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Skills in England 2004 Volume 3: Sectoral Report

July 2005

Of interest to everyone involved in
improving skills and learning opportunities
across England



Skills in England 2004 is presented in four volumes. Volume 1 provides key messages and an overview of the research findings in the other three volumes. Volume 2 is the main research report. It contains separate chapters on the demand for and supply of skills as well as mismatches between demand and supply. Finally, Volumes 3 and 4 provide evidence related to industrial sector, and regional and local trends respectively.

Skills in England 2004 has been produced by the Learning and Skills Council (LSC) in partnership with the Department for Education and Skills (DfES) and Sector Skills Development Agency (SSDA)

For information

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Foreword

I am very pleased to introduce Skills in England 2004. This is the fourth in an annual series of national skills assessments produced by the Learning and Skills Council (LSC) in collaboration with its key partners.

Skills in England 2004 draws upon current analysis, particularly on the demand and supply of skills in England. It is a cross-government publication with views from major departments and agencies involved in the government's skills agenda, helping to identify and focus on priorities. The findings are critical in helping the LSC achieve improvements in transforming learning and skills, including help fulfil its strategic objectives in:

- economic development to provide the skills needed to help all individuals into jobs and to keep them
- collaborating with partners at a national and sectoral level to identify the skills most crucial for economic prosperity; and
- working effectively at a regional level – particularly with regional development agencies and regional skills partnerships.

The report warns that unless Britain has the requisite stock of skills, including entrepreneurship, innovation, and technical capability, then the goal of achieving a high-value added, high-productivity economy would remain elusive. One of the ways to achieve this will be to ensure that skills strategies go hand-in-hand with those policies and strategies that aim to increase levels of capital investment within companies, develop new products and processes, and capture new markets.

And while young people are now leaving Britain's education system with higher-level, more relevant qualifications, there is still a substantial proportion of young people who lack the skills necessary for the workplace. The LSC is determined to transform the outcomes for learners and employers, to ensure that the productivity, employability and lifetime earnings of these groups are not hampered by low skill levels.

Whilst important, skills are only part of the policy mixture necessary to create a more prosperous and socially inclusive Britain and that is why the LSC's work with key partners and stakeholders is critical to help drive forward improvements in the learning and skills development opportunities available to employers and individuals.

In closing, may I take this opportunity to commend Skills in England 2004 to all those who are interested and have a role to play in driving forward the nation's skills agenda. The LSC looks forward to working with you to help achieve world class skills for a more competitive economy.

Christopher N Banks CBE

Chairman, Learning and Skills Council

Summary

The overarching message in the Key Messages volume of *Skills in England 2004* is that **skills matter**: for individuals, organisations and society more generally. This point cannot be made too strongly. Unless Britain has the requisite stock of skills, incorporating entrepreneurship, innovation, managerial effectiveness and technical capability, then the goal of achieving a high value-added, high productivity economy will remain elusive.

But **skills are not a panacea**. First, the vocational education and training (VET) system cannot fully compensate for disadvantages and deficiencies that stem from the compulsory education system. Second, skills strategies need to go hand-in-hand with those policies and strategies that seek, amongst other things, to increase levels of capital investment within companies, develop new products and processes, and capture new markets.

Many of the key messages highlight long-standing themes and many reflect concerns that are currently being addressed by government policy.

- Ultimately the performance of the UK economy is dependent upon the abilities the population can bring to the labour market. Of course, skills are not the only thing that matters and, as with other investments, it is important to channel resources to those areas with the highest return.
- The world economy is becoming more open. The increasing capacity of countries, such as China and India, to produce goods and services at a much lower price than in Britain, has seen work being transferred to these locations. The most constructive response to this development for employers faced with global competition is to develop or move into markets where they are not at a price disadvantage.
- This means increasingly moving into knowledge-intensive, high value, high productivity activities. But for any country, the sustainable shift into higher value-added markets is a formidable challenge. At the very least it requires a mix of entrepreneurial flair, the effective deployment of skills, and access to capital investment.
- On the credit side, the most recent evidence suggests that Britain's competitiveness is improving. Recent years have seen a narrowing of the productivity gap between Britain and its major competitors. But there is still concern that output per hour is less than that recorded in France, Germany and the USA.

- The latest evidence suggests that the gap with France and Germany arises primarily from a lower level of capital investment. The major difference between the UK and the USA relates to total factor productivity. The most plausible explanations for this are, first, more efficient systems of work organisation; and, secondly, greater levels of information and communications technology (ICT) diffusion in the USA. But skills cannot be discounted from the explanation of differences between either France and Germany or the USA. The capacity of organisations to capture capital investment or create high performance work organisations will depend upon the ability of management.
- This highlights the crucial importance of **management skills**: the ability to create a successful strategic vision for an organisation, to implement it, and effectively to deploy the labour force. The evidence points to management skills being an area where there remains a particular need for improvement in the UK. But as management skills are improved and the strategic outlook of business alters, this is likely to give rise to a demand for other higher-level skills within organisations.
- The shift to an even more service-oriented economy, and the greater availability of data to firms about consumption patterns, creates a demand for **customer and information handling skills** at all levels. Competitive advantage can be readily fostered through knowing more about the customer and being able to manage that information effectively to deliver a good or service to the specific requirements of customers as well as to generate new business.
- The skills debate is not just about higher-level skills. It is about improving the quality of the labour force at all levels. Britain's education system is now producing a much larger number of young people with formal, higher-level qualifications, but it still leaves a substantial proportion of young people who lack any formal qualifications or who are deficient in basic skills. The employability and lifetime earnings of this group are hampered by their skill deficiencies.

But, as noted above, **skills will not provide the complete answer on their own**. Developing high performance workplaces is, for instance, also dependent upon capital investment. Improving the lot of the most skill deficient in society is heavily dependent upon a wide range of policies designed to combat social exclusion. Skills, whilst important, are only part of the policy mixture necessary to create a more prosperous and socially inclusive Britain.

Chapter 1: Introduction

1.1 This volume presents a set of industrial profiles that covers the whole of the English economy. These profiles summarise the economic and labour market context for each industry. Commentary text examines, for each industry: key economic developments; trends in occupational structure; and key findings from the *National Employer Skills Survey 2003* (NESS 2003). In addition to the industry profiles, data are also presented by the 26 Sector Skills Councils (SSCs). These tables follow the industry commentary text.

The economy has been divided up into 27 detailed industries and 26 Sector Skills Councils.

1.2 A summary table is presented for each industry and SSC, showing comparable information on variables such as:

- output
- employment
- occupational structure
- vacancies
- productivity.

The data came from a variety of sources, details of which can be found in the Annex to this Volume.

1.3 Following discussions with the Sector Skills Development Agency (SSDA) and the Learning and Skills Council (LSC), for the purposes of this report the economy was divided up into six broad sectors and the 27 sector matrix industries (SMIs) that most closely match the grouping of economic activities covered by the network of SSCs (both licensed and under development) – see Table A.1a and Table A.1b. These industries do not directly map onto the footprints of the emerging network of SSCs, but the categories chosen represent a step in this direction, while recognising the limitations of data currently available from most official sources. Most available data are based on the 2003 Standard Industrial Classification (SIC). Table A1a and Table A.1b show how the 27 industries correspond to both the 2003 SIC and the various SSCs, by identifying those SSCs with an interest in the industry grouping. It is possible to move somewhat closer to the SSC footprints by using detailed information from the Annual Business Inquiry (ABI) to a more detailed mapping from SIC to SSC. This is done in Chapter 4 when the tables are presented without commentary.

1.4 Over the past decade, the structure of the UK economy has shifted further away from traditional manufacturing and primary industries towards services. Although total employment in England grew by around 1 per cent per annum between 1993 and 2003, the vast majority of energy and manufacturing industries have seen employment decline over the past decade, while the vast majority of services have seen employment grow, particularly business services, public services, and personal services. Employment in public services and retailing has increased steadily over the past decade, reflecting both increased spending and the relatively labour-intensive nature of these industries. Employment in agriculture has contracted substantially and employment in utilities has fallen dramatically.

Employment growth in England has been driven by demand for services, while manufacturing employment has continued to decline.

1.5 The Standard Occupational Classification (SOC) (2000) identifies nine major groups of occupations, based on the tasks involved and the skills and qualifications required to undertake them:

- managers and senior officials
- professional occupations
- associate professional and technical occupations
- administrative and secretarial occupations
- skilled trades occupations
- personal service occupations
- sales and customer service occupations
- process, plant and machine operatives
- elementary occupations.

1.6 The changing structure of the economy has resulted in changes in the levels and types of skills demanded, and is reflected in:

- an increase in demand for managers and senior officials (particularly specialist corporate managers in construction, consumer services, business services and public services)
- an increase in demand for professional, associate professional and technical occupations, particularly in science and technology, protective services and culture, media and sport
- an increase in employment in personal services (above all in health care and related services, and to a lesser extent, in leisure and travel services)
- a sharp increase in demand for customer service staff and a modest rise in the number of sales staff
- a decline in demand for some skilled trades, most notably metals and electrical trades, as well as process, plant and machine operatives within manufacturing
- a decline in demand for unskilled workers in elementary occupations, particularly in administrative and service positions.

Chapter 2: Broad Sectoral Profiles

Broad sector 1: Primary sector and utilities

2.1 In the primary sector and utilities, employment has been decreasing for several decades. In the late 1980s and the early 1990s, this fall largely reflected the decline in the coal industry. Since the mid-1990s, and following privatisation, increased competition among electricity, gas and water suppliers has resulted in a wave of consolidation across the sector. As the electricity, gas and water industries have consolidated, there has been a sharp fall in employment. By 2003, just over 108,000 people were employed in electricity, gas and water, compared with 340,000 in 1971. In agriculture, employment has fallen sharply over the past decade.

Falling employment in energy and water reflects the decline of the UK coal industry and competition among electricity, gas and water suppliers.

Table 2.1: Primary sector and utilities

SIC03 headings: 01–02,05,10–14,40–41
Agriculture, mining etc., utilities

Share of gross value added (GVA) (%)	3.9
Employment (000)	457
Share of England (%)	1.8
Male:female	72:28
Change: 1993–2003 (% pa)	-3.9
Change: 1998–2003 (% pa)	-4.8
Self-employment (%)	28.3
Top three occupational groups (% of total emp.)	
Skilled trades occupations	30.5
Elementary occupations	28.2
Process, plant and machine operatives	8.5
GVA per worker (£)	98.8
Exports: gross output (%) ¹	18.0
Concentration	Medium

Sources: CE and IER estimates based on various National Statistics Sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for the UK.

Broad sector 2: Manufacturing

2.2 Globalisation and market liberalisation are placing great pressure on companies operating in price-sensitive markets, above all those for manufactured goods. Companies producing commoditised products face greater pressure to increase productivity and to move into higher value-added niches. The result is a sharp decline in manufacturing employment, as firms seek to maintain international competitiveness by cutting costs, introducing more efficient methods of statistical process control, entering new markets and boosting productivity. The hardest hit industries in terms of employment have been textiles and clothing, which are in long-term domestic decline and have suffered the sharpest fall in employment among manufacturing over the past decade; and metals and metal goods, which have been characterised by a wave of mergers and acquisition activity among the major players over the past decade.

Globalisation is resulting in a decline in manufacturing employment.

Table 2.2: Manufacturing

SIC03 headings: 15–37
 Food, drink and tobacco, textiles and clothing, wood and paper, publishing and printing, chemicals and non-metallic mineral products, metals and metal goods, engineering, transport equipment, manufacturing not elsewhere specified (nes) and recycling.

Share of GVA (%)	18.5
Employment (000)	3,189
Share of England (%)	12.8
Male:female	72:28
Change: 1993–2003 (% pa)	-1.2
Change: 1998–2003 (% pa)	-3.4
Self-employment (%)	6.2
Top three occupational groups (% of total emp.)	
Skilled trades occupations	25.6
Process, plant and machine operatives	18.5
Managers and senior officials	10.7
GVA per worker (£)	45.0
Exports: gross output (%) ¹	45.6
Concentration	medium

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for the UK.

Broad sector 3: Construction

2.3 The construction industry is highly labour-intensive. Furthermore, construction activity is particularly sensitive to the economic cycle, and tends to suffer higher peaks and lower troughs because of the volatility of investment spending, which in turn is fed by speculative activity in property markets. The large fluctuations in activity typically mean that in times when output is rising, skills shortages have built up quickly. However, the traditional 'boom-bust' cycle has meant that a fall in activity tends to follow shortly afterwards, which has resulted in an equally sharp decline in labour demand. Consequently, the duration of skills shortages has typically been temporary. However, the long-term consequence of volatility in construction output has been that firms have been reluctant to invest sufficiently in training. This combination of volatility and limited investment in training is likely to reduce the proportion of prospective entrants who perceive the industry as one which offers sustained, long-term career prospects. Recruitment difficulties are also resulting in an ageing workforce, and this is exacerbating the problem of meeting replacement demand for those retiring.

Skills shortages are a largely cyclical phenomenon in the labour-intensive construction industry.

Table 2.3: Construction

SIC03 headings: 45
Construction.

Share of GVA (%)	5.4
Employment (000)	1,572
Share of England (%)	6.3
Male:female	89:11
Change: 1993–2003 (% pa)	0.8
Change: 1998–2003 (% pa)	1.0
Self-employment (%)	41.0
Top three occupational groups (% of total emp.)	
Skilled trades occupations	46.5
Elementary occupations	12.6
Managers and senior officials	12.3
GVA per worker (£)	35.5
Exports: gross output (%) ¹	0.2
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹where data are for UK.

Broad sector 4: Distribution, transport, etc.

2.4 Over the past 30 years all the other modes of freight transport have increased their shares of freight carried within the UK at the expense of rail and inland waterways. All modes saw increases in the volume of goods carried between 1970 and 2000, except for rail, where volumes fell between 1980 and 1995, but then rose again in the following years.

Road has by far the largest share of freight transport within the UK. In communications, some of the main drivers of growth are now less powerful.

2.5 Communications has been one of the fastest growing industries in Europe since the early 1990s. Since the mid- to late 1990s growth has accelerated, driven by several forces in telecommunications. First came the liberalisation of fixed-line telecommunications networks. During the 1990s the increase in Internet penetration and demand for online services resulted in rapid growth in the volume of data being transmitted and in the development of new telecommunications services. Finally, the rapid take-up of mobile telephony during the late 1990s, helped by the connectable market created by the single Global System for Mobile Communications (GSM) technical standard and the popularity of pre-pay phones, resulted in a surge in demand for mobile telecommunications services. However, the boost to demand from the last drivers is now much weaker, as the initial phase of rapid penetration of both the Internet and mobile telephony has passed. Growth in new mobile phone subscribers fell sharply during 2001 and 2002, as penetration neared saturation.

2.6 This broad sector also includes distribution and retailing, and hotels and catering. Both of these have seen significant employment growth over the longer term. Restructuring and technological change are now impacting on the distribution and retailing industry more significantly. The hospitality sector has been hard hit by the fallout from international political events, as well as domestic problems in agriculture, but is now emerging from this situation.

Table 2.4: Distribution, transport, etc.

SIC03 headings: 50–52,55,60–64
 Sale and maintenance of motor vehicles, wholesale
 distribution, retail distribution .
 Hotels and catering, transport and storage, communications.

Share of GVA (%)	26.7
Employment (000)	7,401
Share of England (%)	29.8
Male:female	53:47
Change: 1993–2003 (% pa)	1.3
Change: 1998–2003 (% pa)	1.2
Self-employment (%)	9.6
Top three occupational groups (% of total emp.)	
Sales and customer service occupations	20.3
Managers and senior officials	19.3
Elementary occupations	15.3
GVA per worker (£)	29.8
Exports: gross output (%) ¹	4.6
Concentration	medium

Sources: CE and IER estimates based on various National
 Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Broad sector 5: Business and other services

- 2.7 Globalisation and the associated cross-border mergers, divestments, acquisitions and alliances is a key driver of growth in both output and employment in business and other services. *Globalisation and the diffusion of IT are key drivers of growth in business services.*
- 2.8 The use of information technology (IT) is transforming some business activities. Industries in which information can be accessed directly and which can be delivered over the network will see the greatest gains from diffusion of new technologies, such as financial services. Internet banking is enabling cost cutting (and is also enabling banks to reduce their branch numbers) and is resulting in greater price transparency, both of which mean increased product commoditisation and price-based competition. Broadband technology and third-generation mobile telephony should stimulate demand for online video-conferencing and downloading of television services, films and videos. The convergence of content, communications and end-user delivery has blurred the distinction between media companies, broadcasters and telecommunications operators, and firms will continue to expand into each other's traditional markets.

Table 2.5: Business and other services

SIC03 headings: 65–67,70–74,90–99

Banking and insurance, professional services, computing services, other business services, miscellaneous services.

Share of GVA (%)	28.9
Employment (000)	6,556
Share of England (%)	26.4
Male:female	53:47
Change: 1993–2003 (% pa)	2.8
Change: 1998–2003 (% pa)	2.3
Self-employment (%)	15.1
Top three occupational groups (% of total emp.)	
Administrative and secretarial occupations	20.7
Associate professional and technical occupations	19.8
Managers and senior officials	17.9
GVA per worker (£)	56.5
Exports: gross output (%) ¹	10.2
Concentration	Low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except 1 where data are for UK.

Broad sector 6: Non-marketed services

2.9 In today's knowledge-based economy, education has become increasingly important, while developing health and social care has also become increasingly important owing principally to the ageing population. Health care is demanding technological innovations which cut the time involved in the treatment of patients and are becoming a priority for an operational health care system. Recent budgets and spending reviews have provided substantial increases in funding for health and education. For example, the 2002 Budget provided for National Health Service (NHS) spending to rise by around 7 per cent per annum in real terms over 2002 to 2007.

