 2000c).

## Work-based Training

- 8.28 This section considers what might be termed mainstream training programmes in the sense that training is central to the design of the programmes even if in some instances the ultimate objective of the programme is to help a person to obtain a job.

### Work-based learning for adults

- 8.29 The principal programme for training non-employed adults remains Work-based learning for adults (WBLA). WBLA is a voluntary programme intended to provide training for people aged 25 years or above who have been claiming JSA or other benefits (such as Income Support, Incapacity Benefit, Widows Benefit, Maternity Benefit, Severe Disability Allowance and a number of other benefits) for six months or more. People judged to be seriously disadvantaged can enter the programme from day one of claiming their benefit. WBLA operates in parallel with New Deal 25 Plus. WBLA clients on JSA enter ND25plus after 18 months of benefit claim while ND25plus clients may leave to enter WBLA (and this is regarded as a positive outcome for ND25plus).

*The main training programme for non-employed adults is Work-based Learning for Adults.*

*WBLA aims to help people find the occupation and skills needed to gain a job.*

*Four main types of provision under WBLA.*

*The amount of training depends on duration of benefit claim.*

*Since 2001, 135,000 people started WBLA.*

*Entry to jobs from WBLA was lowest in London and highest in the North East.*

*Entry to jobs from BET and self-employment training was also low.*

8.30 WBLA aims to help people find the occupational and employment skills they need to find work. Key objectives of the programme are:

- to help adults without work and with poor employability skills move into sustained employment;
- to help long-term employed people to gain occupational skills needed to fill local skills-shortage difficulties; and
- to help long-term unemployed people to make a success of self-employment.

8.31 These objectives are mirrored in the four types of provision available under WBLA, namely:

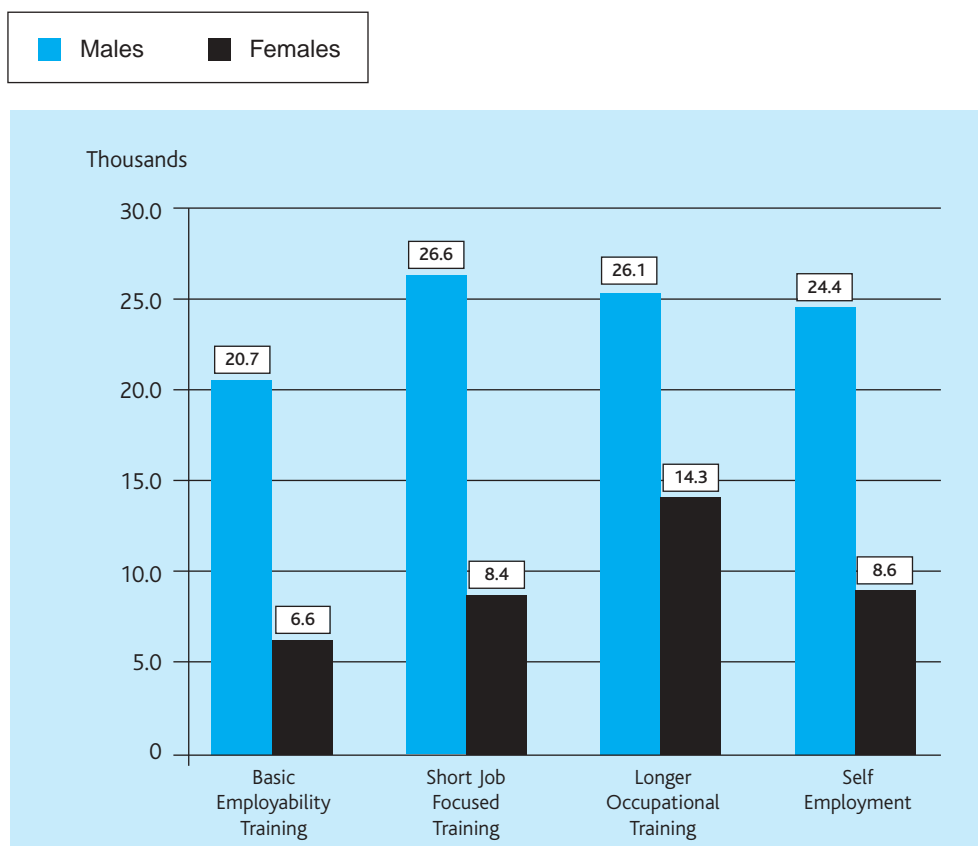
- basic employability training (BET);
- longer occupational training (LOT);
- self-employment provision (SEP); and
- short job-focused training (SJFT).

8.32 The training available depends on the length of time on benefit. Those claiming for 6-12 months are entitled to up to six weeks of training (mainly short courses or a four-week BET course). Those claiming for 12 months or longer are entitled to up to 12 months of training. Such training usually consists of a package of training aimed at overcoming the individual's barriers to work (combining BET, work placements and work trials and vocational training leading to recognised qualifications). People with severe disadvantage are eligible for up to six months BET provision.

8.33 In the two years of operation since April 2001, just over 135,000 people have started on WBLA (of whom almost 113,000 have left the programme). Over 70 per cent of all WBLA entrants were men, around 20 per cent were members of minority ethnic groups, and 30 per cent were disabled. Around 20 per cent of those starting WBLA entered BET, 24 per cent SEP, 26 per cent SJFT and 30 per cent entered LOT. Women were more likely than men to enter LOT (see Figure 8.5) while members of minority ethnic groups were more likely to enter BET (49 per cent).

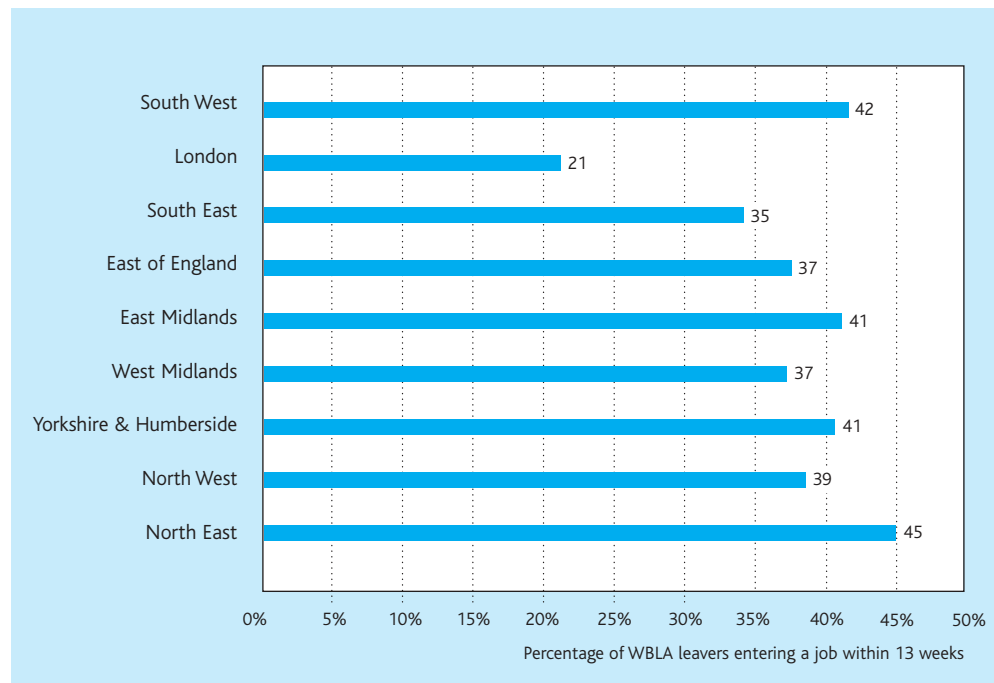
8.34 Figure 8.6 shows the proportion of WBLA leavers entering a job (within 13 weeks of leaving). The highest rates of job entry were in the North East and the South West while the lowest job entry rates were in London and the South East. The highest rates of job entry occurred amongst WBLA clients who entered LOT while the lowest rates of job entry were found amongst those entering SEP and BET. The latter might be expected since these WBLA clients, by definition, face the greatest barriers to employment in terms of deficiencies in the areas of literacy and numeracy. The low job entry from self-employment training reflects the large proportion of participants who leave before SEP Stage 3 (Stages 1 and 2 being designed to screen out infeasible business proposals).

Figure 8.5: Numbers on WBLA training, April 2001-March 2003



Source: Department for Work and Pensions, First Release (2003).

**Figure 8.6: Job entry rates from WBLA, by region, April 2001-December 2002**



*Source: Department for Work and Pensions, First Release (2003).*

*Some JSA clients are hard to help but...*

*...WBLA was a positive option for the inactive.*

*Many WBLA clients reported positive outcomes.*

*Work placements were often seen as most helpful.*

*WBLA helped clients identify new career directions.*

8.35 Evaluation of WBLA suggests that WBLA met the needs of some clients better than others (Winterbotham, *et al.*, 2002b). As unemployment levels have fallen, JSA clients had increasingly become those with deep-rooted or multiple barriers to work. Relatively few were job ready and this meant they were not ready for SJFT but not eligible for LOT. On the other hand, WBLA was widely viewed as a positive training option for economically inactive people enabling them to gain new skills with a close fit to the labour market.

8.36 WBLA clients reported that their training had a positive impact on soft skills (especially confidence building and motivation) and work-related skills (e.g. team working and communication). Clients who had never worked or who had been out of the workplace for a long time found the discipline of attending provision and being in an environment necessitating social interpretation challenging but rewarding. Other benefits included improved timekeeping, attendance, personal appearance and personal hygiene. Work placements were generally regarded as one of the most positive aspects of WBLA, giving clients up-to-date experience and a head start in the jobs market.

8.37 The support provided to WBLA clients enabled many of them to identify new directions for employment, retrain in career areas more suited to their physical capabilities and test out business ideas. Rates of positive employment outcomes tended to be higher where clients were well motivated and there was a clear link into local employment opportunities.

### Work-based learning for young people

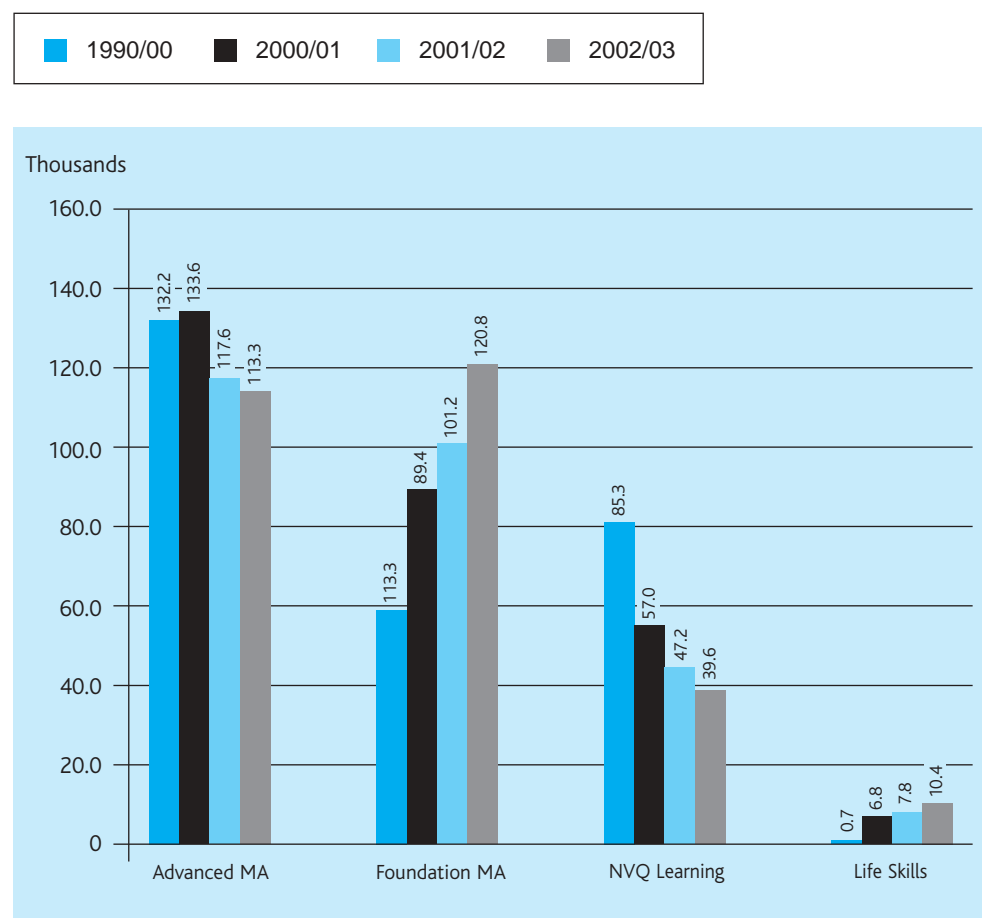
- 8.38 Work-based learning for young people (WBLYP) is a major programme of Government-supported training, comprising Advanced Modern Apprenticeships (AMA), Foundation Modern Apprenticeships (FMA), NVQ Learning, Life Skills, Preparatory Training and Entry to Employment (E2E) Pathfinders.
- 8.39 At the end of 2002 around 284,000 young people were in work-based learning. Figure 8.7 shows that the great majority of these were on Modern Apprenticeship (113,000 on AMA and 121,000 on FMA) and relatively few of NVQ Learning (40,000) and Life Skills (10,000). Around 58 per cent of those on WBLYP at that time were male. Of all on WBLYP aiming for Level 2 (mostly on FMA) 65 per cent are under 19 years. Of all WBLYP learners aiming for Level 3, who are mostly on AMA, 41 per cent are under 19 years.
- 8.40 The largest area of learning for WBLYP at the end of 2002 was engineering, technology and manufacturing, with 67,200 learners. These sectors accounted for 24 per cent of all WBLYP learners. Retailing, customer service and transportation was next with 37,400 (13 per cent), just ahead of business administration, management and professional.
- 8.41 Figure 8.7 highlights the fact that the number of young people training under the AMA has been falling in recent years (as have the numbers on NVQ Learning) while the number of FMAs has increased sharply. In part this reflects the extension of the MA programme to non-traditional areas of apprenticeship training (such as retailing) where Level 2 may be more appropriate). Nonetheless, it also signals a shift in the balance of WBLYP away from Level 3 towards Level 2. Whether this is an appropriate direction is open to debate.

*Work-based learning for young people consisted of 284,000 young people in WBLYP in 2002.*

*Largest area of WBLYP is engineering, technology and manufacturing.*

*Numbers on AMAs falling while numbers on FMA increasing.*

*This signals a shift from Level 3 to Level 2 learning.*

**Figure 8.7: Numbers on WBLYP, 1999/00 to 2002/03, by programme**

**Source:** Department for Education and Skills, First Release (2003).

*MAAs were developed to address skill deficiencies at intermediate level.*

8.42 The flagship programme within WBLYP is undoubtedly Modern Apprenticeship, which dominates WBLYP in numerical terms. MAs were developed as a means of addressing skill deficiencies at intermediate level and to encourage employers to revive their abandoned apprenticeship schemes. The MA was also designed to promote structured training in occupations and industrial sectors where apprenticeships had not existed before. MAs offered a flexible system of training up to NVQ Level 3 within a framework designed to meet the needs of individual sectors. The scheme was also intended to offer training in key skills as well as purely work-based skills.