Education and health are high in the social priority of the Government.

Table 2.6: Non-marketed services

SIC03 headings: 75,80,85
Public administration and defence, education services, health and social work.

Share of GVA (%)	16.6
Employment (000)	5,639
Share of England (%)	22.7
Male:female	29.71
Change: 1993–2003 (% pa)	1.2
Change: 1998–2003 (% pa)	2.0
Self-employment (%)	5.6
Top three occupational groups (% of total emp.)	
Professional occupations	25.5
Associate professional and technical Occupations	22.4
Personal service occupations	17.3
GVA per worker (£)	20.9
Exports: gross output (%) ¹	0.9
Concentration	medium

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Chapter 3: Detailed Industrial Profiles

Industry 1: Agriculture, etc.

- 3.1 Agriculture has faced major difficulties since the mid-1990s. There is little sign of an upturn, and in many areas the situation appears to be worsening. While pig and dairy farmers have suffered the most, it is increasingly clear that most farmers have undergone a dramatic reduction in their incomes. According to figures from Deloitte and Touche (Deloitte and Touche Farm Results), net farm income fell by 90 per cent between 1995 and 2000. Although farm income was higher in 2003 and early 2004, this was mainly due to exchange rate movements and adverse weather conditions on the continent, and further increases are unlikely. Total income from farming is now at a level more in line with levels of the late 1980s; it is 80 per cent above the low point in 2000 and 50 per cent below the peak in 1995.
- 3.2 In the mid-1990s, BSE had an adverse effect on meat production and exports and consumption in general, while more recently, swine fever and the foot-and-mouth epidemic have exacerbated the problems already facing the industry. The National Audit Office estimates that the foot-and-mouth epidemic cost agriculture and other affected industries some £5 billion. Workers in agriculture are more vulnerable to downturns in the industry due to the high percentage of self-employed workers (some 40 per cent), and many farmers have left the industry.
- 3.3 While the industry is small relative to many others in the UK and employment is declining (it accounts for less than 1 per cent of gross value added (GVA) and only 1.2 per cent of employment in England), it is still an important component of the UK economy, employing around 304,000 in England, and is closely linked with growing industries, notably tourism and leisure.

Agriculture has faced major difficulties since the mid-1990s. Diversification into non-farming activities by farmers is central to government policy for the rural economy.

- 3.4 For many years the Government has wanted to encourage farmers to diversify, so that the rural economy moves away from dependence on mainstream farming and embraces a host of new, mainly service-sector businesses. These most commonly include farm-based tourism, retail outlets and other leisure activities: the number of farm-based tourist attractions in the UK increased by 80 per cent during the 1990s. While some farmers have been successful in this regard, many, particularly in more remote parts of the country, find it hard to raise bank loans, face planning restriction owing to their proximity to national parks, or are too remote from centres of demand. Nevertheless, diversification into non-farming activities by farmers remains central to government policy. The 2000 England Rural Development Programme includes financial support for farmers wishing to diversify; and this is going some way towards helping farmers to obtain the capital they need. However, many in the industry believe that diversification cannot be a panacea for the wider ills of the industry. Over 2001 to 2002, farm-based tourist attractions were all severely affected by the restrictions in countryside access put in place during the foot-and-mouth epidemic.
- 3.5 Employment in agriculture is dominated by elementary and skilled trades workers. These categories account, respectively, for 37 and 35 per cent of employment, some of the highest percentages of all industries. In contrast, other occupations are ranked as some of the lowest of all industries, notably professionals, associate professionals, administrative, and sales workers which are all ranked last.
- 3.6 Even prior to the onset of the BSE and foot-and-mouth crises, many farmers were leaving the industry, and the decline in employment has accelerated in recent years: between 1993 and 2003, employment declined on average by 3.8 per cent per annum, but by 7 per cent per annum between 1998 and 2003. Employment has fallen across each major occupational group, with the sharpest falls being in administrative and secretarial occupations, and among managers and senior officials, as these workers sought jobs in more thriving industries. There have also been sharp falls in the number of machine and transport operatives and professional staff.
- 3.7 Employment continued to adjust to the difficulties following the foot-and-mouth epidemic. The decline in employment is expected to moderate to around 1 per cent per annum between 2003 and 2008, as agricultural reforms lead the industry to search for productivity gains at the expense of jobs.

The decline in employment is accelerating across all major occupational groups in the sector. Though employment is expected to continue to decline, the pace is expected to moderate. Diversification is likely to result in an increase in demand for sales staff.

- 3.8 The sharpest decline in demand is expected to be for managers and senior officials, machine and transport operatives, and elementary occupations (farm workers). Strong growth in demand is expected for personal service occupations and sales and customer service occupations. The increase in demand for this latter group of workers probably reflects further diversification into leisure, tourism and specialist rural enterprises.

- 3.9 According to the National Employers Skill Survey (NESS) 2003, there are currently just over 1,400 vacancies in agriculture, with just under one-half (49 per cent) of these vacancies being hard-to-fill vacancies (HtFVs) and 30 per cent being skills-shortage vacancies (SSVs). Approximately 9.5 per cent of employees are not fully proficient at their jobs. *Nearly half of all vacancies in agriculture are HtFVs.*
- 3.10 Just under 12 per cent of firms in agriculture, etc. reported vacancies, with 6.5 per cent of firms reporting having HtFVs and just over 4.5 per cent of firms reporting SSVs. Just under 24 per cent of firms reported skills gaps among their employees.

Table 3.1: Industry 1: Agriculture, etc.

SIC03 headings: 01–02, 05
 Arable farming, livestock production, horticulture and related services; forestry and provision of recreational facilities and roads by forestry units; and commercial sea and inland fishing.

Share of GVA (%)	0.9
Employment (000)	304
Share of England (%)	1.2
Male:female	74:26
Change: 1993–2003 (% pa)	-3.8
Change: 1998–2003 (% pa)	-6.9
Change: 2003–08 (forecast % pa)	-0.9
Self-employment (%)	40.3
Top three occupational groups (% of total emp.)	
Elementary occupations	37
Skilled trades occupations	35.4
Personal service occupations	7.9
Establishments reporting HtFVs (%)	6.5
Establishments reporting skill-shortage vacancies (%)	4.6
GVA per worker (£)	27.2
Exports: gross output (%) ¹	7.9
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 2: Mining and quarrying

- 3.11 Mining and quarrying includes coal mining, mining of metal ores, and oil and gas extraction. Overall, the industry has been in decline for several decades, and has suffered sharp falls in employment, mainly because of the collapse in the UK coal industry. On the other hand, oil and gas output has grown strongly during much of the 1990s, as the expansion in the demand for gas was broadly matched by increases in production from the North Sea. However, UK oil and gas production are currently near their peak and are expected to decline over the longer term.
- Employment in the mining and quarrying industry is in decline. The most important occupation groups are also those in which employment is in sharp decline.*
- 3.12 Demand for coal has fallen sharply since the electricity industry was privatised in 1990 (over 90 per cent of coal consumption is in electricity generation), as environmental concerns and regulations are encouraging its substitution by other fuels, above all gas.
- 3.13 In non-coal (other) mining, production typically depends on a derived demand from other industries. The construction industry forms the largest customer for aggregates; the agriculture and chemicals industries have a demand for chemical and fertiliser materials; while metals and minerals are mostly used in steel making and motor vehicles.
- 3.14 Mining and quarrying includes coal mining, mining of metal ores, and oil and gas extraction. The workforce is predominantly male (86 per cent). Employment declined sharply in the early 1990s, but returned to growth in the latter half of the decade: between 1998 and 2003 employment in the industry grew by around 1 per cent per annum. In terms of overall employment and output, the industry is small (44,000 workers in 2003), with oil and gas and non-coal (other) mining each accounting for around 80 per cent of total employment, although oil and gas accounts for virtually all of the industry's GVA.
- 3.15 In terms of occupational structure, the three most important groups are skilled trades workers (23 per cent of total employment in the industry); process, plant and machine operatives (17 per cent); and elementary occupations (16 per cent). However, over the past decade, these three groups of workers have seen by far the sharpest falls in employment. In contrast, the number of workers in sales and customer service occupations has increased.

- 3.16 The UK coal industry seems set to face a period of further employment decline over the short term, as deep-mined capacity is closed in line with UK coal's strategy of increasing efficiency and competing more effectively with imports in a weakening domestic market. The sharp decline in oil and gas production expected from 2005 onwards, when North Sea gas fields become exhausted, is likely to be reflected in further job losses in the industry. After experiencing recent growth in employment, 2002 saw employment levels in the industry decline and this is forecast to continue: between 2003 and 2008 employment is forecast to decline by 2.5 per cent per annum. The net effect of all of these changes is likely to be further sharp falls in demand for skilled trades occupations, administrative and secretarial staff, machine and transport operatives, and elementary occupations. On the other hand, modest growth in demand is expected for sales and customer service and personal service occupations.
- Employment is expected to continue to decline, as the industry seeks efficiency gains. HtFVs account for around one-third of all vacancies in mining and quarrying.*
- 3.17 According to NESS 2003, there are currently 939 vacancies in mining and quarrying, with just over one-third (35 per cent) of these vacancies being HtFVs and one-tenth being SSVs. Approximately 11.5 per cent of employees are not fully proficient at their jobs.
- 3.18 Just over 10.5 per cent of firms in mining and quarrying reported vacancies, with 2.6 per cent of firms reporting having HtFVs and 1.8 per cent of firms reporting SSVs. Around 21.5 per cent of firms reported skills gaps among their employees.

Table 3.2: Industry 2: Mining and quarrying

SIC03 headings: 10–14
 Deep coal mines and opencast coal working. Exploration for, and extraction of, mineral oil, etc.; and the provision of services incidental to oil and gas extraction (but excluding surveying, classified to Industry 23, Other business services). Mining of uranium and thorium ores, metal ores and their preparation; quarrying of stone, sand and clay; production of salt; other mining and quarrying nes.

Share of GVA (%)	2.3
Employment (000)	44
Share of England (%)	0.2
Male:female	86:14
Change: 1993–2003 (% pa)	-3.7
Change: 1998–2003 (% pa)	1.1
Change: 2003–08 (forecast % pa)	-2.5
Self-employment (%)	5.1
Top three occupational groups (% of total emp.)	
Skilled trades occupations	22.6
Process, plant and machine operatives	16.7
Elementary occupations	16.3
Establishments reporting HtFVs (%)	2.6
Establishments reporting skill-shortage vacancies (%)	1.8
GVA per worker (£)	509.5
Exports: gross output (%) ¹	50.1
Concentration	medium

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 3: Food, drink and tobacco

3.19 Over the past decade the contribution of food, drink and tobacco to overall economic growth has been steadily declining. The slow demographic growth in the UK and key euro-zone export markets limits the growth in demand, as does the typical low income-elasticity of demand for food products, which account for so much of the industry's output. This does mean, of course, that activity in the food, drink and tobacco industry is much less sensitive to the business cycle than the manufacturing average. In particular, food production remains relatively safe from recession but also is largely unaffected by any recovery period or time of increased consumer spending.

The food, drink and tobacco industry is declining in importance. Mergers and consolidation have transformed the food industry. The tobacco industry is unconcerned by recent legislative changes.

3.20 Competition to supply the UK supermarkets now dominates the food industry, which accounts for approximately 82 per cent of the industry's GVA. In the more distant past, the food industry consisted of many low-volume producers, but during the 1980s and 1990s the industry was transformed by mergers and consolidation, increasing efficiency and potential economies of scale. The UK industry appears to be doing quite well compared to other EU countries, with productivity well above average.

3.21 Most sub-sectors of the drink industry are dominated by a few large firms. For example, some 85 per cent of beer drunk in the UK in 2001 was brewed by four companies. Some 400 small breweries account for only 2 per cent of the market. Some large companies also own many of the pubs where the beer is sold, while small local breweries struggle to maintain Britain's brewing heritage. Regulation and legislation also play a key role in the drinks industry.

3.22 The cigarette and tobacco industries in the UK are playing down the likely effects of EU legislation, brought in during 2003, which bans advertising in the press and other media by 2005. The three largest firms, British American Tobacco, Imperial Tobacco and Gallaher, all reported stable sales in the UK in 2003. It is expected that many other UK cities will follow the lead of Liverpool, and ban smoking in the workplace. However, the tobacco industry has stated that it is unconcerned by the development. Gallaher estimated that a smoking ban, enforced in all public places, would cause a fall in cigarette and tobacco sales of between 2 and 5 per cent.

3.23 As with much of manufacturing, the trend in employment in food, drink and tobacco has been downward over the past 30 years, and this decline has become more rapid over the last five years. Between 1998 and 2003 employment in food, drink and tobacco declined by 1.5 per cent per annum, compared with 0.3 per cent per annum between 1993 and 2003. The general trend disguises a sharp contrast in demand for workers in different occupational groups. Demand for skilled trades occupations, elementary occupations, and administrative and secretarial occupations fell sharply, by between 3 and 6 per cent per annum between 1993 and 2003, while the number of workers employed in managerial and senior official jobs, professional occupations and associate technical and professional occupations rose equally sharply. Plant and machine operatives, the most important occupational group, accounting for 27 per cent of overall employment in the industry, experienced only modest growth.

The employment decline in food, drink and tobacco has accelerated in recent years. A high proportion of employees in food, drink and tobacco are not fully proficient at their jobs.

3.24 In food, drink and tobacco, employment is forecast to continue to decline: between 2003 and 2008 employment in the industry is expected to decline by around 1 per cent per annum. This reflects pressure to supply supermarkets at the lowest price possible, squeezing smaller firms out of the market and forcing large firms to increase their productivity. A further reduction in demand for workers in the same occupational groups as occurred during the past decade is expected, albeit at a slower pace. The largest reduction in demand is expected to occur within elementary and skilled trade occupations (which accounts for 27 per cent of industry employment). This should be offset to some degree by an increase in demand for skilled workers in sales and customer service occupations, managerial and professional, and associate technical and professional occupations.

3.25 According to NESS 2003, there are currently some 9,500 vacancies in food, drink and tobacco, with 40 per cent of these vacancies being HtFVs and one-fifth being SSVs. Approximately 14 per cent of employees are not fully proficient at their jobs, the second-highest proportion of any of the 27 industries examined.

3.26 More than 23 per cent of firms in food, drink and tobacco reported vacancies, a higher proportion than in any other manufacturing industry. However, just under 7.5 per cent of firms reported HtFVs and just under 5 per cent of firms reported SSVs. Approximately 46 per cent of firms reported skills gaps among their employees, by far the highest proportion of any of the 27 industries examined.

Table 3.3: Industry 3: Food, drink and tobacco

SIC03 headings: 15–16
 Production, processing and preserving of meat, fish, fruit and vegetables; vegetable and animal oils and fats; dairy products; grain milling, cereals and starches; animal feeds; bread, pastry goods, biscuits; sugar, cocoa, confectionery etc.; tea, coffee, seasonings and other food products not elsewhere specified.
 Distilling of spirits including ethyl alcohol; manufacture of wine, cider and other fruit wines; manufacture of beer and malt; production of mineral waters and soft drinks.
 Manufacture of tobacco products: cigarettes, cigars, pipe tobacco, snuff.

Share of GVA (%)	2.1
Employment (000)	383
Share of England (%)	1.5
Male:female	66:34
Change: 1993–2003 (% pa)	-0.3
Change: 1998–2003 (% pa)	-1.5
Change: 2003–08 (forecast % pa)	-1
Self-employment (%)	2.4
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	27.3
Elementary occupations	16.8
Skilled trades occupations	14.6
Establishments reporting HtFVs (%)	7.3
Establishments reporting SSVs (%)	4.9
GVA per worker (£)	55.3
Exports: gross output (%) ¹	17.8
Concentration	medium

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 4: Textiles and clothing

3.27 Employment in textiles and clothing has been in decline for several decades. Although UK sales have risen sharply during this time, import penetration has also risen markedly, reflecting the combined effect of trade liberalisation and a highly price-sensitive domestic market. At the same time export demand has tailed off quite dramatically. Furthermore, large retail chains have continued to place more of their orders with overseas suppliers and encourage their UK-based suppliers to shift production to lower-cost countries. Consequently, companies have been forced to restructure their businesses, and many have closed. In spite of this decline, the industry remains a major source of output and employment in some regions of the UK, particularly the East Midlands, where the industry accounts for around 8 per cent of all manufacturing output and 11 per cent of employment, compared with 3 per cent and 6 per cent for the UK as a whole. Furthermore, some firms are succeeding by exploiting low-volume niche markets, enabling them to gain a competitive advantage compared with companies that concentrate production on the lower end of the market.

Textiles and clothing producers are struggling to maintain competitiveness in the face of cheap imports. Further trade liberalisation is posing a significant threat to the industry. Employment is declining rapidly among key plant and machinery operatives.

3.28 China's accession to membership of the World Trade Organisation in 2001, although anticipated for some time, has further increased cheap imports. The start of 2005 will also mark the end of the quota system that for 40 years governed the quantity of textile exports shipped by developing countries. As a result high-cost producers such as the UK are expected to lose out to countries where production is cheaper, especially China and India. The industry is heavily reliant on trade; 60 per cent of output is exported. The phasing out of the Multi-Fibre Agreement is also likely to lead to further employment losses as the current trend of outward processing is set to increase, with a sizeable share likely to go to countries such as Turkey, Tunisia and Morocco.

- 3.29 Employment in textiles and clothing the UK has fallen for many decades. In 1981 employment in the industry accounted for 2.5 per cent of all employment in England; in 2003 the industry represented only 0.8 per cent of employment. The decline in employment continues to accelerate: between 1998 and 2003 employment declined by 10 per cent per annum, compared to 6.6 per cent between 1993 and 2003. Unlike many manufacturing industries, textiles and clothing has a high proportion of female workers. The labour-intensive nature of the industry is reflected in the fact that some 36 per cent of the workforce is in process, plant and machine operative occupations. Tellingly, though, it is this occupational group in which employment has shown the sharpest decline over the past decade, as production migrates to countries in which labour costs are much lower than in the UK.
- The rate of decline in employment is not likely to be checked much in future. Textiles and clothing is characterised by a very high proportion of vacancies being HtFVs.*
- 3.30 In textiles and clothing, although the rate of output decline is expected to ease, as the major restructuring of the industry nears completion, retailers will continue to source greater quantities of supplies from overseas to reduce costs, and so demand for UK-manufactured products is likely to remain weak, and employment will continue its downward trend.
- 3.31 According to NESS 2003, there are currently about 2,300 vacancies in textiles and clothing, with just under 60 per cent of these vacancies being HtFVs and 30 per cent being SSVs. Approximately 9 per cent of employees are not fully proficient at their jobs.
- 3.32 Around 14 per cent of firms in textiles and clothing reported vacancies, with just under 8.5 per cent of firms reporting HtFVs and 4.3 per cent of firms reporting SSVs. Approximately one-quarter of firms reported skills gaps among their employees, around the average for manufacturing as a whole.

Table 3.4: Industry 4: Textiles and clothing

SIC03 headings: 17–19
 Preparation and spinning of textile fibres (cotton, wool, flax, silk, threads etc.); weaving and finishing of textiles; manufacture of made-up textile articles (soft furnishings, blankets, table linen etc.); manufacture of carpets and rugs; manufacture of other textiles not elsewhere specified; manufacture of knitted and crocheted fabrics including hosiery, pullovers, cardigans and similar articles.
 Clothing including workwear, coats, suits, jackets, trousers, dresses, skirts etc., underwear, hats, swimwear and fur articles.
 Tanning and dressing of leather; manufacture of luggage, handbags and the like; manufacture of footwear for all purposes.

Share of GVA (%)	0.6
Employment (000)	191
Share of England (%)	0.8
Male:female	49:51
Change: 1993–2003 (% pa)	-6.6
Change: 1998–2003 (% pa)	-10.2
Change: 2003–08 (forecast % pa)	-5.9
Self-employment (%)	12.9
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	36
Managers and senior officials	15.5
Skilled trades occupations	12.7
Establishments reporting HtFVs (%)	8.4
Establishments reporting SSVs (%)	4.3
GVA per worker (£)	28
Exports: gross output (%) ¹	60.1
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 5: Wood and paper products

- 3.33 Wood and paper products firms are more vulnerable to the business cycle than most capital-intensive industries, as the industry is strongly influenced by exchange rate movements. Increased competition in timber processing since the late 1990s has led to a fall in prices, and this, combined with increased mechanisation, is resulting in a decline in the workforce.
- 3.34 Over the past decade, employment in wood and paper products has declined at a more modest rate than some other manufacturing industries: between 1993 and 2003 employment on average declined by 2 per cent per annum. As in many manufacturing industries, the sharpest falls in employment have been in the most important occupational group (skilled trades occupations, in which employment declined by 4.2 per cent during the period 1993 to 2003, but which still account for 27 per cent of total employment in the industry). There has been a sharp increase in demand for sales staff and personal service occupations.
- 3.35 Wood and paper product producers are benefiting from some easing of what has in recent years been very stiff competition from imports, particularly from the Baltic area. This easing is due in part to supply shortages and in part to quality problems. As a result employment is expected to decline at a more modest rate than in the past five years. The sharpest falls are expected in skilled trades, plant and machinery and elementary occupations, with equally sharp increases in sales and personal service occupations.
- 3.36 According to NESS 2003, there are currently some 3,000 vacancies in wood and paper products, with just under two-thirds of these vacancies being HtFVs and 46 per cent being SSVs. Approximately 11 per cent of employees are not fully proficient at their jobs.
- 3.37 Around 18 per cent of firms in wood and paper products reported vacancies, with 12 per cent of firms reporting HtFVs and 8 per cent of firms reporting SSVs. Approximately 30 per cent of firms reported skills gaps among their employees.
- Wood producers are vulnerable to the business cycle. The demand for skilled trades is falling, while sales staff are increasing in importance. HtFVs account for around two-thirds of all vacancies in wood and paper products.*

Table 3.5: Industry 5: Wood and paper products

SIC03 headings: 20–21
 Sawmilling and planting of wood; manufacture of veneer sheets, plywood, laminboard, fibreboard etc.; manufacture of builders' carpentry and joinery; manufacture of wooden containers, and other products of wood.
 Manufacture of: pulp, paper and paperboard; articles of paper and paperboard, incl. bags, containers, sanitary goods, stationery, wallpaper and other articles of paper nes.

Share of GVA (%)	0.7
Employment (000)	155
Share of England (%)	0.6
Male:female	69:31
Change: 1993–2003 (% pa)	-2.2
Change: 1998–2003 (% pa)	-2.9
Change: 2003–08 (forecast % pa)	-1.6
Self-employment (%)	10.2
Top three occupational groups (% of total emp.)	
Skilled trades occupations	26.6
Process, plant and machine operatives	18.3
Managers and senior officials	13.6
Establishments reporting HtFVs (%)	11.9
Establishments reporting SSVs (%)	8.1
GVA per worker (£)	40.9
Exports: gross output (%) ¹	14.9
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 6: Printing and publishing

- 3.38 It is widely believed that the rapid spread of the information revolution will affect publishers, especially as the Internet and CDs take the place of hard copies of publications. To date, however, the Internet and CDs seem to be functioning rather as complements to paper-based copies of books, newspapers and magazines. There are few signs of new media replacing the old. The new media are generally being used as a marketing tool to encourage people to subscribe to paper versions of publications.
- 3.39 A major challenge for music publishers is the development of online music distribution. Although the volume of music distributed online remains marginal at present, it is widely believed that digital diffusion will become an important part of the global market in the future. As a result, most major music companies are increasingly taking control of channels through which music is either distributed or played, and have diversified operations into related markets including film production, book publishing, broadcasting and retailing.
- 3.40 In contrast to much of manufacturing, employment in printing and publishing grew during the 1990s. However, in 2000 employment in the industry declined by 2.4 per cent and it did not return to growth until 2003 (albeit very modest). Demand for managers, associate technical and professional, and personal service jobs has increased sharply, while skilled trades occupations and elementary positions have declined. These trends may reflect the fact that many printing and publishing jobs can be regarded as part of the 'new economy', and involve close contact with high-profile industries such as media, e-commerce, advertising and marketing.
- 3.41 Employment in printing and publishing is forecast to show only marginal growth over the next five years, as some industries such as newspapers and recorded music seek to cut costs in order to maintain competitiveness in the global economy. Employment trends over the next five years are expected to be similar to those of the past decade.
- 3.42 According to NESS 2003, there are currently just over 6,700 vacancies in printing and publishing, with 38 per cent of these vacancies being HtFVs and just under one-quarter being SSVs. Approximately 8 per cent of employees are not fully proficient at their jobs.
- New media and the web are increasingly important in publishing. The development of online music distribution presents a major challenge for music publishers. Employment has returned to growth due to its links with the 'new economy'. HtFVs account for just under 40 per cent of all vacancies in printing and publishing.*

- 3.43 Around 12 per cent of firms in printing and publishing reported vacancies, with just over 6 per cent of firms reporting HtFVs and 3.6 per cent of firms reporting SSVs. Less than one-fifth of firms reported skills gaps among their employees, the smallest proportion of any manufacturing industry.

Table 3.6: Industry 6: Printing and publishing

SIC03 headings: 22
 Printing and publishing of books, newspapers, periodicals and miscellaneous products; related services such as bookbinding; reproduction of recorded media incl. records, CDs, tapes, videos and computer media.

Share of GVA (%)	0.3
Employment (000)	353
Share of England (%)	1.4
Male:female	61:39
Change: 1993–2003 (% pa)	0.5
Change: 1998–2003 (% pa)	-0.8
Change: 2003–08 (forecast % pa)	0.5
Self-employment (%)	9
Top three occupational groups (% of total emp.)	
Associate professional and technical	
Occupations	19.1
Process, plant and machine operatives	16.3
Managers and senior officials	16
Establishments reporting HtFVs (%)	6.2
Establishments reporting SSVs (%)	3.6
GVA per worker (£)	8
Exports: gross output (%) ¹	13.3
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 7: Chemicals and non-metallic minerals

- 3.44 The pharmaceuticals industry is less sensitive to cyclical fluctuations than most industries for two reasons. Firstly, medical drugs are always seen as necessary goods regardless of economic conditions. Secondly, as economies become wealthier, the proportion of national income spent on health care tends to increase. In many economies, including the UK, the Government is the main purchaser of drugs, and its stable spending acts to sustain demand in times of economic downturn. Also, a rapidly ageing population brings a sustained increase in demand for drugs.
- 3.45 Although pharmaceuticals is the most high-profile industry within chemicals and non-metallic minerals, the manufacture of chemicals is the most important industry in terms of its contribution to output. However, the demand for chemicals as input for other manufacturing industries is cyclical, and so, in the recent slowdown of the global economy, the industry is suffering as demand weakened. Chemicals are highly export-oriented and are consequently very sensitive to changes in world prices.
- 3.46 The rubber industry is dominated by the production of tyres, an industry that differs markedly from others in the chemicals and non-metallic minerals industry. The tyre industry relies heavily on the motor industry as its main consumer, and it is dominated by a few firms. Rubber production was, until recently, relatively labour-intensive, but new production techniques, especially for tyres, are lowering employment levels and increasing productivity.
- 3.47 The plastics sub-sector and rubber production other than tyres are dominated by small and medium-sized enterprises (SMEs). This part of the industry is very fragmented due to the nature of demand. Plastics are increasingly used in every sector of the economy, and typically firms will specialise in a specific area. Technological progress, for example the development of new plastics usable in wider applications, is important, and the sub-sector is sensitive to the effect of technological change. Some technological advances are also important from the environmental point of view, a source of much criticism of the rubber and plastics industry.
- Pharmaceuticals is less sensitive to the economic cycle than most manufacturing industries. The demand for basic chemicals as input for other manufacturing industries is cyclical. The UK rubber industry is dominated by the production of tyres, while the rest of rubber and plastics is made up of varied SMEs.*

3.48 In manufactured fuels, petroleum products make up around 90 per cent of the industry's gross output, with the balance being produced by the manufacture and processing of coke and the processing of nuclear fuel, including the treatment of nuclear waste. Nuclear fuel is responsible, however, for almost 40 per cent of the industry's value added, but makes a relatively minor contribution to its overall turnover. Since the late 1980s demand for petrol has been declining as more vehicles switch to diesel. This has led to a sharp reduction of refinery capacity. Some 10 refineries have been closed over this period, and overall UK capacity by 2000 was 40 per cent lower than the peak level seen in 1974. The other downward pressure has come from the overcapacity in European refineries that squeezed margins and profitability in petroleum products throughout the 1990s.

In manufactured fuels, since the late 1980s, the decline in demand for petrol has led to a rationalisation of refinery capacity. Non-metallic mineral products is closely linked to general economic conditions. Chemicals and non-metallic minerals is an export-focused industry.

3.49 The non-metallic minerals industry is closely linked to general economic conditions. There are two reasons for this. First, the low value/weight ratio makes transportation very expensive and thus makes it inefficient for companies to develop markets outside their local region. As a result the industry is very fragmented, and the preponderance of SMEs means that the top 10 companies in the industry control no more than one-third of the world market. Consequently, firms are reliant on domestic demand. Secondly, many of the products are inputs into divisions of the building industry, which is highly sensitive to general economic conditions.

3.50 Chemicals and non-metallic minerals depend heavily on exports, particularly pharmaceuticals which is now the third most important export sector after oil and power generation equipment. Over 40 per cent of chemicals and non-metallic minerals output is exported, making the industry sensitive to global economic activity. The industry accounts for 2 per cent of total employment in England, but nearly 5 per cent of GVA.

3.51 Technological advances in chemicals and non-metallic minerals production are resulting in strong productivity gains and a decline in employment: between 1998 and 2003 employment declined by nearly 3 per cent. The top three occupational groups are process, plant and machine operatives (25 per cent), elementary occupations (17 per cent) and skilled trades occupations (15 per cent). However, over the decade employment has been declining across these occupational groups at a faster rate than for the industry as a whole (and more than twice the rate among skilled trades people). The strongest employment growth has been among sales and personal services staff, and demand for managerial workers has also increased.

- 3.52 Employment in chemicals and non-metallic minerals is likely to continue to decline. Even in the fast-growing (in output terms) pharmaceuticals industry, employment levels are expected to be static at best, owing to strong productivity growth resulting from specialisation in production. Over the next five years, employment is expected to decline across each occupational group, with the sharpest declines expected among skilled trades, secretarial and administrative, plant and machine operatives, and elementary occupations.
- 3.53 According to NESS 2003, there are currently just under 9,400 vacancies in chemicals and non-metallic minerals, with 36 per cent of these vacancies being HtFVs and 23 per cent being SSVs. Approximately 13 per cent of employees are not fully proficient at their jobs.
- 3.54 Around 22 per cent of firms in chemicals and non-metallic minerals reported vacancies, the second-highest proportion of any manufacturing industry. Around 10.5 per cent of firms reported HtFVs and 7.5 per cent of firms reported SSVs. More than 28 per cent of firms reported skills gaps among their employees.
- Demand for workers is expected to decline across the occupational spectrum over the next five years. A high proportion of firms in chemicals and non-metallic minerals are reporting vacancies.*

Table 3.7: Industry 7: Chemicals and non-metallic minerals

SIC03 headings: 23–26
 Manufacture of coke, refined petroleum products and processing of nuclear fuel.
 Investigation, perfecting and production of basic pharmaceutical products; manufacture of pharmaceutical preparations and medicaments.
 Manufacture of basic chemicals incl. industrial gases, dyes and pigments, inorganic and organic basic chemicals, fertilizers, plastics and synthetic rubber in primary forms; pesticides, paints, varnishes and inks; detergents, cleaning and toilet preparations; glues, photographic chemicals and unrecorded media (tapes, cassettes, discs); manufacture of man-made fibres.
 Manufacture of rubber products, rubber tyres, etc., production of finished and semi-manufactured plastics goods, including plates, sheets, tubes and profiles, packing goods, builders' and other plastic products.
 Manufacture of various building materials, such as glass; ceramics products; bricks, tiles and clay products; cement, lime and plaster; articles of concrete, plaster and cement; and other non-metallic mineral products not elsewhere specified.

Share of GVA (%)	4.9
Employment (000)	533
Share of England (%)	2.1
Male:female	78:22
Change: 1993–2003 (% pa)	-0.9
Change: 1998–2003 (% pa)	-2.9
Change: 2003–08 (forecast % pa)	-1.9
Self-employment (%)	4.2
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	24.6
Elementary occupations	16.8
Skilled trades occupations	15.2
Establishments reporting HtFVs (%)	10.5
Establishments reporting SSVs (%)	7.5
GVA per worker (£)	88.6
Exports: gross output (%) ¹	41.2
Concentration	medium

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 8: Metals and metal goods

- 3.55 The driving forces of restructuring in the steel industry remain companies' pursuit of higher margins, along with cost-cutting in the face of strong global competition and overcapacity. Through a sequence of mergers, steel production in the EU has now consolidated in three major companies, including the Anglo-Dutch group Corus, that together account for almost two-thirds of total annual output. Each company trades throughout the region and beyond. The re-grouping is enabling cost reduction through rationalisation, scale economies, and a sharper focus on particular product ranges and geographical markets. Corus, formed in 1999 through the merger of British Steel and Hoogovens, accounts for most of the UK's steel production, and has continued to make a loss since its inception. As a result, the firm has announced several plant closures and many thousands of job cuts, and is to concentrate UK steel making at three sites.
- 3.56 The major UK-based metal goods companies are generally engaged in a process of restructuring to sustain and improve their competitiveness. The process involves, firstly, identifying key strategic industries in which competitive advantage can be built both by developing value-adding products and associated services, and by gaining significant market share, and secondly, achieving financial stability. This involves: reducing overheads and raising productivity so as to improve cash-flow, selling or spinning off non-core businesses, and reducing debt. Once stability has been achieved, growth through internal expansion or by carefully targeted acquisitions in key strategic areas can provide the scale that is necessary to compete with large US companies.
- 3.57 Metals and metal goods employs approximately 413,000 workers in the UK, the vast majority of which are employed in the production of metal goods (structural metal products, metal packaging, etc.), with the remainder involved in the production of basic metals, and steel in particular. Around a third (29 per cent) of the workforce is made up of skilled trades workers. Employment has been declining significantly over the past decade as firms have restructured to cope with overcapacity in the market and as they have sought to boost productivity to compete with overseas producers. The sharpest falls have been in the two key groups of workers mentioned above. In contrast, demand for sales staff has increased sharply.
- Major UK and European steel makers are restructuring, leading to plant closures and falling employment. The major UK-based metal goods companies are also engaged in a process of restructuring. Employment has been declining significantly over the past decade, particularly among skilled trades people and machine operatives.*

- 3.58 The decline in employment in the industry of the past decade is expected to continue during the next five years, though the rate is expected to moderate to around 2.3 per cent per annum. The decline reflects generally flat output and efficiency gains in the industry. In contrast with the recent trend, employment in personal service occupations is expected to fall sharply in the next five years.
- 3.59 According to NESS 2003, there are currently just over 6,600 vacancies in metals and metal goods, with one-half of these vacancies being HtFVs and 31 per cent being SSVs. Approximately 10.5 per cent of employees are not fully proficient at their jobs.
- 3.60 Around 16 per cent of firms in metals and metal goods reported vacancies, with 7 per cent of firms reporting HtFVs and 5 per cent of firms reporting SSVs. Approximately one-quarter of firms reported skills gaps among their employees.
- Around one-quarter of firms in metals and metal goods reported skills gaps among their employees.*

Table 3.8: Industry 8: Metals and metal goods

SIC03 headings: 27–28

Manufacture of basic iron and steel and ferro-alloys including pig iron and steel and hot-rolled or cold-rolled products such as sheets, bars, rods and rails; manufacture of tubes and other first processing of iron and steel; manufacture of basic precious and non-ferrous metals, including aluminium, lead, zinc, tin and copper; casting of metals (ferrous and non-ferrous).