*MAAs were reformed following recommendations from the Skills Task Force.*

8.43 The Skills Task Force identified a need to improve the quality and standing of MAs (NSTF, 1999) and in 2001 a number of changes were introduced to the MA programme designed to raise standards, increase retention and provide more opportunities for progression. These changes included:

- the introduction of FMAs (replacing National Traineeships) and AMAs - FMAs are for school leavers aged 16 years and above while AMAs are for



those who progress from a FMA or for entrants with experience or higher qualifications, including existing employees;

- Level 2 Key Skills in communications and application of number was made mandatory (from September 2001);
- technical certificates intended to assess specific occupational knowledge were introduced (introduced in pathfinder frameworks in May 2001 and gradually extended thereafter);
- an Apprenticeship Diploma was introduced encompassing the NVQ, technical certificate and key skills; and
- the introduction of nationally agreed payments for training (from April 2001).

8.44 Evaluation of the MA programme suggests that MAs have been highly valued by employers as a means of training young people to intermediate skill level. Such research has shown that MAs have increased both the quantity of training and its quality with knock-on consequences for the quality of other employer-led training<sup>8</sup>. This additionality appears greatest in sectors that traditionally have not previously undertaken apprenticeship training.

8.45 Despite the undoubted popularity of MAs with some employers, research has raised a number of concerns. In some sectors the apparent increase in training has been more about certificating existing skills rather than raising the competence of the workforce. Even more crucially, while employers have stressed the great importance to them of MAs being completed and qualifications obtained, evidence from the LSC indicates that completion rates have been low. In 2001-02 only around 25 per cent of MAs were successfully completed, with the completion rate being as low as 16 per cent in retailing, customer services and transportation; around 19 per cent in hospitality, sports leisure and travel; and 22 per cent in health, social care and public services.

8.46 The 2003 Skills Strategy White Paper acknowledged many of these concerns - completion rates, variations in quality between sectors, problems with key skills training - and added an additional issue, namely the age cap of 24 years. The White Paper set out a number of proposals for addressing these concerns. It also proposed, in principle, that MAs should be available to adults aged 25 and above. Such an extension of MAs was to be conditional on further investigation of how such an expansion might be funded and whether there was a need to modify the MA design to meet the needs of adult learners.

*FMA's introduced for Level 2 training while AMAs provide training at Level 3.*

*MAs are valued by employers...*

*...and are associated with additional training.*

*Concerns about MAs include certification of existing skills and low completion rates.*

*The Skills Strategy White Paper acknowledged the weaknesses of MAs.*

8 *There is a range of literature here :Hasluck C, Hogarth T, Maguire M and J. Pitcher, Modern Apprenticeships: A Survey of Employers, DfEE Research Report, 1996; Economic Research Services Ltd, Evaluation of Modern Apprenticeships: 1998 Survey of Employers, Department for Education and Employment Research Report, 2000.; Anderson T and H Metcalf, Modern Apprenticeship Employers: Evaluation Study, Department for Education and Employment Research Report, 2003; Hogarth T and Hasluck C, Net Cost of Modern Apprenticeship Training to Employers, Department for Education and Employment Research Report, 2003.*

*Entry to Employment is a pilot programme designed to provide support for people not yet ready to enter MAs.*

*Many other initiatives provide training or access to training for non-employed people.*

*The primary objective of Jobcentre Plus is to place non-employed people into jobs.*

*The job-first philosophy can regard training as counter productive to job placement.*

*Jobcentre Plus training places great emphasis on removing barriers to immediate employment rather than long-term career development.*

*Jobcentre Plus carries out a great deal of training and has a budget of £500 million to purchase such training.*

8.47 A further development relating to MAs has been the Entry to Employment (E2E) pilot programme. This programme is aimed at young people not yet ready to enter an MA. The programme provides individualised support for such young people intended to develop their basic skills in literacy, numeracy and ICT skills in order that they may progress to an MA in due course. This programme is intended to allow a clear progression route from school, through E2E to FMA and, eventually, AMA.

### Other Training-based Initiatives

8.48 In addition to Work-Based Learning and New Deal, there are a number of other initiatives and programmes designed to help people into work and which provide access to some form of training. These fall into one of three types. First, there are mainstream Jobcentre Plus services. Second, there are pilot programmes schemes that are intended to test out some form of innovative policy. Such pilot programmes may or may not become national or mainstream programmes but currently are restricted to particular areas or groups of clients. An important example of this type is the Employer Training Pilots (ETP). Finally, there are programmes that are aimed at specific groups in the labour force (such as disabled people) or are focused upon specific disadvantage localities (for instance Action Teams for Jobs or Employment Zones).

8.49 The primary objective of Jobcentre Plus is to help its clients into paid work as quickly as possible. In some instances the most appropriate form of support includes some form of training, but it is important to note that the emphasis on training within mainstream employment services has changed somewhat since 1997. Jobcentre Plus has embraced the 'job first' approach to supporting clients that sees the main priority as being to place jobseekers into jobs at the earliest opportunity. Training can be seen as delaying this entry to work since normal job search could be curtailed. It may even be counter productive since a spell of training will increase the length of time spent out of work.

8.50 In the context of a job-first approach, training for job seekers is seldom seen as an end in itself but rather as a means to gain a job. One consequence of this is that training is predominantly concerned with addressing basic skill deficiencies, improving job search and generally addressing matters that make the client unready for work (such as personal demeanour, motivation, appearance etc.). Another consequence is that qualifications are of secondary importance compared with the acquisition of competences that will help entry to a job.

8.51 None of the above is intended to suggest that training is not a significant element in Jobcentre Plus activities. Indeed, Jobcentre Plus currently has a budget of around £500 million to purchase training, mainly relating to basic skills, short job-focused training and training under the New Deal. Jobcentre Plus acts as a screening device to direct clients to the training they need. This is sometimes achieved through referrals to programmes such as Skills for Life and Basic Employability Training or by referrals to WBLA and New Deal (as discussed earlier in this chapter) (ECOTEC, 2003).

- 8.52 The 2003 Skills Strategy also envisages Jobcentre Plus playing an important role in Information, Advice and Guidance (IAG) partnerships operating at the local or sub-regional level. By membership of such partnerships Jobcentre Plus can signpost clients towards the most appropriate help, including training, from other partners. Similarly, Jobcentre Plus will, in future, work with the LSC to develop stronger progression routes from New Deal to work to learning.
- 8.53 Employer Training Pilots (ETPs) were launched in September 2002 in six local LSC office areas. The aim of ETP is to reimburse employers for some of the costs of training employees. The programme is intended to increase the volume of employer-led training at NVQ Level 2 and is aimed at employees with no or low-level qualifications. Under the ETP programme employers can access free training programmes, financial support to cover the cost of employees attending courses in working time, and a broking service to help match the training obtained to their needs. The ETP was extended to a further six pilot areas in 2003 and is intended to operate until 2005. The pilots were flagged up in the 2003 Skills Strategy White Paper as an important indicator of policy for the future.
- 8.54 A number of initiatives have been introduced to address deficiencies in basic skills amongst adults. These include the Adult Basic Skills (Skills for Life) programme that is intended to improve adult literacy, numeracy and language skills at national and local level. Introduced in nine pilot areas in April 2001 the programme was rolled out nationally in September of that year. Closely allied to that programme, as well as the WBLA programme, is Basic Employability Training that was launched in April 2001. This programme is intended to address issues of literacy and numeracy skills in people aged 25 or above. Most significantly, the 2003 Skills Strategy White Paper announced the Foundation Skills for Employability initiative. This would give a new entitlement to free learning leading to the first NVQ Level 2 qualification. Eligible learners (those with no or below Level 2 qualifications) will be able to enrol on publicly funded learning programmes.
- 8.55 Launched in 1998, the Adult and Community Learning Fund supported 400 projects aimed at developing and sustaining adult learning amongst people who would not normally participate in education and training. The programme was extended in 2002 for a further two years and a further 187 projects were supported by the programme.
- 8.56 Some initiatives are area-based: for instance, Action Teams for Jobs (ATJ). ATJ is a voluntary programme aiming to increase the employment rates among disadvantaged groups in deprived areas. Participation is voluntary. There are 63 Action Teams across Great Britain. The programme was launched in June 2000 in three pathfinder areas and rolled out to 37 more areas in October of that year. Of these 40 teams, 25 were delivered by Jobcentre Plus and five were delivered through Employment Zones. The initiative has been extended until 2004 and a further 13 teams started in October 2001 with the remainder starting in January 2002.

*Jobcentre plus has an important role to play in local and regional partnerships.*

*Employer Training Pilots aim to increase the volume of training by defraying some of employer's costs.*

*A number of initiatives focus on tackling deficiencies in adult basic skills.*

*A number of initiatives seek to support people who are disabled.*

*The emphasis of skills policy has shifted...*

*...away from training unemployed people...*

*...in favour of developing the skills of the existing and future workforce.*

*Nonetheless, training remains an important element of active labour market policy...*

*...because the non-employed require help to overcome market failures.*

*Every year, hundreds of thousands of non-employed people enter some form of training provision.*

*Despite the volume of training...*

*...issues relating to the purpose, quality, form and level of such training remain to be addressed...*

8.57 Several initiatives have been aimed at providing support to people with disabilities. For instance, Job Brokers is a programme operated by Jobcentre Plus that is intended to help people with disabilities find work by matching the skills of such clients with the skills needs of employers.

## Conclusion

8.58 During much of the latter part of the 20th Century, a lack of skills has been seen as the major barrier preventing many unemployed people from gaining employment and, consequently, training has been seen as the main means by which to help unemployed people obtain skills. At the same time this would help address skills shortages in the economy. This approach has given way to one that sees the top priority of public employment services as being the placement of unemployed people in jobs, with training being of secondary importance. At the same time, the emphasis in skills policy has shifted away from considering the unemployed as a pool of labour capable of being re-skilled to meet skills shortages to a greater emphasis on the need to address the skill deficiencies of the existing and future workforce if productivity and competitiveness is to be improved.

8.59 Despite the shift in the emphasis of ALMP in the UK, training in one form or another remains an important ingredient of programmes for non-employed people. The reason training remains important is that non-employed people are often less capable than others, for a variety of reasons, of addressing those skill deficiencies themselves. The role of the State, acting through agencies, such as Jobcentre Plus, is to provide support to non-employed people to help them overcome the market failures that prevent them from helping themselves to obtain the skills and competencies they need.

8.60 This review of ALMP has pointed to a wide range of activities that contribute to training activity in England, much of it focused upon the unemployed. Programmes such as NDYP, ND25plus, NDLP, WBLA and the various elements under the umbrella of WBLYP (such as MAs) contribute massively to the volume of training being undertaken. The form of such training varies enormously from short job-related training through to full-time educational courses lasting for 52 weeks, from basic skills and basic employability training to specific vocational skills and licences. Each year, literally hundreds of thousands of people will benefit from such training. It is easy to overlook the scale and importance of such training both to the individual and to the nation as a whole.

8.61 While the importance of training in active labour market policy should be recognised, there are issues that need to be addressed. In some instances it is not clear whether the training offered to job seekers actually meets the needs of those individuals or whether its provision is merely part of a ritual to demonstrate that some form of support is being provided. The emphasis on 'job first' has a number of potential consequences for training. First, some training is interrupted in order that job placements can be made. Qualifications are of secondary concern in comparison with obtaining the wherewithal to enter a job. Both the failure to complete training or to obtain

qualifications for skills acquired may mean that unemployed people do not fully realise or could even lose the benefits of any training received. There are also concerns that the inflexibility in the supply of training (offering courses only at specific times of the year, offering courses only if course numbers meet some threshold level or even not offering provision at all to clients perceived to be hard to help).

- 8.62 In contrast to the non-employed, there is evidence that in some contexts, notably MAs in non-traditional training sectors, the award of qualifications (a conventional measure of additional skills) may be merely certificating existing skills rather than leading to greater competencies. This may benefit the individuals concerned (through better access to jobs and greater job mobility) but may do little to raise productivity or improve competitiveness.
- 8.63 Finally, substantial though training activity under ALMP may be, it is not immediately evident that the form of such training is informed by the wider skills strategy, let alone coordinated with the strategies of agencies that are primarily responsible for skills and workforce development (such as the LSC or the SSDA). Equally, it is not clear that the policies of the latter organisations fully recognise the role that ALMP plays in skills development. To some extent this issue is addressed by the 2003 Skills Strategy White Paper that has set out some future initiatives for Jobcentre Plus in support of the skills strategy, but the scope for greater joining-up of policy remains.

*...as does the ability of the supply side to meet the specific needs of non-employed people.*

*Concerns also exist about the accreditation of existing skills.*



Skills in England 2003

Volume 2

Chapter 9: Equal Opportunities, Social Inclusion and Skills





## Chapter 9: Equal Opportunities, Social Inclusion and Skills

### Introduction and Summary

- 9.1 This chapter examines social exclusion and its relationship to skills. There is a particular emphasis on where social exclusion - as measured by worklessness - is concentrated by population sub-groups and at regional and local levels. The role of education, training and skills in tackling social exclusion is investigated. Differences in labour market experience by age, gender, ethnic group and disability is reviewed, with an emphasis on those suffering greatest labour market disadvantage.
- 9.2 The labour market is central to social exclusion, with lack of participation in the labour market being a key indicator of social exclusion. People with low or no skills are disproportionately concentrated amongst the socially excluded, as are older people, those from certain minority ethnic groups, those with disabilities, and those in areas of relatively low labour demand.
- 9.3 A link exists between worklessness, poor skills and social exclusion at individual and at area scales. Education and training facilitate social inclusion through the acquisition of formal qualifications and soft skills. Possession of basic literacy and numeracy skills provides some protection against unemployment. But education and training alone cannot reduce social exclusion significantly because there are other important barriers that people face in accessing paid work.
- 9.4 The pay of people with no qualifications has fallen relative to those with some qualifications. Low skills can have a sapping effect on self-confidence. Those who have a negative experience of education at school are less likely than average to engage in learning in adulthood. The most disadvantaged face attitudinal, practical and structural barriers to engaging in learning.

### What are Social Inclusion and Exclusion?

- 9.5 'Social exclusion' is a contested term (Hills *et al.*, 2002). It is generally taken to describe what can happen when people or areas suffer from a combination of linked and mutually reinforcing problems - such as unemployment, poor skills, low incomes, poor housing, high crime, poor health and family breakdown. Thus, it is a multi-faceted concept, embracing lack of, or limited, participation in key domains of modern life, including (Bynner, 2001; Burchardt *et al.*, 1998):
- production;
  - consumption;
  - wealth;
  - community life; and
  - citizenship.

*This chapter examines the uneven distribution of social exclusion and its relationship to skills.*

*The labour market is central to social exclusion/ inclusion.*

*A link exists between worklessness, poor skills and social exclusion at individual and at area scales.*

*The most disadvantaged face the greatest barriers in undertaking learning to acquire new skills.*

*Social exclusion describes what can happen when people or areas suffer from linked and mutually reinforcing problems.*

*It is caused by factors operating at individual, family, and a range of geographical scales.*

*Social exclusion is an explicit focus of Government policy.*

*The labour market is central to social exclusion and lack of participation in the labour market is a key indicator of social exclusion.*

*Some population sub-groups and areas suffer disproportionately from social exclusion...*

*...and the affects may persist over the long term.*

*It is both an economic and social imperative that all people and all areas achieve their full potential.*

- 9.6 Social exclusion is driven by a complex interplay of demographic, economic, social and behavioural factors. It is cumulative and often intergenerational. Understanding it involves interactions between influences and outcomes at individual, family, community, neighbourhood, local labour market, national and global levels. The risks of social exclusion are not evenly shared but concentrated in the poorest individuals and communities.
- 9.7 Since 1997 social exclusion has been an explicit focus of Government policy. The Social Exclusion Unit was set up by the Prime Minister to help improve Government action to reduce social exclusion by producing joined-up solutions to joined-up problems.
- 9.8 Although the emphasis in this chapter is on worklessness and/or a lack of skills, social exclusion extends beyond this to encompass exceptional experiences in income, housing, health, etc. But the labour market remains central to social exclusion. Indeed, social exclusion is driven more than any other factor by the state of labour demand. Lack of participation in the labour market is generally considered a key indicator of social exclusion. It is also a driver reinforcing and exacerbating other aspects of social exclusion, including poverty, homelessness, ill-health, restricted mobility, etc. This is illustrated by the catch-22 dilemmas some socially excluded individuals find themselves in, such as, 'no job, no car; no car, no job' and 'no job, no home; no home, no job'.
- 9.9 Not all sub-groups of the population and not all areas have benefited evenly from falling unemployment and rising employment. A number of labour market trends may be identified that have caused social exclusion to increase. Amongst those in employment, for instance, these trends include:
- an increase in low pay and in the dispersion in earnings - including between skilled and less-skilled workers;
  - an increase in self-employment (especially in the 1980s) - the risks of poverty among the self-employed are higher than for the employed; and
  - the labour market becoming more flexible, episodic and insecure - despite an increase in full-time jobs.
- 9.10 For those not in employment, the scarring effects of long-term unemployment (or involuntary inactivity) are not just immediate but influence life chances even during subsequent periods of employment. They can also continue to the next generation.
- 9.11 Yet the White Paper on *Opportunity for All* published in 2001 confirmed both the economic and social imperative for all people and all parts of the country to achieve their full potential. The risk that success may be confined to only some groups and some areas was deemed unacceptable. This objective is reinforced by the Green Paper *Towards Full Employment* which sets out the Government's goal with regard to employment: "to create and sustain employment opportunities for all over the next decade - in every part of the country".

## Where is Social Exclusion Concentrated?

9.12 A recognition that certain groups and areas traditionally fare worse than others in the labour market informs the Department for Work and Pensions' PSA target to:

"increase the employment rates of *disadvantaged areas and groups*, taking account of the economic cycle, lone parents, ethnic minorities, the over 50s and the 30 local authority districts with the poorest initial labour market position - and reduce the difference between their employment rates and the overall rate"

and also provides an insight into where social exclusion is concentrated.

### Population sub-groups

9.13 From the late 1970s to the mid-1990s, labour market inactivity increased, particularly amongst some sub-groups of the population, including:

- men over 50 years of age - about one in three men over 50 years are inactive;
- lone parents - there has been an increase in the number of lone parents on income support;
- those who are disabled or who have health problems; and
- those with low skills/no skills - over a third of whom are economically inactive.

In general, changes in patterns of labour market participation at individual level have resulted in a shift towards more work in fewer households, and hence a polarisation between work-rich and work-poor or workless households.

9.14 Analyses based on a nine-year sequence of Labour Force Survey data (Berthoud, 2003) provide an insight into how individual characteristics of disadvantage can shape labour market prospects. Six sub-groups at high risk of non-employment were identified:

- men and women without partners (especially lone parents);
- disabled people;
- those with low qualifications and skills;
- those in their 50s;
- those living in areas of weak labour demand; and
- members of certain minority ethnic groups.

*PSA targets have been designed to steer policy in the direction of increasing employment rates amongst disadvantaged groups and in disadvantaged areas.*

*People with low or no skills are disproportionately concentrated amongst the socially excluded...*

*...as are single people, those with disabilities, older people, those from certain minority ethnic groups, and those in areas of low labour demand.*

*The risk of non-employment increases with the number of disadvantages individuals have...*

*...although for some combinations of disadvantage the risks of non-employment are particularly high.*

*Worklessness is unevenly distributed at inter-regional and intra-regional scales...*

*...with some local areas displaying persistently much lower than average employment rates.*

*There is greater regional variation in employment rates amongst those with no qualifications than amongst those with higher-level qualifications.*

- 9.15 Only 4 per cent of individuals with none of these disadvantages were non-employed. The average figure for the population as a whole was 17 per cent. The more disadvantages, the greater the risk of non-employment. More than 90 per cent of people with *all six* disadvantages were non-employed. Nearly 1 in 10 adults had characteristics that increased their risks of non-employment to over 50 per cent.
- 9.16 Poor labour market prospects can be explained largely in terms of the cumulative effects of specific disadvantages. But there are some exceptions. For example, older Pakistanis and Bangladeshis with low qualifications and skills have an even higher risk of non-employment (82 per cent) than might have been expected from adding up the influences of these three characteristics (71 per cent).

### **Regional/local areas**

- 9.17 Despite the fact that unemployment is at low levels and employment levels have risen for about a decade, the spread of worklessness across England remains uneven. Spatial variations in worklessness are greater than spatial variations in unemployment, and intra-regional differences in worklessness are greater than inter-regional ones. Unemployment rates in the worst five per cent of wards are estimated to be about 2.5 times as high as the rates for England as a whole, and there is evidence to suggest much greater inequality within wards.
- 9.18 Unemployment and economic inactivity display a distinctive, and relatively persistent, geographical pattern. Worklessness is concentrated in cities, industrial areas and former coalfields (Green and Owen, 1998), but some seaside towns and isolated rural areas also display high levels of worklessness. Two-thirds of the local authority districts with the lowest employment rates in 1997 were also among the bottom 30 in 2001. Areas with very high levels of worklessness also tend to have high levels of incapacity benefit claimants. This reflects the movement of unemployed people into sickness and early retirement (Webster, 2000).
- 9.19 Those with no qualifications display lower employment rates than those with higher-level qualifications. Importantly, regional variations in employment rates are much more pronounced amongst those with no qualifications than amongst those with highest qualifications at NVQ Level 4 and NVQ Level 5 (see Table 9.1). Hence, in the North East - the region displaying the lowest employment rates - the employment rate for those with no qualifications is only 79 per cent of the England average, while the rate for those with a highest qualification at NVQ Level 4 is 97 per cent of the England average.

**Table 9.1: Employment rates for working age population by qualification level and region, 2003**

	Percentage of working age population in employment					
	No qualification	NVQ 1	NVQ 2	NVQ 3	NVQ 4	NVQ 5
London	46	66	69	71	86	89
South East	62	78	81	81	87	91
East of England	64	78	80	82	87	91
South West	58	79	79	82	86	91
West Midlands	53	73	80	78	88	90
East Midlands	57	76	81	79	88	88
Yorkshire and The Humber	55	74	78	76	87	87
North West	52	74	74	80	87	90
North East	43	66	71	77	84	93
<i>ENGLAND</i>	54	74	77	78	87	90

**Source:** Labour Force Survey, Spring 2003.

9.20 Those with no qualifications tend to be more concentrated in some local areas and regions than in others. For instance, according to the 2001 Census of Population, the proportion of the population aged 16-74 years with no qualifications ranged from less than 20 per cent in London Central and the Surrey local Learning and Skills Council (LSC) areas to over 40 per cent in The Black Country (see Table 9.2). These local LSC area averages disguise marked variations in experience at micro-area level. Local authority areas in the West Midlands and North East display particularly high proportions of people with no qualifications, while in local authority areas in the western parts of the South East and London the proportions tend to be lower (see Figure 9.1).

*Local areas in the North East and West Midlands have particularly high proportions of people with no qualifications.*

**Table 9.2: Population aged 16-74 years with no qualifications, 2001**

Local LSC area	People aged 16-74 with no qualifications (000s)	% total population aged 16-74 with no qualifications
The Black Country	320	41.5
County Durham	130	36.0
South Yorkshire	329	35.9
Birmingham and Solihull	292	35.5
Tyne and Wear	276	35.2
Greater Merseyside	370	34.7
Tees Valley	159	34.7
The Humber	216	34.6
Staffordshire	260	34.0
West Yorkshire	499	33.5
Greater Manchester	583	32.7
Nottinghamshire	240	32.5
Norfolk	186	32.4
Derbyshire	224	32.4
Lincolnshire and Rutland	158	32.2
Lancashire	319	31.5
Leicestershire	203	31.4
Northumberland	70	31.3
Cumbria	109	30.8
Suffolk	144	30.3
London - East	424	30.1
Shropshire	946	29.5
Essex	340	29.3
Coventry and Warwickshire	170	29.1
ENGLAND	10937	29.1
Northamptonshire	131	28.8
Kent and Medway	322	28.6
Herefordshire and Worcestershire	148	28.5
Devon and Cornwall	317	28.0
Somerset	98	27.6
Bedfordshire	110	27.0
Bournemouth, Dorset and Poole	127	26.0
North Yorkshire	141	26.0
Cheshire	163	25.9
Cambridgeshire	132	25.5
Gloucestershire	101	24.9
Sussex	262	24.8
London - North	184	24.6
Wiltshire and Swindon	109	24.6
Hampshire and The Isle of Wight	314	24.5
West of England	175	24.4
Hertfordshire	172	23.1

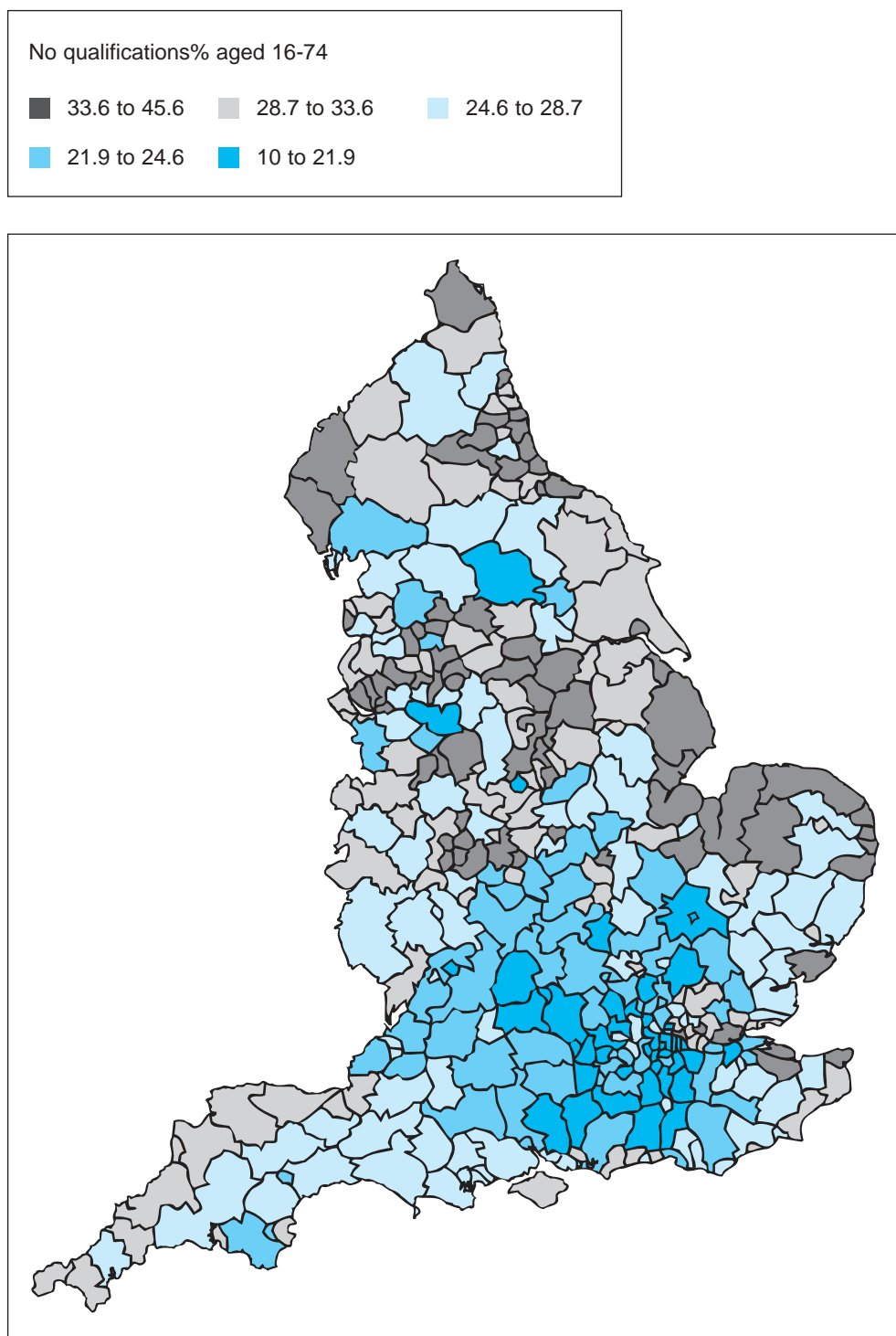
**Table 9.2: Population aged 16-74 years with no qualifications, 2001 (continued)**

Local LSC area	People aged 16-74 with no qualifications (000s)	% total population aged 16-74 with no qualifications
London - West	234	22.6
Milton Keynes, Oxfordshire and Buckinghamshire	204	21.7
Berkshire	125	21.4
London - South	196	20.5
Surrey	151	19.6
London - Central	220	19.1

**Source:** *Census of Population, 2001 - Key Statistics.*

**Note:** *Counts and percentages are aggregated from data at output area level.*

**Figure 9.1: Percentage of the population aged 16-74 years with no qualifications by local authority area, 2001**



*Source: Census of Population, 2001 - Key Statistics.*



9.21 While the existence of spatial concentrations of disadvantage is self-evident, there is considerable debate about what the effects of disadvantage are on people who live in deprived neighbourhoods (Buck, 2001). Lupton and Power (2002) suggest that neighbourhood characteristics can contribute to social exclusion via three mechanisms:

- negative intrinsic characteristics - their location, housing stock and economic structure; and as a result they lose out in the process of:
- residential sorting - drawing in the least advantaged members of society who have the most restricted choice about where they live; and then long-term concentrations of poverty cause neighbourhoods to:
- acquire further problems - poor environments, services and facilities, high crime, etc.

9.22 Both quantitative (McCulloch, 2001) and qualitative analysis has found that neighbourhood/area does have a significant effect on poverty, unemployment and other characteristics associated with social exclusion. Controlling for individual characteristics, people's expectations of starting a job, and their actual probability of starting a job, are lower in deprived areas than in more affluent neighbourhoods. Likewise, the chances of exiting poverty are lower, and the probability of re-entering poverty higher, in deprived than in non-deprived areas. Hence, it can be concluded that area is an important influence, but there are other equally and more important influences at the individual and household levels.

9.23 A range of initiatives, based on geographically delimited areas, to tackle worklessness/social exclusion have been introduced (Tunstall and Lupton, 2003). Examples include Employment Zones and New Deal for Communities (see Chapter 8).

9.24 Moreover, the adoption of floor targets in social inclusion and neighbourhood renewal policy promotes a minimum standard which under-performing areas are required to achieve. Likewise, at regional level the ODPM, DTI and Treasury share a Public Service Agreement (PSA) target to make sustainable improvements in the economic performance of all English regions and over the long term reduce the persistent gap in growth rates between regions. Reducing gaps in economic performance between regions is recognised as important from an equity as well as from an efficiency standpoint.