Manufacture of fabricated metal products, excluding machinery and equipment, but including: structural metal products, doors and windows; tanks, reservoirs, boilers and steam generators; forging, pressing and stamping; general hardware; light metal packaging; other fabricated metal products nes.

Share of GVA (%)	1.5
Employment (000)	413
Share of England (%)	1.7
Male:female	81:19
Change: 1993–2003 (% pa)	-2
Change: 1998–2003 (% pa)	-4
Change: 2003–08 (forecast % pa)	-2.3
Self-employment (%)	7.1
Top three occupational groups (% of total emp.)	
Skilled trades occupations	28.8
Process, plant and machine operatives	21
Elementary occupations	14.4
Establishments reporting HtFVs (%)	7.2
Establishments reporting SSVs (%)	4.9
GVA per worker (£)	35.7
Exports: gross output (%) ¹	28.2
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 9: Engineering

- 3.61 Mechanical engineering encompasses a number of activities which range from the manufacture of machinery, equipment and machine tools to the production of weapons, ammunition and domestic appliances. About half of the industry's products are finished capital goods, while the remainder consist primarily of components for capital goods. Mechanical engineering is consequently very sensitive to the economic cycle, because of its dependence on capital goods investment by other parts of the manufacturing sector, which is itself highly sensitive to any downturns in the economy.
- 3.62 The UK mechanical engineering industry is one of the largest in Europe, after Germany, France and Italy. All industries are well-represented, although the UK remains particularly strong in chemical machinery. In terms of the actual number of enterprises, the manufacture of general purpose machinery remains the largest sub-sector within the industry, with over 5,000 enterprises. However, there is growing concern that the international competitiveness of Britain's mechanical engineering industry is falling. The concern is forcing some firms to pull operations out of the country and transfer work abroad.
- 3.63 The electronics industry includes a broad variety of activities, ranging from the manufacture of office machinery and computers to the manufacture of radio, television and communication equipment and components such as semiconductors. The industry enjoyed strong output growth over the 1990s, driven by rapid technological change. Despite rapid productivity growth, output growth was fast enough to stem the fall in employment seen in the 1970s and 1980s. However, over-investment and the subsequent slump in global information and communications technology (ICT) spending at the end of the 1990s led to a sharp decline in both output and employment.
- 3.64 Despite the current slump, which has resulted in a number of high-profile closures, electronics remains important to the UK economy. In addition to being one of the UK's largest manufacturing industries in terms of output, electronics also makes a significant contribution to international trade, exporting almost £42 billion worth of manufactured goods in 2002. However, there are also substantial imports of inputs and finished goods. For engineering as a whole exports represent over 82 per cent of output.
- Mechanical engineering is very sensitive to fluctuations in the global economy and jobs are being transferred abroad. Fast growth, driven by technological change, has given way to a temporary slump in electronics due to over-investment.*

- 3.65 Electrical and instruments engineering as a whole is very similar in character to the manufacture of computers and other commodities in the electronics industry, in that pressure on margins makes industrial concentration, economies of scale and relocation to lower-cost regions increasingly attractive. Demand for electrical goods is, however, typically more dependent on the economic cycle than is demand for electronics products.
- 3.66 Engineering employs approximately 638,000 workers in England, although employment has been declining for several decades. Skilled trades occupations make up around 23 per cent of employment, process, plant and machine operatives make up 16 per cent and managers and senior officials 16 per cent. In 2002 employment declined by 5.5 per cent and in 2003 declined by 3.4 per cent. The sharpest declines were in skilled trades, secretarial and administrative and elementary occupations.
- 3.67 The decline in employment in engineering is expected to slow over the next few years, to around 1.5 per cent per annum. The continued decline of employment mainly reflects poor output growth prospects in mechanical engineering, but even when fast output growth resumes in electronics, with advances in technology being the principal driver, the scope offered by rapid technological change for raising productivity is greatest, and so employment is also likely to decline in this industry. Interestingly, while skilled trades and elementary occupations are expected to continue to decline in importance, demand for managers, professionals and associate professionals is expected to experience marginal growth.
- 3.68 According to NESS 2003, there are currently some 9,000 vacancies in engineering, with 40 per cent of these vacancies being HtFVs and 30 per cent being SSVs. Approximately 10.5 per cent of employees are not fully proficient at their jobs.
- In electrical and instruments engineering, pressure on margins makes relocation to lower-cost countries increasingly attractive. Skilled trades dominate employment, but both are in decline. Employment is expected to decline, but demand for managers and professionals will see marginal growth. A higher proportion of firms in engineering reported skills gaps among their employees than in any other manufacturing industry.*

- 3.69 Around 17 per cent of firms in engineering reported vacancies, with just under 9 per cent of firms reporting HtFVs, and 6.8 per cent of firms reporting SSVs. Over 30 per cent of firms reported skills gaps among their employees, a higher proportion than in any other manufacturing industry, and the fourth highest of the 27 industries examined.

Table 3.9: Industry 9: Engineering

SIC03 headings: 29–33
 Manufacture of machinery and equipment incl.: engines for mechanical power; furnaces; general purpose machinery (incl. lifting and handling equipment, cooling and ventilation equipment; tractors and other agric. machinery); machine tools; special purpose machinery (e.g. for quarrying and construction; food, drink and tobacco processing; textiles and clothing production); weapons and ammunition; domestic appliances.
 Manufacture of office machinery (including calculators, franking machines and terminals for dispensing tickets, banknotes etc.) and computers (including peripheral units such as printers); manufacture of radio, television and communication equipment and apparatus.
 Manufacture of: electric motors, generators and transformers; electricity distribution and control apparatus; insulated wires and cables; batteries, lighting equipment and electric lamps; electrical equipment nes.
 Manufacture of: medical and surgical equipment and orthopaedic devices; instruments for measuring, checking, testing, navigating etc.; industrial process control equipment; optical instruments and photographic equipment; watches and clocks.

Share of GVA (%)	2.9
Employment (000)	638
Share of England (%)	2.6
Male:female	77:23
Change: 1993–2003 (% pa)	-1
Change: 1998–2003 (% pa)	-4.2
Change: 2003–08 (forecast % pa)	-1.5
Self-employment (%)	4.9
Top three occupational groups (% of total emp.)	
Skilled trades occupations	22.5
Process, plant and machine operatives	16.4
Managers and senior officials	15.9
Establishments reporting HtFVs (%)	8.7
Establishments reporting SSVs(%)	6.8
GVA per worker (£)	43.1
Exports: gross output (%) ¹	82.2
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 10: Transport equipment

- 3.70 Since the mid-1990s, there has been a period of consolidation among car producers, with much takeover activity and forging of alliances between manufacturers, often with a view to savings through shared technologies and access to new markets. Firms are also seeking to cut costs by demanding price reductions, quality improvements and faster deliveries from their suppliers of parts and accessories. This is forcing suppliers to consolidate. Enterprises merge or acquire other companies in order to either grow or diversify into related components and systems. This is resulting in a lower number of suppliers of complete systems or modules, although a large number of enterprises continue to supply replacement parts.
- 3.71 The accession to the EU in 2004 of eight central and eastern European countries is likely to accelerate the transfer abroad of activities in which, for reasons of technology, low-wage countries have a comparative advantage. In the case of volume car production, manufacturers are likely to take advantage of the location and cost competitiveness of these countries by switching production facilities away from western Europe. Manufacturing labour costs in central and eastern Europe are in some cases as low as one-fifth of those in western Europe. Consequently, it is now much less likely that new volume car plants will be built in the UK.
- 3.72 Civil work accounts for more than two-thirds of activity in the UK's aerospace industry and so the industry is more exposed to international trade than when national governments' military orders were of greater importance. Because aerospace is a business with long lead times, order books are able to survive all but the most severe worsening in world economic conditions. However, the commercial aircraft sub-sector faced a severe downturn in orders following the terrorist attack on the US, as airlines deferred deliveries in response to the sharp drop in demand for air travel. All the major UK-based manufacturers, along with Boeing and Airbus, the two industry leaders, made sharp cuts in output and employment, and component suppliers suffered from the knock-on effects. However, recent evidence points to a mild recovery in the commercial aircraft sub-sector. Air traffic has returned to pre-September 11 levels and many companies are reporting a return to profit.
- In recent years there has been much takeover activity and forging of alliances between motor vehicles manufacturers. Volume car manufacturing is shifting away from the UK and western Europe to lower-cost locations in central and eastern Europe. Commercial aircraft manufacturers have suffered a severe downturn in orders since the terrorist attack on the US.*

- 3.73 Over the past 20 years many shipyards in the UK and the rest of Europe have closed as European firms have struggled to compete against lower-cost Japanese and South Korean producers. The few surviving UK shipyards rely mainly on naval orders by the Ministry of Defence (MoD), although a few producers have differentiated themselves by specialising in the higher value-added, high-technology end of the market. In the cruise market more sophisticated design and production processes have protected domestic producers from low-cost competition from developing countries and helped to maintain a strong position in a market where the US has little presence.
- 3.74 Much other transport equipment output is for large investment projects with long lead times. Consequently, output is less sensitive to short-term variations in world activity than in industries with comparable trade ratios. For example, the demand for railway rolling stock is primarily investment-driven, and the bulk of demand for new stock is determined by replacement of obsolete models.
- 3.75 Transport equipment employs approximately 324,000, of which 82 per cent are male. Skilled trades occupations account for nearly 28 per cent of employment, although between 1993 and 2003 this was the only occupational group in which employment declined, at a rate some five times faster than employment across the whole industry. Over the same period, demand for sales staff; personal services workers; and administrative and secretarial workers has risen significantly.
- 3.76 Among transport equipment manufacturers, the migration of volume car production away from the UK towards central and eastern European countries will be reflected in a long-term decline in employment. Mainly because of this, employment in the industry as a whole is forecast to decline by over 4 per cent per annum over the next five years, with declines likely to be recorded across all occupational groups. The sharpest declines are expected in skilled trades, administrative and secretarial, elementary and machine occupations (vehicle assemblers and fitters of tyres, exhausts and windscreens). The strong demand for sales staff is expected to be reversed, with employment forecast to decline, albeit at the slowest rate of all occupation groups.
- The competitive threat from south-east Asian producers is a key driver in shipbuilding. Other transport equipment production is less sensitive than other manufacturing industries to short-term variations in economic activity. The demand for skilled trades people has declined sharply in recent years. The strong demand for sales staff is expected to be reversed over the next five years.*

- 3.77 According to NESS 2003, there are currently just under 3,600 vacancies in transport equipment, with just under one-half of these vacancies being HtFVs and 35 per cent being SSVs. Approximately 13 per cent of employees are not fully proficient at their jobs, the fourth-highest proportion of any of the 27 industries examined.
- 3.78 Around 14.5 per cent of firms in transport equipment reported vacancies, with just under 7.5 per cent of firms reporting HtFVs and 5.2 per cent of firms reporting SSVs. One-quarter of firms reported skills gaps among their employees.
- A relatively high proportion of employees in transport equipment are not fully proficient at their jobs.*
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Table 3.10: Industry 10: Transport equipment

SIC03 headings: 34–35
 Manufacture of: cars, commercial vehicles, buses and coaches; motor vehicles engines and chassis; bodies (coachwork) for motor vehicles, trailers and semi-trailers; parts and accessories for motor vehicles and their engines. Electrical parts (such as sparking plugs, lighting, windscreen wipers and defrosters) are classified to Industry 9, Engineering.
 Manufacture of: aeroplanes, helicopters, gliders, dirigibles and balloons, spacecraft, satellites and launch vehicles; major assemblies such as fuselages, wings, doors, landing gear, rotor blades and engines of a kind typically found on aircraft; ground flying trainers.
 Manufacture of instruments and navigation systems is classified to Industry 9, Engineering.
 Building and repairing of ships (merchant, warships, fishing vessels and pleasure boats), hovercraft and drilling platforms; manufacture of railway and tramway locomotives and rolling stock, specialised parts (such as brakes, axles, coupling devices), signalling equipment; manufacture of motorcycles and bicycles, invalid carriages and other transport equipment nes.

Share of GVA (%)	1.6
Employment (000)	324
Share of England (%)	1.3
Male:female	82:18
Change: 1993–2003 (% pa)	0.4
Change: 1998–2003 (% pa)	-2.9
Change: 2003–08 (forecast % pa)	-4.3
Self-employment (%)	3.5
Top three occupational groups (% of total emp.)	
Skilled trades occupations	28.3
Process, plant and machine operatives	20.1
elementary occupations	13.1
Establishments reporting HtFVs (%)	7.4
Establishments reporting SSVs (%)	5.2
GVA per worker (£)	45.7
Exports: gross output (%) ¹	63.4
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except¹ where data are for UK.

Industry 11: Manufacturing not elsewhere specified and recycling

- 3.79 Manufacturing not elsewhere specified (nes) encompasses a range of manufacturing industries, such as furniture (which dominates the industry), jewellery, games and toys, and sports goods. Consequently, growth patterns within the industry vary considerably but in general tend to be cyclical and dependant on the general economic situation, trading conditions and the housing market. Activity in the industry is greatly influenced by factors such as disposable income, economic performance and interest rates, and in the games and toys sub-sectors, by technological innovations. Demand for furniture has been increased by the trend towards smaller household size which boosts demand for housing, and the diffusion of ICT equipment which enables people to work at home. Over the last decade the UK has shifted from being a net exporter to a net importer of furniture, with an increase of imports from Indonesia, China and Malaysia, and more trade with eastern European countries. Many of the sub-sectors show a trade deficit. The sports goods sub-sector imports heavily from the US and China; the games and toys industry relies almost exclusively on imports from Japan and China; musical instruments has a trade deficit, but sends most of its exports to the US.
- Activity in manufacturing nes is highly cyclical. European and UK authorities are seeking ways of increasing the level of recycling but the cost to manufacturers will be huge.*
- 3.80 The EU Directives on recycling are based on the 'polluter pays' principle. The EC is paying particular attention to the motor vehicle and electronics sectors. In the motor vehicle sector, the aim is to ensure that recyclable components account for 85 per cent of the weight of new vehicles by 2015, compared with the current level of 75 per cent, in order to ensure that end-of-life vehicles can be recycled. Car plants will therefore need to create disassembly plants as well as assembly plants to dispose of moribund cars and extract reusable components. The EC would prefer to have voluntary agreements rather than bureaucratic legislation, but it is unlikely that this hope will be realised, given the estimated cost to the European car industry of £20 billion over the next 10 years or so.
- 3.81 Furthermore, the proposed Waste Electrical and Electronic Equipment Directive, approved in April 2001 but coming into force in 2006, will force electronics manufacturers to recover between 60 and 80 per cent of electronic waste. Electronic waste accounts for only about 4 per cent of total waste, but is one of the most dangerous pollutants. The Federation of the Electronics Industry has put the cost to the UK of implementing this directive at almost £1 billion between 2001 and 2006.

- 3.82 In 2000, Waste and Resources Action Plan (WRAP) was launched to reduce the volume of UK waste. WRAP is designed to remove or reduce barriers that prevent recycling in order to achieve the target announced in the waste strategy of quadrupling the recycling of household waste by 2015. The recycling business will have to double in size to a turnover of about £25 billion in order to meet standards set by EU Environmental Directives. However, confusion in the UK over EU environmental regulation aimed at reducing chlorofluorocarbons (CFCs) in the atmosphere has led to the creation of 'fridge mountains'. This has undoubtedly damaged manufacturers' confidence in the Government's handling of waste strategies and raised fears that similar problems may arise with cars and electrical equipment.
- Employment is now declining across this diverse industry, having risen during much of the 1990s. Demand for skilled trades people is expected to decline over the next few years. More than half of all vacancies in manufacturing nes and recycling are HtFVs.*
- 3.83 In contrast to most manufacturing industries, employment in manufacturing nes and recycling has increased over the past decade, although it has fallen in recent years. The current trend is towards rising demand for managers, associate professional and technical staff, professional staff, personal services and sales staff, with plant and machinery operatives and elementary workers declining in numbers.
- 3.84 Although employment now appears to be on a downward trend, the rate of decline forecast over the next five years is much slower than in some other manufacturing industries, with a return to employment growth forecast in 2006. In terms of occupational demand, the trends of the past few years are likely to be sustained, although the rate of growth in demand for managerial, professional, and associate technical and professional is likely to be slower than between 1998 and 2003. Employment of skilled trades workers, which accounts for 31 per cent of total industry employment, is expected to decline.
- 3.85 According to NESS 2003, there are currently some 4,600 vacancies in manufacturing nes and recycling, with just over one-half of these vacancies being HtFVs and just over one-quarter being SSVs. Approximately 9.5 per cent of employees are not fully proficient at their jobs.
- 3.86 Around 16.5 per cent of firms in manufacturing nes and recycling reported vacancies, with just under 9.5 per cent of firms reporting HtFVs and 4.5 per cent of firms reporting SSVs. Just over 21 per cent of firms reported skills gaps among their employees.