## How can Skills and Training Combat Social Exclusion?

9.25 Lack of skills, qualifications and work experience, and associated long periods of unemployment and worklessness can lead to poverty, poor health and social isolation. This is a particular problem for those groups who face most difficulty in the labour market, in particular, certain minority ethnic groups, lone parents, older people and those with disabilities.

9.26 Concentrations of worklessness and poor skills in particular wards, neighbourhoods, or even streets can cause additional problems for both individuals and communities. There is also a danger of an inter-generational

*There are a number of mechanisms via which neighbourhood characteristics can contribute to social exclusion...*

*...and research shows that area effects do have an effect on social exclusion - albeit that there are equally or more important influences at individual and household levels.*

*Area-based initiatives have been introduced to tackle social exclusion...*

*... and floor targets have been imposed in an attempt to improve the relative position of the most disadvantaged.*

*A link has been identified between worklessness, poor skills and social exclusion at individual and at area scales.*

*Participation in paid work is a central element of the Government's strategy to tackle social exclusion.*

*Education and training facilitate social inclusion through the acquisition of formal qualifications and 'soft' skills.*

*Possession of qualifications and at least basic literacy and numeracy skills has become more important in protecting young people from unemployment...*

*...because changes in labour demand mean fewer unskilled workers are required.*

impact, when several generations of families and communities are out of work, and young people have no experience of work to draw on from their parents. A culture of 'no one works round here' may develop.

9.27 Paid work is a central element of the Government's strategy to tackle social exclusion. Education, training and skills acquisition are policy instruments which support the policy goals of economic competitiveness and social inclusion. The Government's long-term goal is to ensure a higher proportion of people are in work than ever before by 2010. A key objective is high and stable levels of employment so everyone can share in growing living standards and job opportunities. A number of Government targets focus on groups who are disadvantaged in the labour market (see Chapter 8) as well as areas with particularly acute worklessness (as indicated above). A particular focus has been placed on regenerating deprived areas. There are also a number of PSA targets concerned with up-skilling to combat social exclusion and enhance competitiveness - for example :

- DfES PSA Target 10: To improve the basic skills levels of 1.5 million adults between the launch of Skills for Life in 2001 and 2007, with a milestone of 750,000 by 2004; and
- DfES PSA Target 11: To reduce by at least 40 per cent the number of adults in the UK workforce who lack NVQ Level 2 or equivalent qualifications by 2010.

9.28 Education and training creates possibilities for social inclusion via:

- the attainment of formal qualifications; and
- 'soft' skills.

Educational achievement, early life experiences and schooling impact on one another (Sparkes and Glennerster, 2002). Hence, there are strong links between educational failure and social exclusion.

9.29 Fundamental changes in educational and employment structures have taken place in the last 10 years or so, meaning that the transition to work is lengthening, becoming more fragmentary and more dependent on the possession of qualifications (Morris *et al.*, 1999). It has been estimated that in 1986, 62 per cent of jobs required qualifications, but by 1997 the figure had increased to 69 per cent. Analysis of cohort data (Bynner, 2001) demonstrates the greater significance of possession of qualifications and literacy and numeracy skills as protection against unemployment for successive cohorts of young people.

9.30 As highlighted in Chapter 3, there has been a fundamental downward shift in the demand for unskilled labour and a rise in the premium to qualifications. Hence, the Treasury and DWP (2001) conclude that a key economic driving force behind trends in worklessness has been a striking shift in the employment and earnings prospects of workers with low skills.

9.31 In general, attainment levels of school pupils have been rising, but a significant proportion leave school without attaining qualifications and basic skills, and the attainment gap may be growing. Educational attainment is a predictor of adult outcomes in work and earnings, and probably has effects on other aspects of social inclusion such as health and civic participation. A number of factors drive educational attainment, including child and family characteristics, school factors, the relationships between parents and school and local area factors.

9.32 Yet those who have experienced educational failure are least likely to engage in post-school learning. Analyses of trends in learning based on the National Adult Learning Survey show that there are persistent variations in participation in learning amongst different groups.

- Participation reduces with the level of prior educational attainment: in 2002 less than a third of adults with no qualifications reported some learning compared with 94 per cent of those with NVQ Level 4 or 5 qualifications.
- Over half of those with basic skills difficulties reported some learning compared with 83 per cent of those without such difficulties.
- The highest participation rates in learning were recorded by full-time employees, while the lowest figures were for those outside the labour market - moreover, between 1997 and 2002 there has been a small decline in the proportion of unemployed who reported some learning, from 72 per cent to 68 per cent.
- Participation in learning ranges from 88 per cent in the least deprived areas to 67 per cent in the most deprived areas, although learning in the most deprived areas increased more quickly between 2001 and 2002.

These patterns are reinforced by findings from the National Institute of Adult Continuing Education in 2002 (Sargant and Aldridge, 2002).

9.33 Formal educational qualifications confirming attainment play an important role in employers' judgements about employing individuals. In deciding who to hire they need access to easily accessible and comparable data and this is supplied by qualifications such as GCSEs, hence the link between attainment, labour market participation and earnings (Sparkes and Glennerster, 2002).

9.34 Work by Bynner and Parsons (1998) also emphasises the impact on adult outcomes of poor basic skills, especially for individuals at high risk of social exclusion from other factors. The evidence indicates that individuals who leave schools with low levels of (formal) educational attainment and poor basic skills are at a higher risk of experiencing social exclusion as adults. Those who lack basic literacy and numeracy skills are at particular risk - so emphasising the circular relationship between poor skills and social exclusion.

*A significant proportion of young people leave school with no qualifications...*

*...and are subsequently amongst the least likely to engage in adult learning.*

*Qualifications play a role in employers' recruitment decisions.*

*Those with poor basic skills - particularly when combined with other disadvantages - face a high risk of social exclusion.*

*Local guidance and provision is often needed to encourage those with the poorest skills to participate in education and training...*

*...but education alone cannot reduce social exclusion significantly...*

*...because there are other important barriers that people face in accessing paid work.*

*Hence, educational strategies need to be complemented by other strategies, in order to help counteract mutually reinforcing spatial and skills mismatches in labour supply and demand.*

- 9.35 Research on attitudes to adult education in disadvantaged areas (Bowman *et al.*, 2000) shows that experiences at school, academic confidence and perceptions of work opportunities will all affect people's views of the role of education and training in their lives. Enjoyment and appropriate, supportive local guidance and provision need to be emphasised if policies are to encourage people to access and progress through education and training opportunities.
- 9.36 A review of the research evidence suggests that education alone cannot reduce social exclusion significantly. Factors such as childhood poverty, poor health and family instability all play a part in the creation of multiple disadvantage later in life.
- 9.37 Likewise, skills and training are unlikely to be sufficient on their own to combat worklessness. Other barriers to work might include:
- a lack of information about vacancies;
  - a lack of (desirable) jobs;
  - a lack of affordable and accessible care provision for other household members;
  - limited travel horizons and difficulties in access to work (Social Exclusion Unit, 2003);
  - fears of leaving the safety net provided by benefits;
  - reluctance of some employers to consider unemployed people for vacancies;
  - discrimination towards certain sub-groups, or on the basis of address;
  - use of informal / other recruitment channels which exclude workless people; and
  - requiring formal qualifications and work experience when they are not essential to do the job - this is the process of credential inflation among employers (outlined in Chapter 4) that serves to restrict the access of the least qualified to jobs that they might reasonably perform.
- 9.38 Hence, the evidence suggests that educational strategies to reduce social exclusion need to be complemented by labour market and workplace strategies, and policies to counter other contextual barriers (e.g. lack of transport, lack of affordable care provision, etc.) that hamper participation in education, training and employment.
- 9.39 Recent research has shown that area perceptions, limited mobility, lack of confidence and poor skills interact in complex ways to limit perceived employment opportunities (Shuttleworth *et al.*, 2003). Many have only limited aspirations anyway. In this way, spatial mismatches and skill mismatches in the supply of, and demand for, labour, may be mutually reinforcing.

## Skills, Qualifications and Being in Work - the Most Disadvantaged

9.40 This section focuses on the experiences of labour market participation and social exclusion on four key dimensions:

- age - focusing particularly on those in the older working age group;
- gender - highlighting the experience of women;
- ethnic group - emphasising the diversity of experience of ethnic minority groups in education and the labour market; and
- people with disabilities.

On each dimension, the emphasis is on those who have no qualifications/the poorest skills, and so are at greatest risk of labour market disadvantage. (See also Chapter 4 for a discussion of the Supply of Skills as measured by qualifications on these various dimensions).

### Age profile

9.41 England, in common with other western European economies, has an ageing population and workforce. 'Ageing' has impacts on all age groups within the workforce, but recent policy attention has been focused particularly on the experiences of older workers - as indicated in the Government consultation document on age legislation: *Age Matters: Towards Equality and Diversity: Report of Responses on Age* (DTI, 2003).

9.42 For a number of reasons, including financial, increasing numbers of adults are expected to want to work beyond 60 years of age. The extent to which suitable opportunities will be available remains an unknown factor. This also links to concerns about savings and pensions. Yet - at least amongst older males - the recent trend has been for a reduction in employment rates, and in labour market participation more broadly.

9.43 The rise in economic inactivity has been particularly marked among people with low levels of qualifications. According to LFS data, in autumn 2001, 41 per cent of men aged 50-64 were inactive compared with 22 per cent of those with a GCSE-level qualification or higher. This compares with rates of 36 per cent and 23 per cent respectively in autumn 1993 (Barham, 2002).

9.44 There is some evidence to suggest that higher inactivity rates among older men are occurring at successively earlier cohorts for certain groups (Barham, 2002) - particularly those men with no qualifications. Men in the 1935-39 birth cohort with no qualifications had an inactivity rate of 8 per cent when aged 45-59 compared with a rate of 26 per cent for those at the same age born between 1950 and 1954. There is a suggestion that among certain groups, such as those with low levels of qualifications, inactivity rates look as though they may well continue to increase with successive cohorts.

*This section focuses on labour market participation and social exclusion by age, gender, ethnic group and disability.*

*The ageing of the population has led to an increasing focus on older workers...*

*...in the light of a trend for a reduction in labour market participation...*

*...particularly amongst men with no or low-level qualifications...*

*...for whom high inactivity rates are occurring at successively younger ages.*

*Those who have moved into inactivity involuntarily may be at particular risk of suffering social exclusion...*

*...yet many would like the opportunity to participate in employment.*

*In a number of ways employment patterns of older workers differ from those of prime-aged and younger workers.*

*Older workers tend to be able to offer employers high levels of work experience...*

*...and there is no evidence that older workers are significantly less productive than younger workers...*

9.45 It appears that there are at least two distinct groups of inactive older men:

- professional workers who have retired voluntarily; and
- someone who has moved into inactivity - often from a less-skilled occupation, possibly via unemployment, and who is now long-term sick or disabled.

From a poverty and social exclusion perspective, there is a particular interest in this latter group. If large numbers of older men are inactive for involuntary reasons this could indicate that they lack the social networks often associated with work, and they may suffer social exclusion.

9.46 In relation to the labour market prospects of older workers, the key findings of the *Challenging Age* report published in April 2003 were that:

- stereotypes of older employees persist, and often low value is placed on the skills and experience of older workers; yet
- many people over 45 years want to work, learn and continue to use their abilities in their later years; and
- many want a second chance to access high-quality information, advice, guidance and retraining to enable them to overcome barriers to employment.

9.47 Analysis of the employment patterns of older workers suggests that they differ from those of prime-aged and younger workers in a number of ways (Dixon, 2003).

- They are less likely to become unemployed, but once unemployed take longer to return to work, and are more likely to leave the labour force.
- Their levels of participation in both formal education and work-based learning are lower than those of prime-aged and younger adults.
- Older workers are likely to change jobs less often.
- Older workers are less geographically mobile.

9.48 The knowledge and skills held by people in the workforce influence productivity levels and provide a basis for innovation and productivity improvements. Older workers have higher levels of work experience. Workforce skills depend on the stock of knowledge that is acquired before entry to the labour market, or in the early stages of individuals' careers. There is a risk that the stock of skills that derives from foundation education and training will become increasingly dated as the average age of participants in the workforce rises.

9.49 The evidence on the effect of age on job performance is consistent with there being no deterioration in performance in most types of work, at least up until the age of 70 years (Meadows, 2003). There are only a small number of people who work beyond this age and this means that it has not been possible for studies to measure the workplace performance of people over 70

years. There is no evidence to support the view that older workers are inherently less productive than younger workers, except in a limited range of jobs requiring rapid reactions or physical strength, and people tend to move out of these as they become harder for them.

9.50 Only where older workers do not receive the same level of training as younger workers doing the same kind of work does their performance show differences. Older workers who receive job-related training reach the same skill standards as younger workers.

9.51 There is a negative relationship between age and studying for a new qualification, but for all age groups those with higher existing qualifications are more likely to be studying for a qualification. Older workers face higher opportunity costs when they undertake training that requires time away from work, because the earnings they must forgo are higher. The shorter remaining length of working life for older workers reduces the period in which they can gain benefits - in the form of higher wages or improved job opportunities - from having the additional qualifications. Empirical estimates of the returns on education for adults in the UK suggest that the financial benefits of acquiring new qualifications when over the age of 30 years are often small or non-existent (Jenkins *et al.*, 2002).

9.52 Given poor returns on investments in lengthy off-job education and training at older ages, on-the-job training and short courses are likely to become an increasingly important means for maintaining and updating the skills of an older workforce.

## Gender profile

9.53 A key feature of employment change by gender over the medium-term has been the growth in participation of women in the labour market and their increasing share of total employment (Hibbett and Meager, 2003). A number of points need to be made here.

- Women continue to dominate in part-time work - which tends to be low paid, has few promotional prospects, and has limited training opportunities.
- Gender segregation means women are under-represented in many sectors, such as manufacturing and construction, and in certain occupations.
- The gender pay gap is persistent and even widening.
- Educational subject choices are still influenced by gender stereotypes and there is significant gender segregation in government training schemes.
- A key issue in women's labour market participation is their caring responsibilities.

Hence, there are structural explanations of gender inequality in employment but women's participation in the labour market may also be affected by their choices about paid employment and caring responsibilities.

*...except when they do not receive the same level of training as their younger counterparts.*

*The likelihood of studying for a new qualification declines with age...*

*...and so on-the-job training and short courses are important for updating skills.*

*Although women's participation in employment has increased, it remains different from that of men in a number of important respects.*

*There are different models of equal opportunities.*

9.54 With respect to gender, in particular, three models of equal opportunities may be identified:

- equal treatment - concerned with removing the most obvious structural barriers to employment;
- positive action - which recognises the significance of group membership in perpetuation of disadvantage, and tries to tackle some of the further barriers to fuller participation across the range of employment; and
- mainstreaming - which is based on a model of working life that is multi-faceted and encompasses difference (i.e. a variety of arrangements which are equally valued and are suitable to both men and women at different stages of their working lives).

Equal treatment and positive action operate within existing social structures, with relatively minor attempts at change, whereas mainstreaming involves radical change both in policy and in attitudes.

*Women (and men) do not form a homogeneous group...*

9.55 Dimensions of age, ethnicity, family/parental status and skill also affect women's (and men's) employment experience. Some examples are given below (see Duffield, 2002).

- Women's employment rates generally increase with age but fall beyond the age of 50 years - employment rates for women in all age groups are lower than for men.
- Women in couples have higher employment rates than single women, and for both groups women without children are more likely to be in employment.
- Women's employment rates are lower for minority ethnic groups than for white women - in 2002 the working age employment rates were:
  - a. nearly 70 per cent for all women;
  - b. 71 per cent for white women;
  - c. 57 per cent for Black or Black British women; and
  - d. 45 per cent for Asian or Asian British women - but 60 per cent for Indian women and 20 per cent for Bangladeshi women.
- In 2002 85 per cent of women with higher qualifications were in employment, compared with only 45 per cent of those with no formal qualifications.

Hence, women do not constitute a homogeneous group: they have diverse labour market experiences and often have different aspirations.



9.56 The labour market experience of women with different qualification levels is of particular interest here. Women's qualification levels are increasing over time (see Chapter 4). Women with higher qualifications have similar employment rates to men - 85 per cent of women with higher qualifications were in employment, compared with 89 per cent of women in 2002 (see Figure 9.2). Those with other or no qualifications experience employment rates significantly below those for men, although the same pattern of declining employment and rising unemployment - and more particularly, inactivity - is evident in both cases. Between 1997 and 2002, employment rates for women with higher and other qualifications rose while employment rates for those with no qualifications fell. This suggests that, while the number of women without qualifications has been falling, those that remain in this group are more disadvantaged than was formerly the case.

### **Ethnic group profile**

9.57 People from minority ethnic groups made up 9 per cent of the total population of England according to the 2001 Census of Population. Nearly half (45 per cent) of the total minority ethnic population lived in London, where they comprised 29 per cent of all residents. After London, the second largest proportion of the minority ethnic population lived in the West Midlands (with 13 per cent of the minority ethnic population), followed by the South East (8 per cent), the North West (8 per cent) and Yorkshire and the Humber (7 per cent). At intra-regional level the population from minority ethnic groups is particularly concentrated in large cities (see Figure 9.3). It is estimated that minority ethnic groups will account for over half the growth in population of working age between 1999 and 2009.

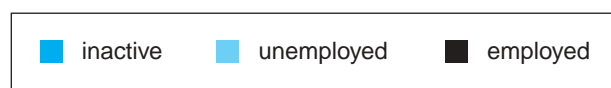
9.58 People from minority ethnic groups are disadvantaged in the labour market relative to their white counterparts in several different respects. There are, however, significant differences *between* different minority ethnic groups in terms of employment. The old picture of white success and minority ethnic underachievement is dated. The nature and extent of this disadvantage varies widely, between and within different minority ethnic groups. The position of minority ethnic groups is now much more complex than in previous decades. Employment rates amongst almost all minority ethnic groups are lower than those of the white population. For example, people of Indian or Chinese background have employment rates that are not far behind those of white people, whereas people of Caribbean, African, Pakistani or Bangladeshi background tend to have high rates of unemployment. The drivers of these differences are multiple and complex. They include education and skills and the ability to gain access to employment opportunities. Discrimination in the workplace also plays a role.

*...and the evidence suggests that the employment prospects of those without qualifications have been deteriorating.*

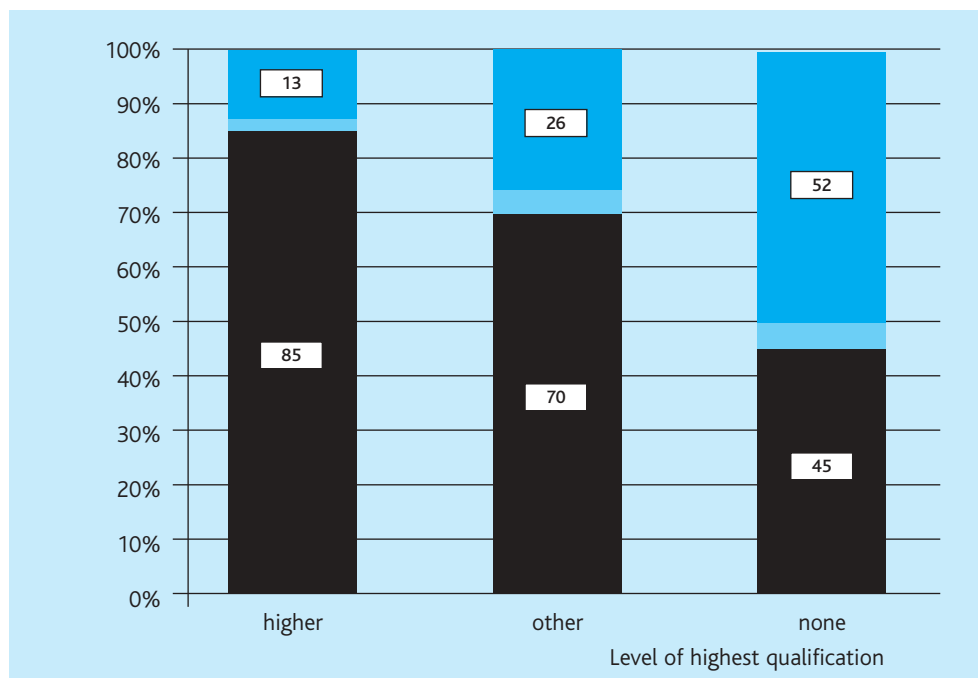
*Minority ethnic groups make up 9 per cent of the population of England and significantly more in some regions and cities.*

*Minority ethnic groups are disadvantaged in the labour market relative to white people in several respects, but the extent and nature of disadvantage varies between different minority ethnic groups.*

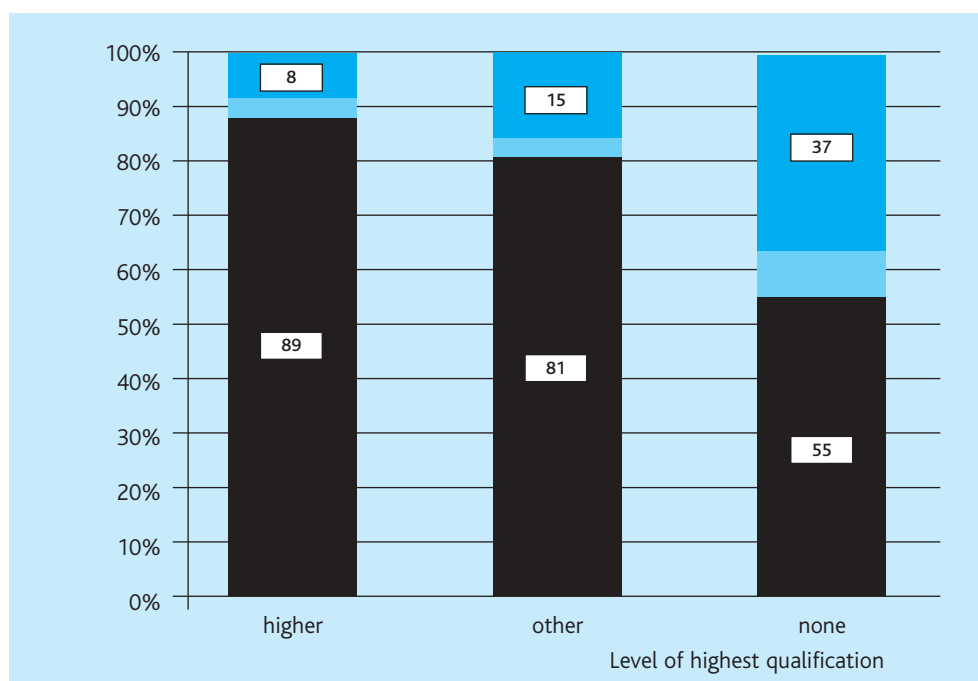
Figure 9.2: Economic position by gender and highest qualification level, 2002



a) Women aged 16-59



b) Men aged 16-64

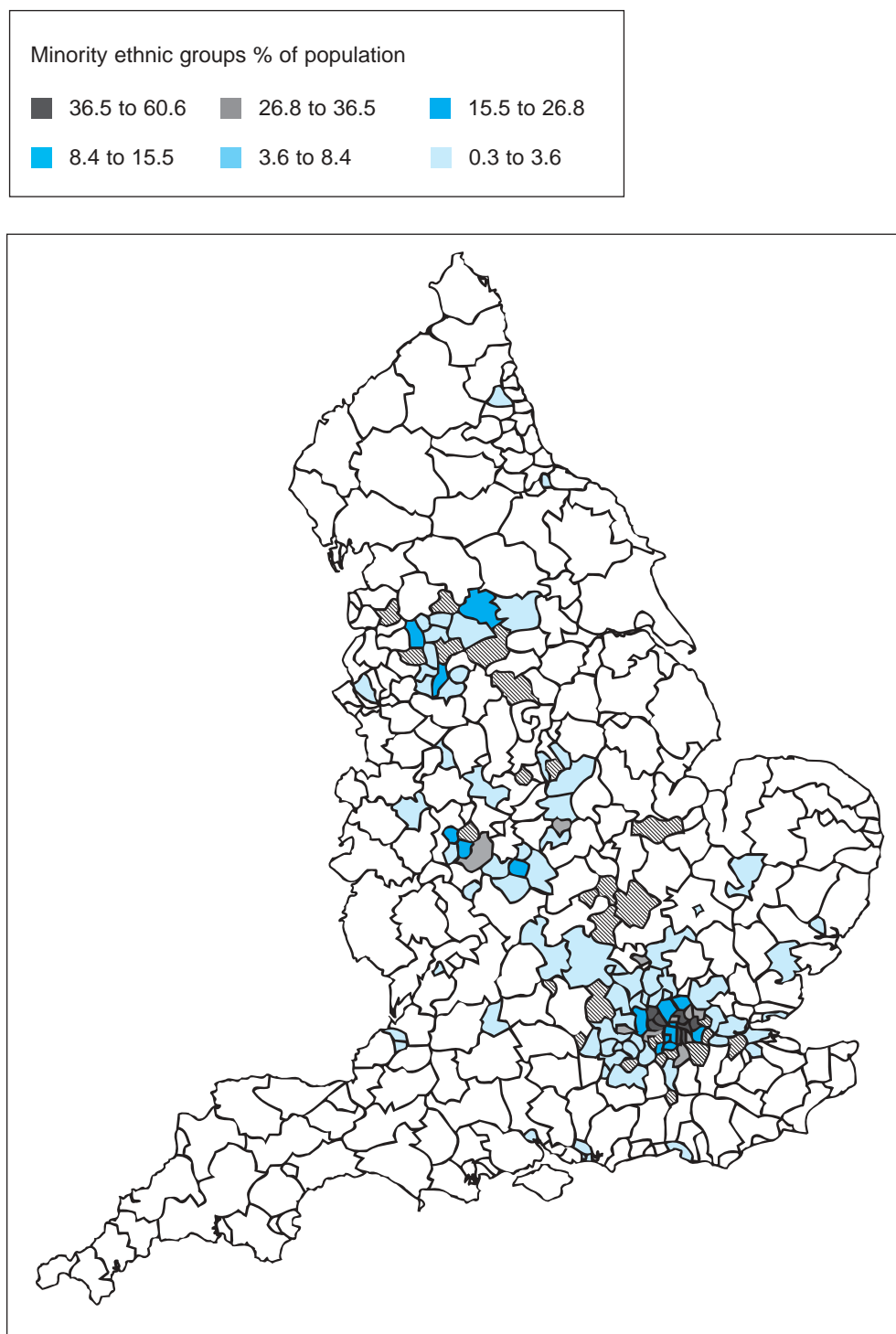


Source: Labour Force Survey, 2002; from Duffield (2002).

Notes: Statistics are presented for persons of working age (i.e. 16-59 years for women and 16-64 years for men).

Key to qualification levels: Higher qualifications are those above GCE A-Level or equivalent; Other qualifications are those of GCE A-Level or equivalent or lower, and includes miscellaneous qualifications which cannot be classified.

**Figure 9.3: Percentage of the population from minority ethnic groups by local authority area, 2001**



Source: *Census of Population, 2001 - Key Statistics.*

People of Bangladeshi and Pakistani origin are especially likely to have no qualifications.

9.59 The 2001 Census of Population includes detailed information on qualification profiles of ethnic groups. Table 9.3 shows the proportion of adults by age group recorded as having no qualifications. It is evident that the proportion of adults with no qualifications increases with age from 25 years upwards across all ethnic groups. Hence, only 12 per cent of all people in the 25-34 years age group have no qualifications, compared with 21 per cent of those aged 35-49 years, 39 per cent of those aged 50-59 years and more than 50 per cent of those aged 60 years and over. In terms of ethnicity, which is the primary dimension of interest here, the key feature is the extremely high proportion of people of Bangladeshi and Pakistani origin with no qualifications. In the 25-34 years age group 46 per cent of people of Bangladeshi and 36 per cent of Pakistani origin have no qualification, and in the 35-49 years age group these proportions rise to 68 per cent and 55 per cent, respectively.

**Table 9.3: Proportion of adults with no qualifications by ethnic group and age, 2001**

Ethnic Group	Age group						
	16-24	25-34	35-49	50-59	60-64	65-74	16-74
ALL PEOPLE	15.8	12.3	21.4	39.3	53.6	63.3	28.9
White: British	15.9	11.6	20.9	39.4	53.5	63.2	29.3
White: Irish	12.3	9.3	21.8	48.3	61.6	69.5	37.6
White: Other White	13.2	9.4	14.9	26.6	41.6	53.6	18.1
Mixed: White and Black Caribbean	24.5	18.8	24.4	36.9	49.4	55.4	24.9
Mixed: White and Black African	16.5	14.2	18.7	32.7	46.7	57.0	19.1
Mixed: White and Asian	14.9	12.2	17.5	27.0	33.7	38.8	17.3
Mixed: Other Mixed	14.1	10.7	16.6	25.3	34.6	45.9	16.5
Asian or Asian British: Indian	10.6	12.7	30.6	44.7	54.5	63.3	26.9
Asian or Asian British: Pakistani	22.6	35.6	54.9	60.4	64.9	73.6	41.3
Asian or Asian British: Bangladeshi	21.5	45.7	67.5	69.6	78.4	81.7	47.1
Asian or Asian British: Other Asian	13.2	15.6	19.1	22.4	33.5	46.8	19.3
Black or Black British: Black Caribbean	16.3	10.8	16.8	40.7	61.4	71.6	26.7
Black or Black British: Black African	12.6	11.2	12.0	18.4	27.7	42.1	13.4
Black or Black British: Other Black	16.2	12.5	17.1	30.7	50.2	61.0	18.6
Chinese or Other Ethnic Group: Chinese	8.8	11.1	33.5	45.2	62.2	73.6	25.4
Chinese or Other Ethnic Group: Other Ethnic Group	17.2	19.2	25.5	29.2	43.4	54.8	23.5
Minority ethnic groups	15.9	18.7	28.3	40.7	55.1	65.0	27.1
Mixed	18.3	14.1	19.4	29.1	39.2	46.9	19.6
South Asian	16.9	25.3	41.1	50.4	60.2	68.0	34.0
Black	14.5	11.1	15.0	32.8	54.3	67.0	20.8
Chinese and Other	12.5	15.7	25.9	31.6	45.8	58.6	22.7

**Source:** Census of Population, 2001 – Key Statistics.

**Note:** Counts and percentages are aggregated from data at output area level.

9.60 All minority ethnic groups, including the more successful groups, are not doing as well as they could be, given their qualification levels (Owen *et al.*, 2000). For example, the Indians and Chinese, on average, are doing well and are often out-performing white people in schools and in the labour market. But even the Indians and Chinese are not doing as well as they should, given their education and other characteristics.