Table 3.11: Industry 11: Manufacturing not elsewhere specified and recycling

SIC03 headings: 36–37
 Manufacture and upholstery of furniture (incl. chairs and seats, office and shop furniture, fitted kitchens, other furniture and mattresses).
 Manufacturing nes incl.: jewellery, musical instruments, sports goods, games and toys, and miscellaneous products.
 Recycling of metal and non-metallic waste and scrap; (but excl. new products from secondary raw material, e.g. paper from pulp).

Share of GVA (%)	0.7
Employment (000)	199
Share of England (%)	0.8
Male:female	73:27
Change: 1993–2003 (% pa)	1.3
Change: 1998–2003 (% pa)	-2
Change: 2003–08 (forecast % pa)	0
Self-employment (%)	11.5
Top three occupational groups (% of total emp.)	
Skilled trades occupations	31.3
Process, plant and machine operatives	23
Managers and senior officials	13.5
Establishments reporting HtFVs (%)	9.4
Establishments reporting SSVs (%)	4.5
GVA per worker (£)	32.1
Exports: gross output (%) ¹	27.6
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 12: Electricity, gas and water

- 3.87 Across the EU, liberalisation of energy markets has opened the way for a series of domestic and cross-border takeovers, joint ventures and strategic stake-building. However, whereas the UK Government and regulators have ordered the break-up of former publicly-owned electricity groups to encourage competition, many continental governments have allowed and encouraged the development of powerful national champions capable of competing in the new, broader EU market. As a result, while the UK is the most liberalised energy market in the EU, UK companies are vulnerable to takeover by larger European companies. The number of electricity supply companies in the UK has fallen from 14 to 8 since privatisation. Five of the eight are owned by overseas utilities.
- The UK has one of the most liberalised energy supply markets in Europe. The water supply industry has made great efficiency gains since privatisation and worked towards meeting the EC's environmental requirements. Employment has fallen sharply since privatisation.*
- 3.88 The liberalisation of energy supply industries has been of widespread benefit to the UK economy; productivity in power supply has increased five-fold since privatisation in the early 1990s and lower real prices have improved the competitiveness of the rest of UK industry and commerce.
- 3.89 The water industry plays a leading role in sustaining the UK economy, especially the agricultural and domestic industries. The considerable size of the industry means that it has a multiplier effect on industries as diverse as construction, engineering, IT and telecommunications. Since privatisation in 1989, the water industry has made great efficiency gains. However, the combination of strict pricing regimes and increased environmental concerns means that companies are facing a period of unprecedented challenges with associated capital and operating costs. Industry has made progress towards greater compliance with the requirements of a range of EC directives. However, major challenges for water resources still lie ahead in the form of the EC Habitats Directive and the future implementation of the Water Framework Directive (WFD).
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- 3.90 As the electricity, gas and water industries have consolidated over the past decade, there has been a sharp fall in employment, of around 4 per cent per annum between 1993 and 2003, although the rate of decline has slowed in recent years. This average rate masks the volatile nature of employment in the industry: in 1996 employment declined by 17 per cent, but in 1997 employment grew by 3.7 per cent. By 2003, just 109,000 people were employed in electricity, gas and water in England, approximately one-third of the total in the early 1970s. Employment has been declining across all occupational groups, with the sharpest falls in skilled trades occupations, followed by machinery and plant operatives and workers in elementary occupations. However, sales and customer service representatives have increased in importance.
- 3.91 In electricity, gas and water, the decline in employment is expected to continue, although the pace of restructuring should slow following the high number of mergers and acquisitions in recent years. Employment is expected to decline across all occupational groups, with the sharpest falls in administrative and secretarial, skilled trades and elementary occupations. More modest declines are expected in managerial, professional, and associate technical and professional positions.
- 3.92 According to NESS 2003, there are currently some 2,500 vacancies in electricity, gas and water, with just 12 per cent of these vacancies being HtFVs and just 7 per cent being SSVs. Approximately 9 per cent of employees are not fully proficient at their jobs.
- 3.93 Around 28 per cent of firms in electricity, gas and water reported vacancies, the highest proportion for any industry other than public services. Approximately 6 per cent of firms reported HtFVs and 5 per cent of firms reported SSVs. Approximately one-quarter of firms reported skills gaps among their employees.

All occupational groups are expected to see a decline in employment in the future. HtFVs account for a relatively low proportion of all vacancies in electricity, gas and water.

Table 3.12: Industry 12: Electricity, gas and water

SIC03 headings: 40–41

Electricity generation, transmission, distribution and supply.
 Transportation, distribution and supply of gaseous fuels through a system of mains; manufacture of gaseous fuels with a specified calorific value; production of gas for the purposes of gas supply from coal, by-products or waste; production, collection and distribution of steam and hot water for heating, power and other purposes.

Collection, purification and distribution of water.

Share of GVA (%)	1.6
Employment (000)	109
Share of England (%)	0.4
Male:female	64:36
Change: 1993–2003 (% pa)	-4.1
Change: 1998–2003 (% pa)	-0.2
Change: 2003–08 (forecast % pa)	-2.2
Self-employment (%)	4.1
Top three occupational groups (% of total emp.)	
Administrative and secretarial occupations	21.4
Skilled trades occupations	20.3
Professional occupations	11.1
Establishments reporting HtFVs (%)	6.2
Establishments reporting SSVs (%)	4.8
GVA per worker (£)	146.1
Exports: gross output (%) ¹	0.4
Concentration	high

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 13: Construction

- 3.94 Traditionally, consolidation has not been widespread in construction, and on the whole the industry remains very fragmented, with many small players. However, mergers and acquisitions (M&A) activity has become more commonplace since the mid- to late 1990s, driven by three forces: the trend towards Public Finance Initiative (PFI) schemes and greater private sector participation in large infrastructure projects; the opening up of government work to overseas competition, as EU markets become more liberalised; and government policy designed to promote the redevelopment of brownfield land.
- 3.95 The increase in the number and the scale of PFI projects, and the high cost of expanding PFI portfolios, is promoting consolidation among contractors, and increased competition for government work should promote cross-border M&A activity. As the client base becomes more global, medium-sized regional firms are likely to lose out, or at least to be forced to specialise in work for regional clients.
- 3.96 The housebuilding sub-sector has traditionally been both economically and geographically fragmented, and knowledge of the local market was regarded as being more important than size. However, government policy aimed at regenerating brownfield sites has resulted in the emphasis on high-density flats complexes in city-centre sites, rather than on detached homes built on open fields, offering greater opportunities for economies of scale. Housebuilders also need to be able to manage large, often difficult sites, including shops, offices and restaurants, as well as homes. The sub-sector's financing requirements have also been affected by the shift in policy. Typically, housebuilders sell the first few homes in a development to finance construction of later houses. In contrast, a flats complex must be completed in its entirety before the first owners move in. This means that more capital is tied up during construction, so that the sub-sector is becoming dominated by fewer, larger companies with greater financial resources.

Consolidation is becoming more widespread in the traditionally fragmented construction industry. Skills shortages are endemic in the labour-intensive construction industry.

- 3.97 The construction industry is highly labour-intensive. Consequently, the potential for rapid technological change to transform the industry through process innovation (improved building techniques) and product innovation (higher quality buildings) is limited, although the use of pre-fabricated units on site has enabled the industry to make some improvements in productivity. Construction activity is particularly sensitive to the economic cycle, and tends to suffer higher peaks and lower troughs because of the volatility of investment spending, which in turn is fed by speculative activity in property markets. The large fluctuations in activity typically mean that in times when output is rising, skills shortages have built up quickly. However, the traditional 'boom–bust' cycle has meant that a fall in activity tends to follow shortly afterwards, which has resulted in an equally sharp decline in skills demand. Consequently, the duration of skills shortages has typically been temporary.
- 3.98 However, the long-term consequence of volatility in construction output has been that firms have been reluctant to invest sufficiently in training, and that the number of new workers, particularly those aged under 25, who perceive the industry as one which offers sustained, long-term career prospects has declined. This is reflected in a decline in participation in construction-related higher education. Current government policy aimed at encouraging more pupils to continue into sixth form education has tended to increase participation in non-industry-related higher education. Furthermore, since the recession of the early 1990s, output in the economy as a whole, and also in construction, has been much more stable, and many employers are now finding that skills shortages are becoming increasingly problematic.
- 3.99 Recruitment difficulties are also resulting in an ageing workforce, and this is exacerbating the problem of meeting replacement demand for those retiring. If shortages among these occupations are to be addressed, it is essential that the decline in participation in higher education construction-related courses is reversed, that companies boost the provision of training for the existing workforce and that the industry takes steps to address its image problem.
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- 3.100 The occupational composition of the workforce in construction is distinctive from most other industries, in that a high proportion (approximately 47 per cent) of the workforce is made up of skilled trades people with well-developed manual skills, compared with around 10 per cent in the economy as a whole. Consequently, employment tends to be proportionately less concentrated in managerial and professional occupations (12 per cent), although the numbers employed in these occupations is still large in absolute terms and has risen sharply over the past decade. Over the past five years, employment growth in construction has outstripped that of the economy as a whole, and employment has grown in each occupational group, notably in sales and customer service jobs and in associate technical and professional positions.
- 3.101 Overall employment in construction is still expected to decline slightly between 2003 and 2008, as industry demand is more subdued. Demand for skilled trades people, administrative and secretarial staff, and workers in elementary professions is expected to decline, but employment is expected to increase in all other occupational groups. The strongest growth in demand is expected to be for associate technical and professional and sales and customer services staff.
- 3.102 According to NESS 2003, there are more than 35,000 vacancies in construction, with 59 per cent of these vacancies being HtFVs and 38 per cent being SSVs. Approximately 9 per cent of employees are not fully proficient at their jobs.
- 3.103 Perhaps surprisingly, given the rate at which output is currently growing in construction, just 13 per cent of firms reported vacancies, among the lowest proportions of any industry, with 7 per cent of firms reporting HtFVs and 5 per cent of firms reporting SSVs. Just under 18 per cent of firms reported skills gaps among their employees, the third-lowest proportion of any industry.
- Skilled trades people are very important in construction. But employment is expected to decline in skilled trades workers. Nearly 60 per cent of all vacancies in construction are HtFVs.*

Table 3.13: Industry 13: Construction

SIC03 headings: 45
 General construction work incl.: site preparation and demolition; building of complete constructions or parts thereof and civil engineering (including all types of buildings, bridges, tunnels, pipelines, roads, airfields, sports facilities, water projects etc.); installation and completion (including wiring, insulation, plumbing, plastering, painting and glazing).

Share of GVA (%)	5.6
Employment (000)	1572
Share of England (%)	6.3
Male:female	90:10
Change: 1993–2003 (% pa)	0.8
Change: 1998–2003 (% pa)	1
Change: 2003–08 (forecast % pa)	-0.3
Self-employment (%)	41
Top three occupational groups (% of total emp.)	
Skilled trades occupations	46.5
Elementary occupations	12.6
Managers and senior officials	12.3
Establishments reporting HtFVs (%)	7.2
Establishments reporting SSVs (%)	5.0
GVA per worker (£)	35.5
Exports: gross output (%) ¹	0.2
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 14: Sale and maintenance of motor vehicles

- 3.104 Since the early 1980s, the motor trade has been allowed a block exemption from EU competition laws, because it was claimed that consumers would not benefit from normal competition in the new car market. One reason advanced was that quality control is of paramount importance, and could only be guaranteed if manufacturers retained tight control over the actions of dealers and servicers. However, in recent years there has been considerable concern over the large price differentials for new cars across the EU and the efforts of manufacturers to maintain these differentials.
- 3.105 It had been thought that the block exemption would either be allowed to expire at the end of September 2002 or renewed only with substantial modification. However, in the event little was changed in the new arrangements and so manufacturers will still largely control which dealers sell their cars, limiting price competition. It is difficult to tell at this early stage what effect these changes will have on the structure of the car market. Certainly, it is now much less likely that supermarkets will start selling cars or that large dealerships will emerge in the near future. Therefore, manufacturers are unlikely to be threatened much by an increase in retailers' purchasing power. It is also uncertain whether the new arrangements will result in downward harmonisation of prices across EU borders. Indeed, it is possible that prices will rise. It appears that prices will be affected more by inter-brand competition than by competition in distribution; this, of course, is unaffected by most of the changes to the block exemption.
- 3.106 The sale and maintenance of motor vehicles industry employs approximately 562,000 workers in England, and they are predominantly male. Employment has declined by around 0.7 per cent per annum over the past decade. Around 25 per cent of the workforce is made up of salespersons, with managers and senior officials accounting for 22 per cent of employment, with skilled trades operatives, such as mechanics and vehicle body repairers making up 15 per cent. However, over the past decade there has been a sharp decline in demand for managers and skilled tradespersons, as sales staff and personal services staff have increased in importance.
- Modest changes to the block exemption mean that the motor trade is unlikely to change much as a result. Sales staff account for around 25 per cent of industry employment. Professional and customer service occupations are expected to increase in importance in the next few years.*

- 3.107 Employment in sale and maintenance of motor vehicles is now rising again and is expected to continue to rise during the next five years. By far the strongest growth in demand is expected for personal service occupations, with professional, associate technical and professional, and sales and customer services staff also likely to grow in importance. Demand for skilled trades occupations is expected to decline, however.
- 3.108 According to NESS 2003, there are currently some 15,400 vacancies in sale and maintenance of motor vehicles, with more than one-half of these vacancies being HtFVs and 31 per cent being SSVs. Approximately 10 per cent of employees are not fully proficient at their jobs.
- 3.109 Around 15.5 per cent of firms in sale and maintenance of motor vehicles reported vacancies, with approximately 9.5 per cent of firms reporting HtFVs and 6 per cent of firms reporting SSVs. Some 24 per cent of firms reported skills gaps among their employees.

More than half of all vacancies in sale and maintenance of motor vehicles are HtFVs.

Table 3.14: Industry 14: Sale and maintenance of motor vehicles

SIC03 headings: 50
 Sale, maintenance and repair of motor vehicles and motorcycles (but excluding renting, classified to Industry 21, Professional services); retail sale of automotive fuel.

Share of GVA (%)	2.1
Employment (000)	562
Share of England (%)	2.3
Male:female	73:27
Change: 1993–2003 (% pa)	-0.7
Change: 1998–2003 (% pa)	-0.1
Change: 2003–08 (forecast % pa)	0.6
Self-employment (%)	11.4
Top three occupational groups (% of total emp.)	
Sales and customer service occupations	24.6
Managers and senior officials	22.1
Skilled trades occupations	14.5
Establishments reporting HtFVs (%)	9.6
Establishments reporting SSVs(%)	5.9
GVA per worker (£)	36.6
Exports: gross output (%) ¹	0.3
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 15: Wholesale distribution

3.110 Wholesale distribution (or merchant wholesaling) consists of the sale of products to retailers or to professional users. Production techniques and the logistical capacities and scale of distribution networks have, for hundreds of years, made the division of distribution into wholesaling and retailing generally the most efficient means of taking goods from producer to consumer.

3.111 Since the mid-1990s much has occurred to change the nature of the distribution industry and to blur the lines between wholesale distribution and retail distribution. Vertical integration is increasing, and many companies such as grocery supermarkets, department stores and fashion houses now control both their own distribution networks and the retail outlets. For the most part, this blurring of the division has been caused by retailers bringing their distribution in-house. However, modern technology also allows retailers to bypass wholesalers and to buy directly from producers. Many producers are now able to sell their produce directly through the Internet, and Internet distributors, who buy in bulk like traditional wholesalers, are able to communicate with consumers without the need for intermediaries.

3.112 Wholesale distribution employs more than 1.1 million workers, and accounts for 4.6 per cent of total employment in England. Approximately 71 per cent of the workforce is male, and around 25 per cent of total employment is made up of sales and customer service staff, managers and senior officials, and skilled trades workers. Employment has increased over the past decade, although in recent years the trend in employment has been downwards. The net effect is that over the past decade, employment has increased in all occupational groups apart from administrative and secretarial and elementary occupations. Employment growth has been strongest among professionals and sales workers, while employment of skilled trades workers declined.

3.113 Employment is expected to begin to rise once again over the next few years, although the increase will be slight. The picture by occupational group is mixed: declines are expected among administrative and secretarial staff; skilled trades people; machinery and plant operatives; and elementary workers. On the other hand, strong growth in demand is forecast among professional, associate technical and professional, and personal sales occupations.

The structure of the traditional distribution sub-sectors has changed in recent years.

Sales and customer service staff are the most important occupational group in wholesale distribution.

Professional and personal services staff are likely to grow in importance.

- 3.114 According to NESS 2003, there are currently some 21,000 vacancies in wholesale distribution, with just over one-third of these vacancies being HtFVs and 17 per cent being SSVs. Approximately 10 per cent of employees are not fully proficient at their jobs.
- 3.115 Around 11.3 per cent of firms in wholesale distribution reported vacancies, a much lower proportion than in most other industries, with 4.3 per cent of firms reporting HtFVs and 2.5 per cent of firms reporting SSVs. About 19 per cent of firms reported skills gaps among their employees.