9.61 There are important disparities in the labour market performance of minority ethnic groups and white people that are not attributable to different levels of education and skills. The persistence of workplace discrimination is an important reason for this. In some cases, minority ethnic groups are concentrated in areas of deprivation. These areas contain barriers, such as poor public transport and isolation in areas with high proportions of workless households, which may disproportionately affect minority ethnic groups.

9.62 With respect to minority ethnic groups' experience in the labour market and employment, a distinction may be made between:

- direct discrimination - which describes a situation in which, on racial grounds, one person is treated less favourably than others are, or would be, treated in the same circumstances, or in circumstances that are not materially different (e.g. if an individual from a minority ethnic group background is passed over for promotion, despite being better qualified for the job than a white colleague whose application for promotion is successful); and
- indirect discrimination - where policies or practices have the inadvertent result of systematically disadvantaging ethnic minorities.

The latter remains a particular problem.

9.63 Labour market inequality between minority ethnic groups has been the focus of considerable government policy development culminating in the publication of the *Ethnic Minorities and the Labour Market Report* by the Strategy Unit in March 2003. This report sets out a fresh approach that goes beyond traditional anti-discrimination policies to address the many factors that can stand in the way of success in jobs and careers, including targeted action on schools, jobs, housing and discrimination. It emphasises that economic integration is a vital component of broader social and civic integration and is based on the premise that action to improve the achievement of minority ethnic groups can offer a double dividend of higher economic growth and stronger social cohesion.

9.64 The specific policy measures fall into four categories:

- action to improve the employability of minority ethnic groups by raising levels of educational attainment and skills;
- action to connect minority ethnic groups with work by reforming existing employment programmes, tackling specific barriers to work in deprived areas, like poor transport, and promoting self employment;

*For all minority ethnic groups, achievements in education and training are not translated into employment.*

*Several factors have been identified as contributing to under-performance in the labour market.*

*Indirect discrimination remains a particular problem.*

*A recent Strategy Unit report on 'Ethnic Minorities and the Labour Market' sets out an approach going beyond traditional anti-discrimination policies...*

*...identifying a number of policy measures to address factors that stand in the way of the success of minority ethnic groups in employment.*

- action to promote equal opportunities in the workplace through better advice and support to employers, and through more effective use of levers such as public procurement; and
- action on delivery led by a Minister in charge of a cross-departmental Task Force comprising relevant Ministers, senior officials and key external stakeholders, reporting through the Secretary of State for Work and Pensions to the Cabinet Committee on Economic Affairs, Productivity and Competitiveness.

### People with disabilities

9.65 There is no simple theoretical or operational definition of disability, but there are two competing explanations of disability:

- the medical model: disability is a physical or mental defect which limits a person's ability to function normally; and
- the social model: disability is caused by social, economic and material barriers experienced by people with physical, mental or sensory impairments, in societies which take little or no account of their need to participate equally.

9.66 In operational terms, the Labour Force Survey collects information on:

- a current disability covered by the 1995 Disability Discrimination Act (i.e. "anyone with a physical or mental impairment, which has a substantial and long-term adverse effect upon their ability to carry out normal day-to-day activities");
- a work-limiting disability;
- or both.

The definitions cover a wide range of impairments which themselves can differ in their severity.

9.67 The likelihood of having a long-term disability or health problem increases with age. The trend has been one of increase in reporting of disability: the proportion of people of working-age reporting a disability increased from just under 18 per cent of the UK population in autumn 1998 to over 19 per cent in autumn 2001. This increase is not just associated with older age groups.

9.68 Disability rates vary markedly across regions and local areas. At a regional level, they are highest in the North East and lowest in the South East. Such regional variations are likely to be associated with regional variation in the distribution of industries, the availability of and access to health care and adequate housing, lifestyle and dietary behaviour, levels of education and the age distribution of the population.

*There is a medical model and a social model of disability.*

*Data is collected on the basis of a number of different definitions of disability.*

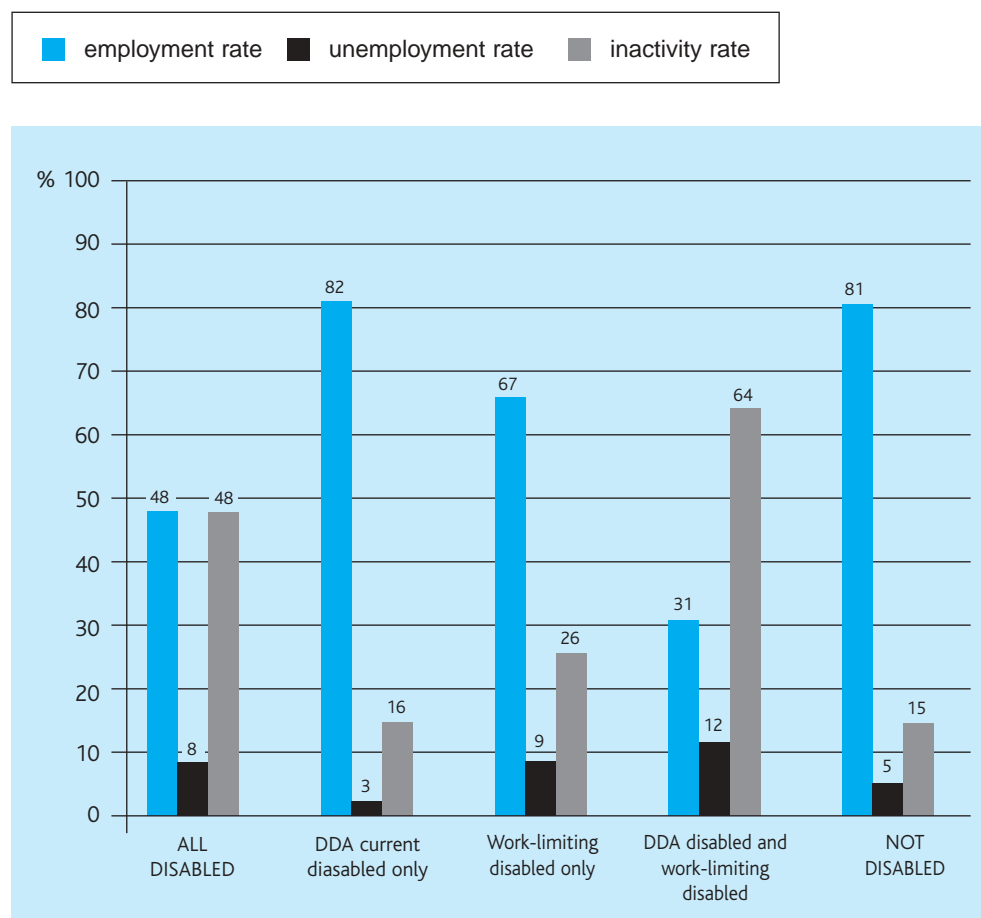
*The number of people reporting disabilities is increasing...*

*...and there are marked local and regional variations in disability rates.*

9.69 An analysis of disability and labour market experience using Labour Force Survey data (Smith and Twomey, 2002) revealed that the following were true in 2001.

- 3.4 million disabled people were in employment - representing an employment rate of 48 per cent compared with an employment rate of 81 per cent for those not disabled (see Figure 9.4).
- Employment rates vary between types of disability: they are lowest for those with mental health problems and learning disability.
- Disabled people are twice as likely as non-disabled people to have no qualifications - but those with qualifications are more likely to be in employment than those without.
- Disabled people are over-represented in administrative, clerical and secretarial, skilled trades, personal services and elementary occupations, and under-represented among managers and senior officials, professional, associate professional and technical occupations, and sales and customer services occupations.
- The overall unemployment rate of disabled people was over 8 per cent compared with just under 5 per cent for non-disabled people.
- Approximately half of the disabled population are economically inactive (44 per cent men and 52 per cent women), compared with only 15 per cent of the non-disabled population (9 per cent of men and 21 per cent of women).
- Disability has a great impact on the disability status of households, with households containing a disabled adult having a workless rate of 31 per cent compared with a rate of under 10 per cent for those households where no disabled adult was present.

*Disabled people are less likely to be in employment than non-disabled people are...*

**Figure 9.4: Economic position of disabled and non-disabled people**

*Source: Labour Force Survey, 2001; from Smith and Twomey (2002).*

9.70 Analysis of information from the 2001 Census of Population on long-term limiting illness for those aged 16-74 years at the local LSC area level (see Table 9.4) reveals the following.

- Employment rates for those suffering limiting long-term illness range from less than 20 per cent in Greater Merseyside, Tees Valley, County Durham, Tyne and Wear and South Yorkshire to over 30 per cent in Milton Keynes, Oxfordshire and Buckinghamshire, Berkshire, Surrey, and Wiltshire and Swindon.
- In the large urban areas of northern England and the Midlands the ratio of the employment rate for those suffering long-term limiting illness to the total employment rate is much lower than in the 'tight' labour markets of southern England (outside London).

9.71 There are two key areas of enquiry when looking at the position of people with disabilities in the labour market:

- why people with disabilities are disadvantaged; and
- the extent to which they are disadvantaged.

*...and employment rates are particularly low for those in 'slack' as opposed to 'tight' labour markets.*



**Table 9.4: Employment and inactivity rates for those suffering limiting long-term illness by local LSC area, 2001**

Total 16-74 years		With limiting long-term illness, 16-74 years		Ratio (1 : 3)	Local LSC area  (ranked on ratio of employment for those suffering limiting long-term illness to total employment rate)
Employment rate (%)	Inactivity rate (%)	Employment rate (%)	Inactivity rate (%)		
51.9	40.6	15.7	81.1	0.30	Greater Merseyside
54.0	38.6	17.0	79.6	0.31	Tees Valley
54.6	39.8	17.3	80.1	0.32	County Durham
53.5	39.2	17.0	79.8	0.32	Tyne and Wear
58.2	35.6	20.2	77.0	0.35	Greater Manchester
56.1	37.4	19.9	76.9	0.35	South Yorkshire
59.0	35.4	21.2	75.8	0.36	Northumberland
57.2	36.0	21.0	75.2	0.37	Black Country
58.8	35.4	21.7	75.5	0.37	Lancashire
53.7	38.2	20.1	75.6	0.37	Birmingham and Solihull
59.8	32.1	22.5	71.9	0.38	London - Central
59.0	34.6	22.3	74.4	0.38	West Yorkshire
63.0	31.9	23.8	73.5	0.38	Cheshire
60.4	34.2	22.8	74.3	0.38	Cumbria
58.3	35.1	22.1	73.8	0.38	The Humber
56.7	35.3	21.7	73.7	0.38	London - East
61.4	33.1	23.6	73.6	0.38	Staffordshire
61.4	33.1	23.9	73.0	0.39	Derbyshire
57.6	35.9	22.9	73.7	0.40	Nottinghamshire
60.9	34.2	24.6	72.3	0.40	Lincolnshire and Rutland
59.1	33.3	24.2	71.4	0.41	London - North
61.8	32.3	25.3	71.5	0.41	Coventry and Warwickshire
61.5	31.6	25.2	70.7	0.41	London - West
60.5	34.4	25.4	71.2	0.42	Norfolk
63.9	31.3	26.9	70.1	0.42	Shropshire
58.9	35.7	24.9	71.9	0.42	Devon and Cornwall
64.0	31.2	27.3	69.5	0.43	Essex
61.8	32.0	26.8	69.5	0.43	Leicestershire
64.1	31.0	27.9	69.2	0.43	North Yorkshire
62.6	32.2	27.3	69.2	0.44	Kent and Medway
64.0	31.2	28.0	68.7	0.44	Suffolk
63.3	31.1	27.9	69.1	0.44	West of England
65.1	30.0	28.7	68.1	0.44	Herefordshire and Worcestershire
60.7	34.5	26.9	70.3	0.44	Bournemouth, Dorset and Poole
64.7	29.5	28.6	67.7	0.44	Bedfordshire
62.5	32.3	27.7	69.1	0.44	Sussex

**Table 9.4: Employment and inactivity rates for those suffering limiting long-term illness by local LSC area, 2001 (continued)**

Total 16-74 years		With limiting long-term illness, 16-74 years		Ratio (1 : 3)	Local LSC area  (ranked on ratio of employment for those suffering limiting long-term illness to total employment rate)
Employment rate (%)	Inactivity rate (%)	Employment rate (%)	Inactivity rate (%)		
63.4	32.1	28.2	68.9	0.45	Somerset
67.1	27.6	30.0	66.7	0.45	Northamptonshire
65.5	28.9	29.7	66.4	0.45	London - South
65.1	29.7	29.5	67.2	0.45	Gloucestershire
67.2	28.1	31.0	66.1	0.46	Hertfordshire
64.6	30.1	30.1	66.7	0.47	Hampshire and The Isle of Wight
65.2	30.1	30.7	66.0	0.47	Cambridgeshire
68.5	27.2	32.6	64.7	0.48	Wiltshire and Swindon
68.8	26.2	33.7	63.1	0.49	Berkshire
66.9	28.8	33.3	63.8	0.50	Surrey
67.3	27.9	33.7	63.2	0.50	Milton Keynes, Oxfordshire and Buckinghamshire

**Source:** Census of Population, 2001.

*Disabled people may face a number of key barriers in gaining employment.*

*A number of policy measures are in place to facilitate the entry of people with disabilities into employment...*

*...but to achieve social inclusion it is necessary to address both impairment-specific and more general barriers.*

9.72 Disabled people have identified their main barriers to getting employment as:

- fear of losing benefits;
- health issues;
- lack of confidence;
- employers' attitudes;
- transport/location; and
- carers' concerns.

9.73 For disabled people there are three interconnected strands of labour market policy:

- improving incentives to work via the tax and benefit system;
- helping people back into work - for example, via the New Deal for Disabled People; and
- tackling discrimination in the workplace via anti-discrimination policy.

9.74 An examination of the past and present position of disabled people in the income distribution and the labour market using nationally representative surveys (Burchardt, 2000) suggests that many of the factors behind economic exclusion for disabled people - such as low educational qualifications - are

common to other groups in society. Hence, social inclusion will not be achieved until both the impairment-specific and more general barriers to participation are dismantled.

## Skills and Qualifications over the Life Course

- 9.75 There are inter-generational and intra-generational pathways into social exclusion. Parental endowments, childhood circumstances, individual attributes and behaviour, and prior experiences during adulthood all play a role, as does bad luck.
- 9.76 The report of the Skills Policy Action Team (Social Exclusion Unit, 1999) found that people who live in areas that suffer from severe social disadvantage are disproportionately likely to have few or no qualifications, poor literacy and numeracy skills, and low self-confidence and coping skills. Low levels of qualifications and skills do not only mean that people are more likely to be unemployed and hence poor. Low skill levels have a sapping effect on people's self-confidence and they also reduce people's capacity - and willingness - to act for themselves and their families.
- 9.77 Likewise, the report of the Jobs Policy Action Team reported that around two-thirds of low-income households are without work. The lack of work locks these households into a cycle of decline. People who have been unemployed are at a much greater risk of subsequent unemployment and low pay. Children from workless or low-income households are much less likely to stay on at school and to have poor educational attainment. Educational attainment in turn has a significant impact on people's chances in the labour market.
- 9.78 The findings from an analysis of longitudinal data from the 1970 British Cohort Study (Parsons and Bynner, 2002) give a clear picture of a social exclusion process clearly evident at age 10 becoming fully manifest in the teenage years (at age 16) and following transition to adulthood (at age 30). The analysis focused on poor readers - identified as the bottom 20 per cent of scores - and incorporates risk (social class, parents' education, overcrowded housing, etc.) and protective factors. The results are as follows.
- Boys at age 16 - 32 per cent of high-risk poor readers were not entered for any public examinations compared with 24 per cent of low-risk poor readers and 11 per cent of all boys.
  - Girls at age 16 - 29 per cent of high-risk poor readers were not entered for any public examinations compared with 21 per cent of low-risk poor readers and 9 per cent of all girls.
  - For early school leavers at age 30:
    - a. high-risk poor readers were more likely to have experienced continuous unemployment for a year or more, than low-risk poor readers and all men and women;
    - b. high-risk poor readers in full-time work had lower earnings than low-risk poor readers and all men and women; and

*There are inter-generational and intra-generational pathways into social exclusion.*

*Low skills have a sapping effect on people's self-confidence and on their willingness to act for themselves and their families.*

*Lack of work can lock households into a cycle of decline, with children from workless/low-income households tending to perform poorly at school.*

*Poor readers in childhood - particularly when exposed to other risk factors - are more likely than their peers to leave school without qualifications and to suffer prolonged unemployment in adulthood.*

*Education and training have a role to play in reducing social exclusion.*

*The pay of people with no qualifications has fallen relative to those with some qualifications...*

*...and children exposed to poverty tend to be scarred by the experience.*

*Improvements in educational attainment have been focused on high and moderate achievers.*

*It has proved persistently difficult to engage the poor and unskilled in learning.*

*The most disadvantaged face attitudinal, practical and structural barriers to engaging in learning...*

c. high-risk poor readers were more likely to feel that “whatever I do has no real effect on what happens in my life” compared with low-risk poor readers and all men and women.

9.79 On balance, it seems that the weight of the evidence favours the view that education and training do have a role to play in reducing social exclusion. There is a broad consensus on the potential of early years interventions for improving later attainment. But, large questions nevertheless remain: for example, about the effectiveness of education at different times in an individual’s life, and how far it can counteract other elements of disadvantage.

9.80 Turning to pay, analysis of data from the New Earnings Survey shows that the incidence of low pay has increased over the past quarter of a century. The growth in low pay reflects the increase in earnings inequality over the same period. The pay of people with no educational qualifications has fallen substantially relative to those with some educational qualifications. Analysis of the Family Expenditure Survey shows that wage inequality has also increased among male workers with low levels of education and skills.

9.81 There were large rises in low-pay and in-work poverty from the 1970s to the 1990s. While work tends to protect a household from poverty, employment in 1996 was less likely to protect a household from poverty than in 1968. Part of this difference is due to an increase in the share of households solely dependent on a low-paid employee and an increase in the likelihood of poverty in such households. McKnight (2002) suggests that designing policies which reduce the causes of in-work poverty is challenging, but the danger in ignoring it is that children both become exposed to poverty and also tend to carry the scars forward into their own labour market experience.

### Education and Skills Issues Facing Disadvantaged Groups

9.82 In general, the period since the implementation of the 1997 Education Act has seen marked improvements in the attainments of pupils of moderate and high ability, but a stagnation or deterioration of those with lower levels of ability.

9.83 Despite faster rates of progress among groups traditionally under-represented in learning, there remain persistent problems in the failure to fully engage in learning those who need it most - the poor and unskilled.

9.84 Barriers to learning faced by the most disadvantaged groups may be grouped into three main categories:

- attitudinal barriers - including lack of confidence relating to poor self-esteem, negative attitudes to learning, perceptions of irrelevance, negative peer pressure and lack of motivation;
- practical barriers - including financial constraints, lack of time, lack of good and affordable childcare, geographical isolation and lack of information; and
- structural barriers - including lack of relevant and appropriate local learning opportunities, etc.

All these barriers need to be tackled to enhance prospects of social inclusion for the most disadvantaged.

9.85 The Neighbourhood Renewal Strategy highlights the failure of education and training to meet the needs of residents of the poorest estates and communities. The Government has set ambitious PSA targets to raise attainment and skills. Good practice in widening adult participation emphasises the value of community outreach and local provision. After all, those with the poorest skills who are least motivated are likely to be those whose prior experience of education is negative. Hence the emphasis on an 'inclusive' approach - developed around the learner, rather than requiring the learner to fit into pre-existing provision.

*...so community outreach and local provision have been favoured.*



Skills in England 2003

Volume 2

References





## References

---

Amsden, A.H. (1989). *Asia's Next Giant: South Korea and Late Industrialisation*/ Oxford: Oxford UP.

---

Anderson T and H Metcalf (2003), *Modern Apprenticeship Employers: Evaluation Study*, Department for Education and Employment Research Report.

---

Ashton D., B. Davies, A. Felstead and F. Green. (1999), *Work Skills in Britain*, Oxford, SKOPE, Oxford and Warwick Universities.

---

Ashton, D., J. Sung and A. Raddon (2003). *Raising Employer Demand for Skills: Lessons from Abroad*/ London: DTI. June.

---

Barham C. (2002) Patterns of Economic Inactivity Among Older Men, *Labour Market Trends*, 301-310, June.

---

Baron, R.A. and C.D. Brush (1999). *The Role of Social Skills in Entrepreneurs' Success: Evidence from Videotapes of Entrepreneurs' Presentations*.  
[www.babson.edu/entrep/fer/](http://www.babson.edu/entrep/fer/).

---

Barrett, A. and P.J. O'Connell (2001). Does Training Generally Work? The Returns to In-Company Training. *Industrial and Labor Relations Review*. Vol. 54. No. 3. pp. 647-662.

---

Barry, R., D. Bosworth and R. Wilson (1997). *Engineers in Top Management*. Research Report. Institute for Employment Research. Coventry: University of Warwick.

---

Bates, T. (1990). Entrepreneur Human Capital Inputs and Small Business Longevity. *Review of Economics and Statistics*. Vol. LXII. No. 4. pp. 551-559.

---

Berndt, E.R. (1991). *The Practice of Econometrics: Classic and Contemporary*. Reading (Mass.): Addison Wesley.

---

Berthoud R. (2003) *Multiple Disadvantage in Employment: A Quantitative Analysis*. York: York Publishing Services.

---

Better Regulation Task Force/Cabinet Office (2002), *Local Delivery of Central Policy*, Better Regulation Task Force, Cabinet Office, July.

---

Blake, N., J. Dods, and S. Griffiths (2000), *Employers Skill Survey: Existing Evidence and its Use in the Analysis of Skill Deficiencies*, Department for Education and Employment, Research Report, SKT30.

---

Blöndal S., S. Field and N. Girouard. (2002), *Investment in Human Capital Through Post-Compulsory Education and Training: Selected Efficiency and Equity Aspects*, OECD Economics Department Working Paper No. 333.

---

Bono, E. del and K. Mayhew (2001). *The Specification and Quality of British Products*, SKOPE Working Paper Series, Department of Economics, University of Oxford.

---

Bosworth, D.L. (1996). Determinants of the Use of Advanced Technologies. *International Journal of the Economics of Business*. Vol. 3. No. 3. 269-293.

---

- 
- Bosworth, D.L. (1999). *Empirical Evidence of Management Skills in the UK*. Skills Task Force Research Paper No. 18. Department for Education and Employment. Nottingham.
- 
- Bosworth, D.L. (2001a). *Goals, Strategies and Targets: Empirical Evidence from the Employers' Skill Survey*. Report to the Council for Excellence in Management. Manchester School of Management. UMIST.
- 
- Bosworth, D.L. (2001b). *Management Skills and Enterprise Performance: a Review of the Literature*. Report for the Council for Excellence in Management and Leadership. Manchester School of Management. UMIST. (with Greg Jobome)
- 
- Bosworth, D.L. (2004). *The Determinants of Firm Performance*. Manchester: Manchester UP. (forthcoming)
- 
- Bosworth, D.L., P. Dawkins and T. Stromback (1996). *The Economics of the Labour Market*. Harlow: Addison Wesley Longman.
- 
- Bosworth, D.L., A. Dickerson, A.E. Green, T. Hogarth, E. Keep, K. Mayhew and R.A. Wilson (2003). *Low Skills Equilibrium: a Review of Concepts and Issues*. IER and Skope. Coventry: Warwick University.
- 
- Bosworth, D. and S. Massini (2001). *Management Skills and Skill Deficiencies*. Report to the Department for Education and Employment. Manchester School of Management. UMIST.
- 
- Bosworth, D.L., S. Massini and M. Nakayama (2004). Quality Change, Productivity Improvement and the Rate of Growth of the Japanese Economy, *Japan and the World Economy*. (forthcoming).
- 
- Bosworth, D.L., R.A. Wilson and R. Davies (2000). *Skills Deficiencies: the Results of the Employers' Survey*. DfEE: Nottingham.
- 
- Bosworth, D.L., R.A. Wilson and P. Taylor (1992). *Technological Change: the Role of Scientists and Engineers*. Avebury Press.
- 
- Bowman H., T. Burden and J. Konrad. (2002) *Successful Futures? Community Views on Adult Education and Training*. York: York Publishing Services.
- 
- Brown P., A. Green and H. Lauder (2001), *High Skills: Globalisation, Competitiveness, and Skill Formation*, Oxford: OUP.
- 
- Buck, N. (2001) Identifying Neighbourhood Effects on Social Exclusion, *Urban Studies* 38, 2251-75.
- 
- Burchardt, T. (2000) *Enduring Economic Exclusion: Disabled People, Income and Work*. York: York Publishing Services.
- 
- Burchardt, T., J. Le Grand and D. Piachaud (1998) Social exclusion in Britain 1991-1995, *Social Policy and Administration*, 33 (3), 227-44.
- 
- Bynner J. (2001) Childhood Risks and Protective Factors in Social Exclusion, *Children and Society*, 15, 285-301.
-

---

Bynner J., P. Elias, A. McKnight, H. Pan and G. Pierre (2002) *Young People's Changing Routes to Independence*. York: Joseph Rowntree Foundation.

---

Bynner J. and S. Parsons. (1998) *Influences on Adults' Basic Skills*. London: Basic Skills Agency.

---

Castigionasi, J. and C. Ornaghi (2003). *An Empirical Assessment of the Determinants of Total Factor Productivity Growth*. Working Paper. Universidad Carlos III. Madrid.

---

Cohen, W.M. and D.A. Levinthal (1989). Innovation and Learning: Two Faces of R&D. *Economic Journal*. Vol. 99. pp. 569-596.

---

Conlon, G. and A. Chevalier (2002) *Financial Returns to Undergraduates: A Summary of Recent Evidence*, London: CIHE.

---

Culpepper, P.D. (1999). The Future of the High Skill Equilibrium in Germany. *Oxford Review of Economic Policy*. Vol. 15. No. 1. pp. 43-59.

---

DfEE (1998), *Towards a National Skills Agenda: First Report of the National Skills Task Force*, Department for Education and Employment.

---

DfEE (1999) *Policy Action Team on Skills: Final Report*. London: Department for Education and Employment.

---

DfEE (2000), *Skills for All: Proposals for a National Skills Agenda*. Final Report of the National Skills Task Force, Department for Education and Employment, SK728.

---

DfEE (2001a), *Building a Stronger Network*, Department for Education and Employment, November.

---

DfEE (2001b), *Meeting the Sector Skills and Productivity Challenge*, Department for Education and Skills, SSC1.

---

DfEE (2001c), *Skills for Life - The National Strategy for Improving Adult Literacy and Numeracy Skills*, Department for Education and Skills.

---

DfES (2002a), *Education and Skills: Delivering Results. A Strategy to 2006*, Department for Education and Skills, Revised December.

---

DfES (2002b), *Success for All - Reforming Further Education and Training*, Department for Education and Skills, November.

---

DfES (2003a), *21st Century Skills - Realising Our Potential*, Department for Education and Skills, Cm 5810, July.

---

DfES (2003b), *Developing a National Skills Strategy and Delivery Plan: Underlying Evidence*, Department for Education and Skills.

---

DfES (2003c), *The National Skills Strategy and Delivery Plan: Partial Regulatory Impact Assessment*, Department for Education and Skills.

---

Department for Work and Pensions (2000) *Jobs for All: Final Report of the Policy Action Team on Jobs*. London: Department for Work and Pensions.

---

---

Department of Trade and Industry (2003) *Age Matters: Towards Equality and Diversity: Report of Responses on Age*. London: Department of Trade and Industry.

---

Dickerson, A. and F. Green. (2002), *The Growth and Valuation of Generic Skills*, SKOPE Research Paper, No. 26, Spring 2002, Oxford and Warwick Universities.

---

Dixon, S. (2003) Implications of Population Ageing for the Labour Market, *Labour Market Trends*, February, 67-76.

---

Duffield, M. (2002) Trends in Female Employment, *Labour Market Trends*, November, 605-16.

---

Economic Research Services Ltd (2000), *Evaluation of Modern Apprenticeships: 1998 Survey of Employers*, Department for Education and Employment Research Report, 2000.

---

ECOTEC (2003), *Evaluation of Jobcentre Plus Contracted Basic Skills Provision - National Model Areas*, DWP Research Report WAE148, March.

---

Elias, P., T. Hogarth and G. Pierre (2002) *The Wider Benefits of Education and Training: A Comparative Longitudinal Study*. Department for Work and Pensions, Research report No 178. Leeds: HMSO.

---

Elias, P., A. McKnight, J. Pitcher, K. Purcell and C. Simm (1999a) *Moving On: Graduate Careers Three Years After Graduation*. Manchester: CSU/DfEE.

---

Elias, P. and G. Pierre (2002) Pathways, earnings and Well-being. Chapter 4 in Bynner J., et al. (2002) *Young People's Changing Routes to Independence*. York: Joseph Rowntree Foundation.

---

Elias, P., and K. Purcell (2003). Measuring Change in the Graduate Labour Market *Research Paper No. 1. Researching Graduate Careers Seven Years On*. Employment Studies Research Unit, University of the West of England.

---

Evans M., McKnight A., and C. Namazie (2002), *New Deal for Lone Parents: First Synthesis Report of the National Evaluation*, Department for Work and Pensions Research Report WAE116.

---

Felstead, A, D. Gallie and F. Green. (2002), *Work Skills in Britain 1986-2001*, Department for Education and Skills, Nottingham.

---

Finegold, D. and D. Soskice (1988), The Failure of Training in Britain: Analysis and Prescription, *Oxford Review of Economic Policy*, 4(3), 21-53.

---

Gardner, T.M., P.M. Wright and B. Gerhart (2002). *Implicit Human Resource Management Theory: A Potential Threat to the Internal Validity of Human Resource Practice Questionnaires*. Discussion Paper. Department of Human Resource Studies. Cornell University. Ithaca, NY.

---

Gort, M. and S.H. Lee (2003). *Managerial Efficiency, Organisational Capital and Productivity*. Discussion Paper. Centre for Economic Studies. Bureau of the Census. Washington.