A much lower proportion of firms in wholesale distribution reported vacancies than in most other industries.

Table 3.15: Industry 15: Wholesale distribution

SIC03 headings: 51
Wholesale and commission trade of new and used goods to retailers, industrial, commercial, institutional or professional users; acting as agents; usual manipulations such as assembling, sorting and grading of goods.

Share of GVA (%)	4.4
Employment (000)	1,142
Share of England (%)	4.6
Male:female	71:29
Change: 1993–2003 (% pa)	1.4
Change: 1998–2003 (% pa)	-0.1
Change: 2003–08 (forecast % pa)	0.3
Self-employment (%)	11.4
Top three occupational groups (% of total emp.)	
Sales and customer service occupations	24.9
Managers and senior officials	22
Skilled trades occupations	13.9
Establishments reporting HtFVs (%)	4.3
Establishments reporting SSVs (%)	2.5
GVA per worker (£)	37.5
Exports: gross output (%) ¹	0.9
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 16: Retail distribution

3.116 High-street retailing is in the grip of a price war owing to three main causes. A major factor has been greater awareness of price differences among consumers, leading to (and reinforced by) the greater importance of price in marketing campaigns. Consumers are becoming more knowledgeable about the range of goods that is on offer and are therefore both benefiting from and fuelling fierce rivalry among retailers for their custom. Two good examples of this are food retailing and clothes retailing. Supermarkets compete daily on the price of basic household goods, and clothes shops compete fiercely in the sales periods, while consumers, aware of this competition through the advertising that surrounds it, have become increasingly discerning with respect to price. The Internet provides a further boost to price competition; it is now easier than ever before to compare shop prices. E-tailers have noted, with anxiety, that the habit of comparing prices on competing websites then buying the cheapest is now well established among shoppers on the Internet.

3.117 Secondly, retail capacity continues to increase. In the UK, there is 7 per cent more retail floor space now than in 1998. Thirdly, consumers are spending a smaller proportion of their income on retail goods, as increasing wealth allows them to spend a greater proportion on other services. In 1970 in the UK, retail sales accounted for a half of household expenditure, yet in 2000, retail sales accounted for little more than a third. Retailers can protect themselves from this competition by specialising in certain brands. Sports clothing retailing, for example, is centred upon a few well-known brands which do not compete heavily on price. This is, however, an exception to the general trend for high-street retailers.

Capacity in retail distribution has been rising, while price battles rage on the high street.

The most important single factor for change in retailing is the rise of e-commerce.

- 3.118 At present, only about 1 per cent of all commercial transactions are carried out online. However, Internet selling has already revolutionised some industries such as air transport, and e-commerce has the potential both to claim a high market share of all commerce and to alter drastically the retailing and distribution industries. As with air transport, e-commerce could allow producers to communicate directly with consumers or, as in the case of well known Internet brands such as Amazon.com, distribution could be enacted purely through the wholesaler's network, bypassing completely the retailer's shop. However, e-commerce is perhaps being used most effectively at present by so-called 'clicks-and-mortar' retailers: retailers who use the Internet as an alternative medium for sales, and thus improve overall efficiency of their business. Retailers are now able, for example, not to stock less popular but important products on the shop floor, but instead make them available to consumers through their websites.
- 3.119 The year 2002 was something of a watershed for e-tailers. After the bursting of the dot-com bubble many Internet companies have been forced to concentrate more on profitability rather than other measures of success such as market share or growth in turnover. In general, despite the fact that most Internet businesses are still making losses, the immediate future for e-tailing looks promising. Retailers hope that the roll-out of broadband telecommunications services will reinvigorate sales growth. Broadband will improve speed of connection and thus ease of access to sites, and will offer greater potential for advanced marketing techniques such as 3D imaging. Despite the increasing emphasis on e-tailing, it is important to recognise the enduring role of location in retailing and the impacts that various formats can have on a regional or local labour market. For instance, there are currently regeneration activities in almost every town centre not seen since the Victorian era. Retail is often, if not always, a leading sector in this activity. Retail trades in a number of different types of locations, from out-of-town centres, in town centres, high-street shops, urban and rural. The impact will be different depending on the format.

3.120 Retail distribution is one of the largest industries in England, employing more than 2.5 million workers, and more than two-thirds of the workforce is female. The industry accounts for 10.4 per cent of employment in England. In fact, retailing is an important source of output and employment in each region of England, although employment in a particular region tends to be determined by the size of the population and GDP per head (retailing employment is highest in London and the South East). Possibly because retailing employment is not concentrated in a particular region or locality, it is seldom acknowledged as being a key employer. For example, Tesco is the UK's second-largest employer after the NHS. Whilst larger retailers have undoubtedly established themselves as the dominant players, there are nevertheless an important range of consumer trends including shoppers seeking authenticity, specialisation and greater levels of personal service, which indicate that the UK will continue to support a vibrant independent retail sector. Small retailers currently comprise around 150,000 sole traders and there are an almost equal number of SMEs.

- 3.121 Not surprisingly, by far the highest share of employment (36 per cent) is in sales and customer service occupations, and compared with all other industries retail distribution has the highest percentage of employment in this occupational group. Over the past decade, employment has increased by 1.4 per cent per annum on average, as strong growth in consumer spending has been reflected in increased demand for labour in this labour-intensive industry. Employment growth has been even stronger in recent years, as growth in consumer spending has led growth in the overall economy. The strongest growth in employment has been in professional, associate professional and technical staff (such as buyers and purchasing officers, and sales representatives), and personal service occupations. Perhaps surprisingly, demand for sales and customer services staff has grown at a more modest rate.
- Sales and customer service staff dominate employment in retailing. More modest growth in employment is expected in coming years. Retail distribution is characterised by a high number of vacancies.*
- 3.122 As employment growth in the wider economy increases, consumer spending is also forecast to increase, although at a more modest pace than in recent years. Over the period 2003 to 2008 employment is expected to grow by approximately 1 per cent per annum. The occupational groups that have shown the strongest growth in employment during the past decade are expected to continue to do so in the next five years, while employment declines among administrative and secretarial and elementary occupations.
- 3.123 According to NESS 2003, there are currently some 73,000 vacancies in retail distribution, with one-third of these vacancies being HtFVs and 13 per cent being SSVs. Approximately 12.5 per cent of employees are not fully proficient at their jobs.
- 3.124 Around 16.5 per cent of firms in other retail distribution reported vacancies, with just over 6.5 per cent of firms reporting HtFVs and just under 3 per cent of firms reporting SSVs. Just under 26 per cent of firms reported skills gaps among their employees.

Table 3.16: Industry 16: Retail distribution

SIC03 headings: 52
Retail of new and used goods to the general public for personal or household consumption or utilisation, by shops, department stores, stalls, mail-order houses, consumer co-operatives etc.; retail sale by commission agents; repair and installation of personal or household goods.

Share of GVA (%)	5.3
Employment (000)	2,580
Share of England (%)	10.4
Male:female	37:63
Change: 1993–2003 (% pa)	1.4
Change: 1998–2003 (% pa)	1.3
Change: 2003–08 (forecast % pa)	0.9
Self-employment (%)	8.2
Top three occupational groups (% of total emp.)	
Sales and customer service occupations	36.4
Managers and senior officials	16.7
Administrative and secretarial occupations	10.6
Establishments reporting HtFVs (%)	6.6
Establishments reporting SSVs (%)	2.9
GVA per worker (£)	20.3
Exports: gross output (%) ¹	0
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 17: Hotels and catering

3.125 Hotels and catering has enjoyed strong growth in output over the past decade, although the huge dependence of the industry on tourism leaves it vulnerable to seasonal trends, fashion and currency movements. Furthermore, unexpected crises in other parts of the economy can affect prospects in hotels and catering, as seen during the foot-and-mouth epidemic in the UK and after the terrorist attack on the US. Both led to severe reductions in tourist numbers throughout the country and did great harm to the business of hotels and restaurants. Business tourism tends to be less seasonal than leisure tourism, and this has implications for labour demand.

3.126 The industry has also been influenced by the growing use of the Internet for booking hotels. Hoteliers are consequently increasingly conscious of the need to pool resources such as centralised reservation systems, grouped marketing and quality-enhancement initiatives in order to compete effectively with the large US companies. The development of Internet software has resulted in strong demand for those with the required skills to develop and maintain the software, such as associate professional and technical workers.

3.127 Hotels and catering is vulnerable to changing consumer demand. Restaurants and fast-food businesses, especially, face falls in fast food sales and increasing demand for healthier food options such as salads and sandwiches. There has also been the development of the preference for drinking in restaurants or at home instead of going to pubs and bars, especially as beer is becoming less appealing in competition with wine. Moreover, pub operators are facing rising costs as a result of an increasing amount of legislation and regulation. They are under pressure to take responsibility for alcohol-related problems such as binge drinking.

Growth in hotels and catering is hugely dependent on sustained increases in tourism. The sector is vulnerable to changing consumer demand. Employment is increasing across all occupation groups, except elementary workers.

- 3.128 Hotels and catering employs approximately 1.5 million people, and accounts for 6 per cent of employment in England. Between 1993 and 2003 employment grew by nearly 2 per cent per annum. The low-skilled make-up of the workforce is illustrated by the fact that nearly 34 per cent of employees work in elementary occupations such as hotel porters, waiters and waitresses, kitchen and catering assistants, and bar staff. On the other hand, managers and senior officials account for around 30 per cent of the workforce, illustrating the diverse skill requirements of the industry. Over the past decade, demand has risen for workers in all occupational groups, except elementary workers, indicating that the level of skills required may now be rising for most job types. The strongest increases have been among associate technical and professional, professional and managerial workers.
- 3.129 Robust growth in demand is expected for workers with the following skills: professional, associate technical and professional, personal service and sales. The number of elementary workers is expected to continue to decline, and falls in the number of managers are also expected, possibly due to consolidation in the industry. Employment in hotels and catering is expected to decline slightly over the period 2003 to 2008, as the industry adjusts to the difficulties faced during 2002 to 2003 in the wake of the sharp fall in demand for international travel in the aftermath of September 11 and in the build-up to war in Iraq.
- 3.130 According to NESS 2003, there are currently some 80,000 vacancies in hotels and catering, with 42 per cent of these vacancies being HtFVs and 13 per cent being SSVs. Approximately 14 per cent of employees are not fully proficient at their jobs, the third-highest proportion of any of the 27 industries examined.
- 3.131 More than one-quarter of firms in hotels and catering reported vacancies, the fifth-highest proportion of any of the 27 industries examined. Around 12.5 per cent of firms reported HtFVs, the second-highest figure for any English industry; and 5 per cent of firms reported SSVs. Over 30 per cent of firms reported skills gaps among their employees, the third-highest reported figure.

Some occupations are likely to see falls in demand.

Some 14 per cent of employees are not fully proficient at their jobs, the third-highest proportion of any industry.

Table 3.17: Industry 17: Hotels and catering

SIC03 headings: 55

Hotels: licensed/unlicensed hotels, motels and guest houses, other tourist or short-stay accommodation (incl. camping and caravan sites, holiday camps and conference centres).

Catering: licensed and unlicensed eating places, including takeaways; public houses and bars; night clubs, including residential clubs; canteens; contract catering for airlines, corporate hospitality, weddings etc.

Share of GVA (%)	3.1
Employment (000)	1,567
Share of England (%)	6.3
Male:female	41:59
Change: 1993–2003 (% pa)	1.9
Change: 1998–2003 (% pa)	1.9
Change: 2003–08 (forecast % pa)	-0.3
Self-employment (%)	6.5
Top three occupational groups (% of total emp.)	
Elementary occupations	33.7
Managers and senior officials	30.2
Skilled trades occupations	11.2
Establishments reporting HtFVs (%)	12.4
Establishments reporting SSVs (%)	5.0
GVA per worker (£)	20
Exports: gross output (%) ¹	9
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Industry 18: Transport

- 3.132 Travel by road accounted for about 93 per cent of the total passenger-kilometres travelled in the UK by all modes of public and private transport in 2003, a figure that has remained constant in most years since 1981. Travel by car, van or taxi is the dominant method, accounting for 85 per cent of total passenger-kilometres in 2003. Motor cycles and pedal cycles each account for 1 per cent of passenger-kilometres and buses (including coaches) for 6 per cent.
- 3.133 Only in London is the private car displaced by public transport as the main mode among commuters. Some 15 per cent of commuters to London used the Underground or light rail as their main commuting mode in autumn 2003, and 13 per cent used buses or coaches. When these figures are added to the 17 per cent for whom national rail is the main commuting mode, the total of 45 per cent exceeds the 42 per cent for private car travel. Moreover, the congestion charge, introduced in February 2003, is helping to hold back car travel, and is likely to be extended.
- 3.134 Road freight accounts for about 65 per cent of the tonne-kilometres of goods moved and 80 per cent by weight of all goods lifted in the UK. The corresponding percentages for freight transported via pipelines are 5 per cent and 8 per cent.
- 3.135 Since the mid-1990s the national rail network and urban light-rail systems (including trams and the London Underground) have together more or less kept pace with buses in holding a constant share (6 per cent) of passenger-kilometres in the UK. The rise in passenger numbers on national rail since privatisation has been similar. While rail passenger numbers have risen sharply since privatisation (a rise of more than 32 per cent in passenger-kilometres between 1995/96 and 2002/03), the regional rates of increase have differed in line with intensity of usage. The steepest rise, 46 per cent in passenger-kilometres, occurred in London and the South East, followed by a rise of nearly 38 per cent in short-distance, regional networks, but only 26 per cent in long-distance traffic.

Road transport predominates in the carriage of passengers and freight in the UK. Passenger numbers on railways have risen since privatisation. International freight and passenger transport is the predominant sub-sector in UK water transport.

- 3.136 The UK's involvement in water transport lies primarily in international freight (including oil tankers), passenger cruises and international ferries. One group dominates the UK's representation in international shipping: P&O, a conglomerate with interests in shipping, logistics and ports. P&O Cruises gives the UK a substantial presence on the international cruise market. The Anglo-Dutch P&O Nedlloyd is the principal UK company engaged in water-borne freight. As a freight mode, water accounts for 24 per cent of the tonne-kilometres of all freight moved and 7 per cent by weight of all goods lifted within the UK.
- 3.137 Some 70 per cent of total EU trade with the rest of the world and 40 per cent of EU domestic trade is carried by sea. The UK has the highest number of ports (49) and the largest single share of maritime freight transport (taking domestic and international freight together) in the EU (18 per cent). In the domestic transport system, water is much more important for freight than for passenger traffic, accounting for 24 per cent of the tonne-kilometres of all freight moved and 7 per cent by weight of all goods lifted within the UK. More than 70 per cent of domestic waterborne freight is bulk fuel. About 97 per cent of all the UK's domestic waterborne freight is transported by sea (from port to port or between ports and offshore installations); the remainder is transported mainly by rivers carrying maritime traffic to and from ports.
- 3.138 September 11 had a devastating impact on air transport, which had already seen a reduction in growth in 2001 because of the effects of the foot-and-mouth epidemic and the US slowdown on the numbers of overseas visitors. The major impact of September 11 was felt in the airports in London and the South East, particularly Gatwick and Heathrow, because of their concentration on transatlantic flights. Gatwick's problems became worse as a result of BA's decision to release more than 200 weekly take-off and landing slots, as it transferred several long-haul flights to Heathrow and withdrew several short-haul European flights in the face of competition from low-cost airlines. Airlines have attempted to cope with the drop in demand for long-distance travel by cutting capacity, grounding aircraft and eliminating services or reducing their frequency. Major airlines such as BA, Virgin and British Midland International have shed thousands of jobs.

Large airline carriers based in London and the South East are struggling to cope with the aftermath of September 11. Budget airlines have continued to enjoy strong growth in demand.

- 3.139 Since 2000 passenger numbers on budget airlines have increased sharply, and takeovers have led to considerable consolidation. Airports in southern England, namely Stansted and Luton, still dominate the sub-sector; but in 2003 there has been a sharp increase in the numbers of seats offered at regional airports. Broadly speaking, two approaches to attracting passengers characterise the sub-sector: one (typified by Ryanair) aimed at those who might fly almost on impulse because of very low prices and special offers; the other designed for those who are going to fly in any case, but are seeking lower prices. The range of travellers thus includes holiday makers, impulse flyers and business travellers. Numbers of travellers have increased sharply, and airlines that offered a total of fewer than 100,000 seats per week in the summer of 1995 offered 1.5 million in summer 2003.
- 3.140 Activity in ancillary transport services is centred on airports and seaports, and is very dependent on growth in other transport industries, especially air and maritime transport. This industry is also very sensitive to household spending patterns, directly through demand for services related to travel, and indirectly through demand for international travel and tourism. The logistics of its activities are also dependent on world trade. Its prospects, therefore, are closely linked to the duration of the current slowdown. However, passenger numbers have continued to grow relatively strongly at airports that are much less dependent on transatlantic traffic than Gatwick and Heathrow.
- 3.141 The deregulation of air transport during the 1990s has resulted in increased competition on international and domestic routes. The entry of smaller, budget airlines into the market has put downward pressure on air fares and has resulted in the opening of many new (especially trans-European) routes. The continued growth in the number of passengers on scheduled budget flights, albeit at a more moderate pace than previous years, has enabled airports serving low-cost carriers to continue to make gains in passenger numbers.
- 3.142 Ports activity, both in passengers and freight traffic, is currently restricted by the economic slowdown, but over the long term it has been more profitable than freight shipping. P&O, for example, is re-orienting its operations towards ports.

Since the late 1990s, ancillary transport services have benefited from growth in budget airline traffic at regional airports. Sales and customer service is becoming more important.

- 3.143 The transport industry (road, rail, sea, air and other transport services) employs around 1 million people in the UK. Around 50 per cent of the workforce is employed in non-rail land transport, 33 per cent in supporting and auxiliary transport activities (such as cargo handling, operation of terminal facilities, airports, piers, etc.) and the activities of travel agencies. Water transport is the smallest part of the transport industry. The top three occupational groups are process, plant and machine operatives (28 per cent), which includes most transport drivers, seafarers, air transport operatives and other transport operatives; administrative and secretarial occupations (16 per cent); and elementary occupations (15 per cent). During the past decade, however, by far the strongest growth in employment has been among sales and customer service staff, personal services staff, and managers and senior officials. Demand for skilled trades staff is declining.

- 3.144 The trends in skills demand of the past decade are expected to continue, although overall employment growth is expected to slow to around 0.4 per cent per annum. The only occupational group for which demand is expected to accelerate during the next five years is associate technical and professional workers.
- 3.145 According to NESS 2003, there are currently some 28,500 vacancies in transport, with just under one-half (47 per cent) of these vacancies being HtFVs and around one-quarter being SSVs. Approximately 10.5 per cent of employees are not fully proficient at their jobs.
- 3.146 Around 17 per cent of firms in transport reported vacancies, with just under 9 per cent of firms reporting HtFVs and just under 5 per cent of firms reporting SSVs. Approximately one-fifth of firms reported skills gaps among their employees.

The employment trends of the past decade are likely to continue. Just under half of all vacancies in transport are HtFVs.

Table 3.18: Industry 18: Transport

SIC03 headings: 60–63
 Passenger and freight transport by inter-city and interurban railways.
 Scheduled passenger land transport, including inter-city coach services, urban and suburban transport by bus, tramway, underground or elevated railways etc.; taxis and other non-scheduled passenger transport such as charters and excursions.
 Freight transport by road; transport via pipelines (excluding natural gas, water or steam).
 Sea, coastal water and inland water transport of passengers and freight.
 Transport of passengers or freight by air or via space, including scheduled and non-scheduled (for example charter) services.
 Supporting and auxiliary transport activities, incl.: cargo handling: storage and warehousing; operation of terminal facilities such as railway stations, bus stations, parking lots or garages, harbours and piers, navigation, pilotage and berthing, airports and air traffic control.
 Activities of travel agencies and tour operators, and other transport agencies such as freight forwarding, customs agents.

Share of GVA (%)	4.6
Employment (000)	1,082
Share of England (%)	4.4
Male:female	72:28
Change: 1993–2003 (% pa)	1.2
Change: 1998–2003 (% pa)	1.7
Change: 2003–08 (forecast % pa)	0.4
Self-employment (%)	17.8
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	27.8
Administrative and secretarial occupations	16
Elementary occupations	14.9
Establishments reporting HtFVs (%)	8.7
Establishments reporting SSVs (%)	4.8
GVA per worker (£)	41.2
Exports: gross output (%) ¹	10.1
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 19: Communications

- 3.147 Communications has been one of the fastest growing industries since the early 1990s. Since the late 1990s, growth has accelerated, driven by several forces in telecommunications. First came the liberalisation of fixed-line telecommunications networks. During the 1990s the increase in Internet penetration and demand for online services resulted in rapid growth in the volume of data being transmitted and in the development of new telecommunications services. Finally, the rapid take-up of mobile telephony during the late 1990s, helped by the connectable market created by the single Global System for Mobile communication (GSM) technical standard and the popularity of pre-pay phones, resulted in a surge in demand for mobile telecommunications services. However, the boost to demand from the last drivers is now much weaker, as the initial phase of rapid penetration of both the Internet and mobile telephony has passed. Growth in new mobile phone subscribers fell sharply during 2001 and 2002, as penetration reached saturation point, but third-generation technology is set to revive mobile telephony.
- 3.148 The 1997 Postal Services Directive aimed for full liberalisation of the EU postal market by 2003. However, the introduction of full competition has been delayed following objections from several EU member states, including France and the UK. Under the most recent agreement, the market for letters weighing more than 100g was liberalised in 2003. Furthermore, firms sending out mailings of 4,000-plus items can now use a private deliverer. Some 30 per cent of the overall bulk mail market (by value) is now open to competition; and further liberalisation means that by 2006, 25 per cent of the letters market (by volume) will have been opened up to competition.
- 3.149 Communications employs around 469,000 workers in postal (including courier) and telecommunications activities. Around 46 per cent of workers are employed in the telecommunications sub-sector, with the remainder in postal and courier activities. Administrative and secretarial occupations, and process, plant and machine operatives (mainly mail sorters in the postal sub-sector) are the two most important occupational groups, each accounting for around 20 to 21 per cent of the workforce. Over the past decade, demand for personal service and sales workers has been the strongest, while demand for skilled trade workers has fallen.
- Some of the main drivers of growth in communications are now less powerful. Postal services are being restructured as competition is opened up in the UK letters market. Demand for most types of workers has risen over the past decade.*

- 3.150 Communications is expected to continue to be one of the fastest-growing industries in the UK in output terms, driven by further technological and regulatory developments. However, because much of the growth in output is driven by developments in technology, employment is forecast to show little or no growth. Between 2003 and 2008 employment growth in communications is expected to be 0.2 per cent per annum. Employment of skilled trades workers is expected to decline by 3 per cent per annum. Robust growth in demand is expected for managers, associate technical and professional and sales staff.
- 3.151 According to NESS 2003, there are currently some 9,500 vacancies in communications, with 27 per cent of these vacancies being HtFVs and just 16 per cent being SSVs. Approximately 14.5 per cent of employees are not fully proficient at their jobs, the highest proportion of any of the 27 industries examined.
- 3.152 Around 15 per cent of firms in communications reported vacancies, with 6 per cent of firms reporting HtFVs and 3 per cent of firms reporting SSVs. Around 23 per cent of firms reported skills gaps among their employees.

Skills needs in telecommunications will be driven by the roll-out of new technologies. A higher proportion of employees in communications are not fully proficient at their jobs than in any other industry.

Table 3.19: Industry 19: Communications

SIC03 headings: 64

National post and courier activities, including collection, distribution and delivery of national and international mail and parcels.

Telecommunications, including the transmission of sound, images, data or other information via cables, broadcasting, relay or satellite; this includes maintenance of the network and transmission of radio and television programmes.

Share of GVA (%)	3
Employment (000)	469
Share of England (%)	1.9
Male:female	72:28
Change: 1993–2003 (% pa)	1.9
Change: 1998–2003 (% pa)	2.6
Change: 2003–08 (forecast % pa)	0.2
Self-employment (%)	1.9
Top three occupational groups (% of total emp.)	
Administrative and secretarial occupations	21.1
Process, plant and machine operatives	20.3
Skilled trades occupations	18.1
Establishments reporting HtFVs (%)	6.1
Establishments reporting SSVs (%)	3.2
GVA per worker (£)	61.3
Exports: gross output (%) ¹	5.2
Concentration	high

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 20: Banking and insurance

3.153 The banking industry has gone through a wave of integration and consolidation since the early 1990s, triggered by deregulation of financial activities introduced by European governments. Technological developments are also important drivers. Internet banking has often been identified as a potential source of expansion as it offers a cheap distribution channel for financial products because there is no need for an expensive branch network presence. However, while an Internet bank is apparently a cheap distribution channel for financial products, many existing experiments in online banking, insurance and brokerage have not fulfilled the initial optimistic expectations, as users are proving unwilling to give up the ability to carry out transactions face-to-face in a branch network. This means that traditional banks providing Internet services have not been able to cut costs by as much as they had initially hoped by reducing their branch networks.

The banking industry has gone through a wave of integration and consolidation since the early 1990s.

The insurance industry is now subject to greater regulatory scrutiny.

Employment in banking and insurance is concentrated in non-manual jobs that are either intermediate or high-status jobs.

3.154 A run of problems during 2001 and 2002 prompted the Financial Services Authority (FSA) to increase resources available for monitoring the insurance industry. These extra costs, and the higher standards that will be expected in the future, are likely to accelerate the restructuring of the industry because they give an incentive to the weakest players to search for partners in defensive mergers.

3.155 Banking and insurance (encompassing banks, building societies and insurance, financial intermediation) is one of England's most important industries in terms of its global position. Despite this, employment has declined every year since 2000, most rapidly in 2003 by 3 per cent. As a result employment grew only marginally between 1993 and 2003. The industry employs 985,000 people (banking and finance accounting for the vast majority (70 per cent) of employment). This represents around 4 per cent of the total workforce in England, and 5.4 per cent of GVA. Employment in banking and insurance is concentrated in non-manual jobs that are either intermediate or high-status jobs, or administrative and secretarial workers, who make up 44 per cent of employees. Around 45 per cent of the workforce is concentrated in London, reflecting the capital's importance as a financial centre, the number of head offices of global financial institutions and its large pool of skilled workers. The strongest growth in employment over the past decade has been among professionals and sales and customer services staff.

- 3.156 Output growth in banking and insurance is expected to outstrip the rate of growth for the overall economy during the next five years. However, even though much post-acquisition rationalisation in the industry is complete and few large mergers expected, only modest employment growth of around 0.5 per cent per annum is expected between 2003 and 2008, with a further decline in secretarial and administrative jobs and in personal services jobs. Demand for highly-skilled managerial staff is expected to continue to grow at a much faster rate than employment overall in the industry.
- 3.157 According to NESS 2003, there are currently just under 25,000 vacancies in banking and insurance, with one-fifth of these vacancies being HtFVs and just one-tenth being SSVs. Approximately 12.5 per cent of employees are not fully proficient at their jobs.
- 3.158 Around 19 per cent of firms in banking and insurance reported vacancies, with 6 per cent of firms reporting HtFVs and 4 per cent of firms reporting SSVs. Some 27 per cent of firms reported skills gaps among their employees.
- Rising overall employment over the next five years will be accompanied by further falls in secretarial and administrative positions. A relatively low number of vacancies in banking and insurance are HtFVs.*

Table 3.20: Industry 20: Banking and insurance

SIC03 headings: 65–67
 Financial intermediation, other than for insurance and pension funding, including: central banking, banks, building societies, financial leasing, factoring, mortgage finance, investment and unit trusts, venture capital and financial intermediation nes.
 Insurance, including friendly societies, benevolent funds and Lloyd's underwriters, covering life insurance, pensions and non-life insurance.
 Activities auxiliary to financial intermediation, including administration of financial markets, broking of securities, insurance agents and brokers.

Share of GVA (%)	5.4
Employment (000)	985
Share of England (%)	4
Male:female	49:51
Change: 1993–2003 (% pa)	0.2
Change: 1998–2003 (% pa)	-0.4
Change: 2003–08 (forecast % pa)	0.4
Self-employment (%)	10.4
Top three occupational groups (% of total emp.)	
Administrative and secretarial occupations	44.2
Managers and senior officials	15.7
Associate professional and technical occupations	12.7
Establishments reporting HtFVs (%)	6.1
Establishments reporting SSVs (%)	3.9
GVA per worker (£)	54
Exports: gross output (%) ¹	16
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 21: Professional services

- 3.159 Professional services consist of a great variety of both higher and lower value-added services, ranging from real estate to car and machine rental. Real estate professionals provide expertise at the highest level in managing property portfolios and advising institutional clients, as well as the more mundane housing and commercial property broking activities of commercial estate agency. Because the industry contains a mixture of both high value-added and lower value-added services, the demand for skills varies considerably between the different sub-sectors.
- 3.160 Overall employment growth has been strong over the past decade, averaging 2.7 per cent per annum between 1993 and 1998, and growth in the latter half of the decade accelerating to 3.7 per cent per annum between 1998 and 2003. During this period employment rose in all occupational groups, with the strongest growth in demand for personal services and sales and customer service staff. There has also been robust growth in demand for professionals and associate technical workers, which account for 20 per cent of employment in the industry.
- 3.161 The pick-up in global activity will result in output in professional services outstripping that of the overall economy this year and beyond. Firms in England will benefit from the rapidly expanding economies in the Far East that will require legal and consulting services. This is expected to stimulate employment growth of around 3.4 per cent per annum over 2003 to 2008, with the strongest growth in demand for professionals and associate technical and professionals.
- 3.162 According to NESS 2003, there were some 17,500 vacancies in professional services, with one-third of these vacancies being HtFVs and 17 per cent being SSVs. Approximately 8.7 per cent of employees are not fully proficient at their jobs.
- 3.163 Around 11.2 per cent of firms in professional services reported vacancies, the lowest figure of any of the 27 industries examined, with just under 4 per cent of firms reporting HtFVs and just over 2 per cent of firms reporting SSVs. Around 17 per cent of firms reported skills gaps among their employees.

Professional services consists of a great variety of both higher and lower value-added services. Employment has increased across most occupational groups over the past decade. Strong growth in the key client industries is likely to lead to strong growth in demand for professionals. Under 10 per cent of employees in professional services are not fully proficient at their jobs.

Table 3.21: Industry 21: Professional services

SIC03 headings: 70–71, 73,
 Real estate activity, including development, buying and selling, letting and management of real estate.
 Renting of machinery, equipment, personal and household goods, incl. motor vehicles and other transport equipment.
 R&D on natural sciences, engineering, social sciences etc.

Share of GVA (%)	13.5
Employment (000)	650
Share of England (%)	2.6
Male:female	57:43
Change: 1993–2003 (% pa)	2.7
Change: 1998–2003 (% pa)	3.7
Change: 2003–08 (forecast % pa)	3.4
Self-employment (%)	12.8
Top three occupational groups (% of total emp.)	
Associate professional and technical Occupations	20.8
Managers and senior officials	19.2
Administrative and secretarial occupations	17.3
Establishments reporting HtFVs (%)	3.8
Establishments reporting SSVs (%)	2.2
GVA per worker (£)	204.8
Exports: gross output (%) ¹	3.5
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 22: Computing and related services

- 3.164 The technological cycle of innovation, diffusion, cloning by new entrants and falling prices has so far proceeded rapidly in the case of ICT, and by the mid-1990s the manufacture and provision of hardware was a relatively unprofitable part of the ICT industry. By the early 2000s even mobile phones were turning into commodities. The provision of services and software, on the other hand, became ever more profitable. The ICT market in the present decade seems likely to be dominated, at least in developed countries, by the diffusion of such technologies as broadband, by near-universal computing, and by mobile phone services linked to the Internet. In many ways this projected development continues the pattern of the 1990s, except that liberalisation and the building of information highways are now largely complete and the focus is shifting from stationary to mobile applications. This structure will accentuate the move towards services rather than hardware provision.
- As ICT equipment became commoditised in the 1990s, output of computing and related services grew steeply and the industry became highly profitable. During 2001 and 2002, computing and related services suffered from a sharp slowdown in technology spending.*
- 3.165 During 2001 and 2002, computing and related services suffered from a sharp slowdown in technology spending, as companies began to adopt a more critical stance when assessing the financial benefits of sophisticated software applications, especially when set against implementation costs. This more critical scrutiny came at a time when customers were cutting their spending plans in response to weakening demand, as the US economy slowed, and when the personal computer (PC) market had clearly matured. Many in ICT-related industries regard 2001 as the worst year in their history, and 2002 was not much better.
- 3.166 The conditions that made 2001 and 2002 so difficult have affected computing services companies working in all kinds of management or technical consultancy, as well as those designing and producing specialist software, and are taking some time to change. On the other hand, many companies are already feeling the effects of the US recovery, particularly those whose software is still highly regarded, following a more realistic assessment of the merits of investing in IT.
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- 3.167 Within the more comprehensive and rounded cost-benefit analyses that companies are conducting, the quality of the products is coming under closer examination. Quality of products and services and transparent, quantifiable benefits to the ways in which 'old economy' companies do business have become the key determinant of success for software and e-business companies. Firms that have a business model of selling licences, which are paid for up front, rather than implementing projects, which tend to be paid for later on, appear best placed to enjoy a strong recovery. Furthermore, cost-cutting among clients is likely to benefit consultancies in the near future, as companies outsource more of their IT applications.
- 3.168 Computing and related services encompass high-value services such as the development and production of software and data facilities management. Employment growth has been strong over the past decade, as demand for IT services grew sharply. Employment growth averaged 8.7 per cent per annum between 1993 and 2003, with the strongest growth (nearly 16 per cent) among sales and customer service occupations. Personal service, administrative and secretarial, and associate professional and technical occupations also saw strong rates of employment growth. However, the sharp slowdown in computing services output growth during 2001 and 2002 was reflected in a decline in employment in 2002 and 2003.
- 3.169 Short-term employment prospects in the sector will be affected by conflicting forces. The off-shoring of services and the slowdown of the economy should mean weaker employment demand. With employers also reporting a shortage of IT professionals, one would expect falling levels of employment. However, the proportion of firms in the industry planning to recruit is at its highest level in two years, and government expenditure will be the mainstay of both growth in demand and output. Employment in computer services is expected to be more subdued, with growth between 2003 and 2008 slowing to around 5 per cent per annum. Administrative and secretarial workers will experience the most rapid slowing of employment growth, as firms seek to maintain competitiveness in the global economy.
- 3.170 According to NESS 2003, there are currently some 18,500 vacancies in computing and related services, with just over one-quarter of these vacancies being HtFVs and 18 per cent being SSVs. Approximately 8 per cent of employees are not fully proficient at their jobs.

Employment rose by 10 per cent between 1992 and 2002, although it declined in 2002. A resumption of strong demand for IT services should provide a further boost to high-skilled employment in computing services.