---

---

Green A.E. and D. Owen (1998) *Where are the Jobless? Changing Unemployment and Non-employment in Cities and Regions*, Bristol: The Policy Press.

---

Green A., K. Homenidou and R. Wilson (2003) *Working futures: New projections of employment by sector and region - Regional Report*, Wath on Dearne: Sector Skills Development Agency.

---

Green, A. and D. Owen (2002), *Exploring Local Areas, Skills and Unemployment: Spatial Report*, Department for Education and Skills, November 2002.

---

Green F., S. McIntosh and A. Vignoles (2002), *The Utilisation of Education and Skills. Evidence from Britain*, *The Manchester School of Economic and Social Studies*, 70 (6), 792-811.

---

Green F., K. Mayhew and E. Molloy (2003), *Employer Perspectives Survey*, Department for Education and Skills, Nottingham.

---

Greenhalgh, C., M. Longland and D. Bosworth (2000). *Protecting Intellectual Property: British, European and American Patents and Trade Marks of Selected UK Companies, 1986-95*. Discussion Paper. Oxford Intellectual Property Research Centre. St. Peter's College. Oxford.

---

Griliches, Z., The Search for R&D Spillovers, *Scandinavian Journal of Economics*, 1992, 94, Supplement, pp. 29-47.

---

Griliches, Z. and H. Regev (1995). Firm Productivity in Israeli Industry. *Journal of Econometrics*. Vol.65. pp. 175-203.

---

Hall, B.H. (1993). The Stock Market's Valuation of RD Investment During the 1980s. *American Economic Review, Papers and Proceedings*. Vol. 83. No. 2. pp. 259-264.

---

Hamermesh, D. (1988). Plant Closures and the Value of the Firm. *Review of Economics and Statistics*. Vol. 70. pp. 580-586.

---

Harrigan, J. (undated). *Cross-country Comparisons of Industry Total Factor Productivity: Theory and Evidence*. Research Paper No. 9734. Federal Reserve Bank. New York.

---

Haskel, J and C. Martin (1993) Do Skill Shortages Reduce Productivity? Theory and Evidence for the United Kingdom, *Economic Journal*, Vol. 103

---

Hasluck C. (2002), *The Re-engineered New Deal 25 Plus: A summary of recent evaluation evidence*, Department for Work and Pensions Research Paper WAE137.

---

Hasluck C (2000a), *New Deal for Young People: Two Years On*, Employment Service Research and Development Report ESR41, Sheffield.

---

Hasluck C. (2000b), *New Deal for the Long-term Unemployed: A Summary of Progress*, Employment Service Research and Development Report ESR46, Sheffield.

---

Hasluck C. (2000c). Early Lessons from the Evaluation of New Deal Programmes, *Labour Market Trends*, London, HMSO, August.

---

---

Hasluck C, Hogarth T, Maguire M and J. Pitcher (1996), *Modern Apprenticeships: A Survey of Employers*, DfEE Research Report.

---

Hepworth, M. and G. Spencer (2003), *A Regional Perspective on the Knowledge Economy in Great Britain*, the local futures group, London.

---

Hibbett, A. and N. Meager (2003) Key Indicators of Women's Position in Britain, *Labour Market Trends*, October, 503-11.

---

Hills J., J. Le Grand and D. Piachaud (2002), *Understanding Social Exclusion*, Oxford: Oxford University Press.

---

HM Treasury and DWP (2001) *The Changing Welfare State: Employment Opportunity for All*, London: HM Treasury and Department for Work and Pensions.

---

Hogarth, T. and C. Hasluck (2002) *MEN Annual Recruitment Survey*, Manchester Evening News, Manchester

---

Hogarth T and C Hasluck (2003), *Net Cost of Modern Apprenticeship Training to Employers*, Department for Education and Employment Research Report.

---

Hogarth, T. and R.A. Wilson (2002) *Skills Matter: Synthesis of the Evidence on the Extent, Causes and Implications of Skill Deficiencies*, Department for Education and Skills, Sheffield

---

Huselid, M.A. (1995). The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Financial Performance. *Academy of Management Journal*. Vol. 38. pp. 635-672.

---

IoD (2002), *Education and Training: A Blue Print for Reform*, IoD, June.

---

Jenkins, A., A. Vignoles, A. Wolf and F. Galindo-Rueda (2002) *Determinants and Effects of Lifelong Learning*, Discussion Paper 19, Centre for the Economics of Education, LSE.

---

Jones, C.I. (1998). *Introduction to Economic Growth*. Norton.

---

Jorgenson, D.W. and B.M. Fraumeni (1992). Investment in Education and US Economic Growth. *Scandinavian Journal of Economics*. Vol. 94. Supplement. pp. 51-70.

---

Kaplan, D. and L. Glass (1995). *Understanding Non-linear Dynamics*. New York: Springer Verlag.

---

Keep, E. and K. Mayhew (1999), Knowledge, Skills and Competitiveness, *Oxford Review of Economic Policy*, 15(1), pp. 1-15.

---

King, J. (1995). High Performance Work Systems and Firm Performance. *Monthly Labour Review*. May.

---

Lakey J., Parry J., Barnes H. and R. Taylor (2002), *New Deal for Lone Parents: A Qualitative Evaluation of the In-Work Training Grant Pilot (IWTG)*, DWP Research Report WAE119, July.

---

---

LSC (2001), *Strategic Framework to 2004 - Corporate Plan*, Learning and Skills Council, 2001.

---

LSC (2003), *Corporate Plan to 2006: Developing Skills, Delivering Success*, Learning and Skills Council, September.

---

Lupton, R. and A. Power (2002) Social Exclusion and Neighbourhoods, in Hills J. et al., (eds.), *Understanding Social Exclusion*, Oxford: Oxford University Press. pp. 118-40.

---

Lynch, L. and S. Black (1995). Beyond the Incidence of Training: Evidence from a National Employer's Survey. *NBER Working Paper Series*. No. 5232. Cambridge (Mass.).

---

Majumdar, S. (1998). The Impact of Human Capital Quality on the Boundaries of the Firm in the US Telecommunications Industry. *Industrial and Corporate Change*. Vol. 7. No. 4. pp. 663-677.

---

Mason, G. and K. Wagner (2002). *Skills, Performance and New Technologies in the British and German Automotive Components Industries*. Discussion Paper. National Institute of Economic and Social Research. London. July.

---

Mason, G., G. Williams, S. Cranmer and D. Guile (2003), *How Much Does Higher Education Enhance the Employability of Graduates?*, HEFC.

---

McCulloch, A. (2001) Ward-level Deprivation and Individual Social and Economic Outcomes in the British Household Panel Study, *Environment and Planning A* 33(4), 667-84.

---

McKnight, A. (2002) Low-Paid Work: Drip-Feeding the Poor, in Hills J. et al., (eds.), *Understanding Social Exclusion*, Oxford: Oxford University Press. pp. 97-117.

---

Meadows, P. (2003) Retirement Ages in the UK: A Review of the Literature, *Employment Relations Research Series* 18. London: DTI.

---

Metcalfe, J.S. et al. (2003). *Report of the DTI Innovations Review (Academic) Panel*. Eighth Draft. London: DTI (forthcoming).

---

Morris, M., J. Nelson and S. Stoney (1999) *Disadvantaged Youth: A Critical Review of the Literature on Scope, Strategies and Solutions*, Nottingham: DfEE.

---

NSTF (1999), *Second Report of the National Skills Task Force: Delivering Skills for All*, London: Department for Education and Employment, 1999.

---

OECD (2003) *Education at a Glance - OECD Indicators 2003*, Paris, OECD.

---

O'Mahony, (1999) *Britain's Relative Productivity Performance, 1950-1996: An International Perspective*, National Institute of Economic and Social Research, London, May 1999.

---

ONS Migration study

---

Oulton, N. (1990). Quality and Performance in UK Trade. *National Institute for Economic and Social*. Discussion Paper. No. 197. London. (old series).

---

---

Oulton, N. (1996). Workforce Skills and Export Competitiveness. In Booth, A. and D. Snower (eds.). *Acquiring Skills*. Cambridge: Cambridge UP.

---

Owen, D., A. Green, J. Pitcher and M. Maguire (2000) *Minority Ethnic Participation and Achievements in Education, Training and the Labour Market*, Nottingham: DfEE Research Report 225.

---

Parsons, S. and J. Bynner (2002) *Basic Skills and Social Exclusion: Findings from a study of adults born in 1970*, London: The Basic Skills Agency.

---

Patel, P. and K. Pavitt (1995). Patterns of Technological Activity: their Measurement and Interpretation. In Stoneman, P. (ed.) *Handbook of the Economics of Innovation and Technological Change*. Oxford: Basil Blackwell. pp. 14-51.

---

Pfeffer, J. (1994). *Competitive Advantage through People*. Boston: Harvard Business School Press.

---

PIU (2001), *In Demand: Adult Skills in the 21st Century*, Performance and Innovation Unit, Cabinet Office, December 2001.

---

PIU (2002), *In Demand: Adult Skills in the 21st Century Part 2*, Strategy Unit, November.

---

Porter, M.E. and C.H.M. Ketels (2003). *UK Competitiveness: Moving to the Next Stage*. DTI Economics Paper No. 3. May.

---

Prahalad, C.K. (1983). Developing Strategic Capability: an Agenda for Top Management. *Human Resource Management*. Vol. 22. pp. 237-254.

---

Prescott, E. (1998). Needed: a Theory of Total Factor Productivity. *International Economic Review*. Vol. 39. pp. 525-552.

---

Pumphrey, J. and J. Slater (2002). *An Assessment of Generic Skill Needs*. Skills Dialogue. London: the Council for Administration.

---

Reid, G.C. (circa 2000). *The Development and Survival of New Small Businesses: Empirical Evidence for Scotland, 1994-97*. Centre for Research into Industry, Enterprise, Finance and the Firm. St Andrews University.

---

Sargant, N. and F. Aldridge (2002) *Adult Learning and Social Division: A Persistent Pattern*, NIACE Survey on Adult Participation in Learning, NIACE.

---

Shuttleworth, I., A. Green and S. Lavery (2003) *Young People, Job Search and Local Labour Markets: The Example of Belfast*, Paper presented at the Regional Studies Association / Regional Science Association 'Employability: Lessons for Labour Market Policy' Seminar Series, University of Warwick, May.

---

SIE (2002). *Skills in England - Volume 1*. Learning and Skills Council. Coventry.

---

Smith, A. and B. Twomey (2002) Labour Market Experiences of People with Disabilities, *Labour Market Trends*, August, 415-27.

---

Social Exclusion Unit (1999) *Policy Action Team on Skills: Final Report*. London: Social Exclusion Unit.

---



---

Social Exclusion Unit (2003) *Making the Connections: Final Report on Transport and Social Exclusion*. London: Social Exclusion Unit.

---

Solo, R. (1966). The Capacity to Assimilate an Advanced Technology. *American Economic Review: Papers and Proceedings*. May. pp. 91-97.

---

Sparkes, J. and H. Glennerster (2002) Preventing Social Exclusion: Education's Contribution, in Hills J. *et al.*, (eds.), *Understanding Social Exclusion*, Oxford: Oxford University Press. pp. 178-201.

---

Spilsbury, D. (2002), *Learning and Training at Work 2002*, Department for Education and Skills, Research Report No. 399.

---

SSDA, (2003), *Learning from the Trailblazer Sector Skills Councils*, Sector Skills Development Agency, June.

---

Storey, D. (1986). New Firm Formation, Employment Change and the Small Firm: the case of Cleveland County. In Curren, J. *et al.* (eds). *The Survival of the Small Firm*. Aldershot: Gower Press. Vol. 2. pp. 8-40.

---

Strategy Unit (2002), *Adult Skills in the 21st Century - Part 2*, Strategy Unit, November 2002.

---

Strategy Unit (2003) *Ethnic Minorities and the Labour Market*. London: Strategy Unit, Cabinet Office.

---

Teixeira, A. (2002). *On the Link Between Human Capital and Firm Performance*. Working Paper No. 121. Faculdade de Economia. Universidade do Porto.

---

Tunstall, R. and R. Lupton (2003) *Is Targeting Deprived Areas an Effective Means to Reach Poor People? An Assessment of One Rationale for Area-based Funding Programmes*, CASE Paper 70. London: LSE, CASE.

---

Webster, D. (2000) The geographical concentration of labour-market disadvantage, *Oxford Review of Economic Policy* 16, 114-28.

---

Wennekers, S., R. Thurick and F. Buis (1997). *Entrepreneurship. Economic Growth and What Links Them Together*. Zoetermeer: EIM.

---

Wilkinson D (2003), *New Deal for people aged 25 and over: A Synthesis Report*, Department for Work and Pensions Research Report W161.

---

Wilson, R.A. (ed) (2001a), *Projections of Occupations and Qualifications, 2000/2001*, Department for Education and Skills, Warwick Institute for Employment Research.

---

Wilson, R.A. (ed) (2001b), *Projections of Occupations and Qualifications, 2000/2001: Regional Results*, Department for Education and Skills, Warwick Institute for Employment Research.

---

Wilson, R.A., K. Homenidou and A. Dickerson (2003), *Working Futures: New Projections of Employment by Sector and Region*, Warwick Institute for Employment Research.

---

Winterbotham M., Adams L. and C. Hasluck (2002a), *Evaluation of New Deal for Long Term Unemployed People Enhanced National Programme*, Employment Service, Research and Development Report ESR 82, Sheffield.

---

---

Winterbotham M., Adams L. and A. Kuechel (2002b), *Evaluation of Work Based Learning for Adults Programme since April 2001: Qualitative Interviews with ES Staff, Providers and Employers*, Department for Work and Pensions Research Report WAE128.

---

Wolf, A. (2002), Too many graduates? *Prospect*, July, pp.36-41.

---

Woods, W.J. (1992). Who is Running British Manufacturing?. *Industrial Management and Data Systems*. Vol. 92. No 6.

---

Wright, P.M., G.C. McMahon and A. McWilliams (1994). Human Resources and Sustained Competitive Advantage: a Resource-based Perspective. *International Journal of Human Resources Management*. Vol. 5. pp. 301-326.

---

Youndt, M.A., S.A. Snell and D.P. Lepak (1996). Human Resource Management, Manufacturing Strategy, and Firm Performance. *Academy of Management Journal*. Vol. 39. pp. 836-866.

---

Zahra, S. and G. George (2002). Absorptive Capacity: a Review, Reconceptualisation, and Extension. *Academy of Management Review*. Vol. 27. No. 4. pp. 185-203.

---

## Notes

---





© LSC June 2004

Published by the Learning and Skills Council. Extracts from this publication may be reproduced for non-commercial educational or training purposes on condition that the source is acknowledged and the findings are not misrepresented.

Copies of this publication can be obtained free of charge from:  
The Learning and Skills Council  
Cheylesmore House  
Quinton Road  
Coventry CV1 2WT

Publication enquiries: 0870 900 6800

Please quote ref: AA000/0997 for Skills in England Volume 1: Key Messages  
Please quote ref: AA000/0776 for Skills in England Volume 2: Research Report  
Please quote ref: AA000/0774 for Skills in England Volume 3: Industrial Sector Report  
Please quote ref: AA000/0978 for Skills in England Volume 4: Regional and Local Evidence