- 3.171 Around 11.5 per cent of firms in computing and related services reported vacancies, the second-lowest figure of any of the 27 industries examined, with just under 4 per cent of firms reporting HtFVs and just under 3 per cent of firms reporting SSVs. Around 13 per cent of firms reported skills gaps among their employees, the lowest reported figure for any industry.

Table 3.22: Industry 22: Computing and related services

SIC03 headings: 72
 Hardware consultancy; software consultancy and supply including development, production, supply and documentation of customised and non-customised software; data processing including facilities management; database activities including online data retrieval; maintenance and repair of computer equipment; and other computer-related activities.

Share of GVA (%)	2.5
Employment (000)	497
Share of England (%)	2
Male:female	62:38
Change: 1993–2003 (% pa)	8.7
Change: 1998–2003 (% pa)	6.2
Change: 2003–08 (forecast % pa)	5.3
Self-employment (%)	8
Top three occupational groups (% of total emp.)	
Administrative and secretarial occupations	21.1
Professional occupations	20.2
Managers and senior officials	19.3
Establishments reporting HtFVs (%)	3.8
Establishments reporting SSVs (%)	2.8
GVA per worker (£)	49.8
Exports: gross output (%) ¹	8.5
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 23: Other business services

3.172 Other business services cover the high-value services provided by professionals such as accountants, lawyers, management and engineering consultants, and marketing and advertising consultants. These are provided both to corporate clients and Government and have grown rapidly over the last decade, as markets have liberalised, and the twin forces of globalisation and outsourcing have seen such professionals become ever more closely involved in the everyday business activities of their clients. Each of the specialist professional areas has seen the largest professional partnerships consolidating to achieve global reach and to allow them to service global clients more effectively. Higher earnings from larger practices are evident in the enhanced fees earned by partners in the largest practices, evident in accountancy, law and advertising.

Other business services have grown by servicing the specialist organisational needs of business and Government. The growth of other business services has also been driven by the trend to outsourcing.

3.173 The evidence for scale economies in accountancy has been established *de facto* by the success of the biggest consultancy firms merging over the last decade as they have built global businesses. What were once the Big Eight accounting firms have been reduced by mergers, and the demise of Andersen, to the Big Four and these have all sought to enhance their growth by providing one-stop audit and associated consultancy services for their global clients. These four have grown their businesses from traditional audit to provide substantial associated consultancy, notably IT consultancy and M&A advice. The very process of audit gives such firms insights that give them an advantage in advising their clients on other matters, for example on IT investment. However this kind of business has brought problems of exposure to economic downturn, while scandals over corporate governance have brought litigation and tough regulation.

3.174 In the present global slowdown, clients are cutting back on services like IT advice that have very much the character of an investment. The largest accountancy firms now face the cyclical pressures more characteristic of those operating in marketing and advertising.

- 3.175 Other business services also contain several very large multi-activity organisations formed by mergers and acquisitions. Such large organisations aim to achieve rapid growth in turnover and profits by economies of scale and tight managerial control on costs in the provision of a range of previously quite separate outsourced services to corporate and government clients. The industry grew rapidly in the 1990s as firms have concentrated on their core higher value-added business, while outsourcing first the more peripheral low-cost activities (such as cleaning) to contract suppliers and then higher value-added activities such as building and factory maintenance. Between 1993 and 2003 employment in other business services grew by 3 per cent per annum. Some parts of the industry are exposed to economic slowdown, notably labour recruitment, but also activities that represent 'investment' rather than 'maintenance' activities.
- 3.176 Other business services employs 2.8 million workers in a wide range of high-skilled, high value-added activities, such as law, advertising, accountancy and consultancy. Over the past decade, the broad trend has been toward increased employment in most occupational groups. Only administrative and secretarial workers and elementary workers (in cleaning and security services) saw their numbers decline.
- 3.177 In other business services, from 2004 onwards, expenditure on IT and M&A activity should recover, and the growing commercial needs of globalising clients for professional advice in M&A, IT and business restructuring is likely to lead to continued employment growth in these high-skilled activities. However, employment growth is expected to slow to around 1 per cent per annum between 2003 and 2008. The strongest employment growth is expected among professional and associate professional workers, which together account for 37 per cent of employment in the industry.
- 3.178 According to NESS 2003, there are currently some 85,000 vacancies in other business services, with 40 per cent of these vacancies being HtFVs and around one-quarter being SSVs. Approximately 11 per cent of employees are not fully proficient at their jobs.
- 3.179 Around 14.5 per cent of firms in other business services reported vacancies, with some 6 per cent of firms reporting HtFVs and 4 per cent of firms reporting SSVs. Around 18.5 per cent of firms reported skills gaps among their employees.

The highly-skilled other business services industry has seen employment increase over the past decade. Globalisation is likely to be a key driver of future employment growth in the industry. There are approximately 85,000 vacancies in other business services.

Table 3.23: Industry 23: Other business services

SIC03 headings: 74
 Other business services incl.: legal, accountancy, tax, market research, other consultancy; architects, engineering services, weather forecasting, surveying; technical testing; advertising, recruitment agencies; security services; industrial cleaning; photographic, packaging and secretarial services; and other business services nes.

Share of GVA (%)	8.9
Employment (000)	2,875
Share of England (%)	11.6
Male:female	55:45
Change: 1993–2003 (% pa)	3.1
Change: 1998–2003 (% pa)	2
Change: 2003–08 (forecast % pa)	1.1
Self-employment (%)	12.4
Top three occupational groups (% of total emp.)	
Associate professional and technical Occupations	20.8
Administrative and secretarial occupations	19.7
Managers and senior officials	18.6
Establishments reporting HtFVs (%)	5.9
Establishments reporting SSVs (%)	4.0
GVA per worker (£)	30.4
Exports: gross output (%) ¹	15.8
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 24: Public administration and defence

- 3.180 Over the last 20 years central government has increased its control over local government functions, through central provision of a greater proportion of resources, and the practice of ring-fencing resources for particular service areas. Employment in public administration and defence has been on a downward trend over the last 20 to 30 years. Until the late-1980s productivity was increasing, albeit slowly; but thereafter there has been little change in the level of productivity. The Government is trying to change this and achieve improved productivity in future by introducing public service agreements with many government departments and agencies.
- 3.181 Technological progress could aid the automation of certain functions of public administration, and thereby increase productivity. However, the public sector has had only limited success with some of the large IT projects it has commissioned. At the same time, other jobs are lost as former administration functions become obsolete. The ageing of the population is likely to have an effect on public administration, not only through the changing demands on government services such as education and health but also on the demands that will be made on the pension system, since many people are still largely dependent on the state-funded pension. Attention is increasingly being paid to finding alternative methods of funding future pension provision.
- 3.182 The number of people employed in public administration and defence has increased in recent years, alongside strong growth in resources, with increases recorded in both central and local government employment. Employment increased by almost 3 per cent in 2002 and experienced further growth in 2003. The recent increases go some way to reversing the falls seen throughout the 1990s. Over the last decade the number of people employed in local authorities has also increased in a wide range of areas, including central service areas like engineering and finance as well as in more specific service areas such as housing, town and country planning, and the fire service. However, other areas including construction and refuse collection and disposal have declined further. The net effect of all this has been a decline in demand for administrative and secretarial workers, skilled trades workers, plant and machinery operatives, and elementary occupations, while demand for managerial, professional, and associate technical and professional occupations has risen.
- The long-term downward trend in employment in public administration and defence could be reinforced by IT projects and other public service agreements. Employment has increased since the late 1990s, as government spending has increased. Employment is expected to begin to fall again after 2005. A high proportion of organisations in public administration and defence reported skills gaps among their employees.*

- 3.183 The growth in government spending in public administration and defence will slow in 2005 and beyond. This slower growth is expected to be accompanied by modest falls in employment, particularly among administrative and secretarial, skilled trades and elementary occupations. The 2004 Spending Review set out the Government's objective of achieving efficiency savings of £20 billion per annum by 2008, thereby freeing up resources to be devoted to frontline delivery of services. A contribution to this will come from the intended 80,000 job losses in civil service administration posts. Between 2003 and 2008 employment in public administration and defence is expected to decline by 0.5 per cent.
- 3.184 According to NESS 2003, there are currently some 24,800 vacancies in public administration and defence, with 23 per cent of these vacancies being HtFVs and just 11 per cent being SSVs. Approximately 11.5 per cent of employees are not fully proficient at their jobs.
- 3.185 Just over 30 per cent of organisations in public administration and defence reported vacancies, the third-highest figure of any of the 27 industries examined, with around 7.5 per cent of organisations reporting HtFVs and just over 3.5 per cent reporting SSVs. Approximately 35 per cent of organisations reported skills gaps among their employees, the second-highest proportion of any of the 27 industries examined.

Table 3.24: Industry 24: Public administration and defence

SIC03 headings: 75
 General public service activities, including administration of central, regional and local bodies; business and government regulation agencies; foreign affairs, defence activities and judicial activities; police and fire services; and compulsory social security.

Share of GVA (%)	4.9
Employment (000)	1,177
Share of England (%)	4.7
Male:female	51:49
Change: 1993–2003 (% pa)	-0.2
Change: 1998–2003 (% pa)	0.3
Change: 2003–08 (forecast % pa)	-0.5
Self-employment (%)	1.3
Top three occupational groups (% of total emp.)	
Administrative and secretarial occupations	27.6
Associate professional and technical Occupations	23
Managers and senior officials	12.6
Establishments reporting HtFVs (%)	7.5
Establishments reporting SSVs (%)	3.5
GVA per worker (£)	41.7
Exports: gross output (%) ¹	0.9
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 25: Education

3.186 Education has experienced an underlying growth in employment since the 1970s. Since 1997 it has been at the forefront of government policy and government funding has increased sharply as a result. It has been recognised for some time that the UK lags behind its economic competitors in terms of its educational attainment; and this lag is often believed to be a key factor behind the relatively poor productivity in the UK's economy. In an effort to raise the performance of the education industry, successive governments have introduced a number of formal tests at different stages in schooling, and linked this to the compilation of school league tables. More recently those schools seen to be performing well have been given greater autonomy, including the right to specialise in particular subjects, while still teaching the whole of the National Curriculum. There has also been extensive reform of further and higher education. The focus on work-based training has also increased: starting with the creation of the Manpower Services Commission (now defunct) in the 1970s, and continuing with Training and Enterprise Councils in the early 1990s and their successor, the Learning and Skills Council, in 2001.

The structure of the sector has changed markedly over the last decade. Employment in education has grown strongly. Government spending plans are likely to lead to more modest increases in employment in education in the future.

3.187 Employment, which rose by 1.7 per cent in 2003, is expected to increase by a further 1.5 per cent in 2004. Some 1.9 million people are employed in education in England, of which 70 per cent are female, and more than 50 per cent are employed in professional occupations. This includes teachers in nursery, primary, secondary, higher, further and special needs education, education officers, school inspectors, registrars and senior officials of educational establishments. Employment in education services as a whole grew by 3.4 per cent per annum on average between 1998 and 2003, with the strongest growth in managers and senior officials, personal services jobs, and sales and customer service occupations. Employment declined among administrative and secretarial staff and in elementary occupations.

- 3.188 While the political emphasis on education and skills is not expected to weaken in the longer term, the growth in government spending in this area is expected to slow. Having raised the level of education spending considerably since 1997, the Government is now expected to slow the rate of growth to around 2.5 to 3 per cent per annum by 2008. As a result employment growth is expected to slow to around 1 per cent per annum between 2003 and 2008. Trends in employment by occupation are expected to be similar to those of the past decade.
- 3.189 According to NESS 2003, there are currently some 41,000 vacancies in education, with 28 per cent of these vacancies being HtFVs and 16 per cent being SSVs. Approximately 7.5 per cent of employees are not fully proficient at their jobs.
- 3.190 Some 32 per cent of organisations in education reported vacancies, the highest figure of any of the 27 industries examined, with around 12 per cent of organisations reporting HtFVs and just under 7.5 per cent reporting SSVs. Approximately one-third of organisations reported skills gaps among their employees, the third-highest proportion of any of the 27 industries examined.

Approximately one-third of organisations in education reported skills gaps among their employees.

Table 3.25: Industry 25: Education

SIC03 headings: 80
Public and private education at any level or for any profession, oral or written as well as by radio or television, including: primary, secondary, technical, vocational and higher education; adult education including driving schools, other private training providers and local LSCs.

Share of GVA (%)	5.6
Employment (000)	1947
Share of England (%)	7.8
Male:female	29:71
Change: 1993–2003 (% pa)	2.1
Change: 1998–2003 (% pa)	3.4
Change: 2003–08 (forecast % pa)	0.9
Self-employment (%)	4.6
Top three occupational groups (% of total emp.)	
Professional occupations	51.2
Associate professional and technical Occupations	14.8
Personal service occupations	10
Establishments reporting HtFVs (%)	12.0
Establishments reporting SSVs (%)	7.4
GVA per worker (£)	28.9
Exports: gross output (%) ¹	2
Concentration	very low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 26: Health and social work

- 3.191 Health and social work is high in the social priorities of governments. Demands on the health and social care system have increased markedly over time, as a result of an ageing population and technological innovations which have made new, and often more expensive, treatments possible. Although the area is a priority for Government, the funding for public provision remains constrained by the competing demands on public spending.
- 3.192 Spending on services provided by the private sector has been increasing, partly as a result of the increasing affluence of the population but also in response to the perceived shortcomings of the services provided by the public sector. There have been a number of changes in the structure of the health services since the 1980s. While the precise details have varied, all the changes have had the intention of improving efficiency by introducing competition. For example, there is now greater autonomy for primary health care providers to choose the range of services they provide themselves and to select the providers from whom they purchase hospital services. There is also increasing co-operation between the public and private health care sector: the former is now allowed to buy services from the latter.
- 3.193 Health and social work employs around 2.5 million people (of which 81 per cent are female) and accounts for 10 per cent of employment in England. Over the past decade, employment has increased at a slightly slower rate than in education, with the strongest growth (and the greatest numbers employed) in personal services occupations (nursing assistants, ambulance staff excluding paramedics, dental nurses, residential wardens and care assistants); managers and senior officials (in hospitals, health care practices, social services and residential and day care centres); and professional occupations (such as medical practitioners, pharmacists/pharmacologists, opticians, dental practitioners and veterinarians). Employment has declined sharply among administrative and secretarial and elementary occupations (for example hospital porters). Growth in employment among associate professional and technical staff, which account for around 28 per cent of total employment, has been slower. This group of workers includes nurses, midwives, paramedics, radiographers, chiropodists, dispensing opticians, pharmaceutical dispensers, medical and dental technicians, physiotherapists, occupational therapists, youth and community workers, and housing and welfare officers.

Elements of competition have been introduced to health and social work as demand for its services continues to rise. Employment is increasing in health and social work.

- 3.194 In 2003 government spending on health and social work grew by 3 per cent. With stronger growth in government demand expected in 2004 the outlook is that employment growth in the industry will remain strong. Employment in the industry has already increased greatly over the last three years. More job gains are expected in the short term, supported by the strong growth in demand and by the effects of measures that have been put in place in the last couple of years to attract more staff. It is expected that the current focus on changing existing methods of delivery through technical innovation and organisational change will enable productivity gains in the future to exceed past performance. Consequently, employment will still increase, but at a slower rate than previously: between 2003 and 2008 employment in health and social work is expected to grow by around 1.2 per cent per annum. Trends by occupational group are, however, likely to remain similar to those of the past decade.
- A slower rate of employment growth is expected during the next few years, reflecting the introduction of measures to boost productivity. Half of all vacancies in health and social work are HtFVs.*
- 3.195 According to NESS 2003, there are currently some 90,000 vacancies in health and social work, with one-half of these vacancies being HtFVs and just 19 per cent being SSVs. Approximately 11.5 per cent of employees are not fully proficient at their jobs.
- 3.196 Just under 32 per cent of organisations in health and social work reported vacancies, the second-highest figure of any of the 27 industries examined. Just under 15 per cent of organisations reported HtFVs, the highest figure of any industry, and just under 7 per cent reported SSVs. Approximately 28 per cent of organisations reported skills gaps among their employees.

Table 3.26: Industry 26: Health and social work

SIC03 headings: 85
 Human health activities incl.: hospitals, medical and dental practices; nurses, midwives, speech therapists etc. working other than in hospitals; medical laboratories, blood banks and ambulance transport. Veterinary activities.
 Social work activities incl.: hostels/homes for children, the aged, the handicapped, homeless etc.; day care activities; and social, counselling, refugee and similar activities.

Share of GVA (%)	6.2
Employment (000)	2,513
Share of England (%)	10.1
Male:female	19:81
Change: 1993–2003 (% pa)	1.3
Change: 1998–2003 (% pa)	1.8
Change: 2003–08 (forecast % pa)	1.2
Self-employment (%)	8.5
Top three occupational groups (% of total emp.)	
Personal service occupations	28.9
Associate professional and technical Occupations	28.2
Professional occupations	12.3
Establishments reporting HtFVs (%)	14.7
Establishments reporting SSVs (%)	6.8
GVA per worker (£)	24.6
Exports: gross output (%) ¹	0.1
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Industry 27: Miscellaneous services

- 3.197 Miscellaneous services encompasses a wide range of activities including sewage and refuse disposal, sanitation, activities of membership organisations (whether business, professional, religious or political), recreational, cultural and sporting activities (related, for example, to film, music, radio, television, theatres, museums, arts facilities and sports).
- 3.198 Over the past decade, there has been a great deal of investment in quality enhancement programmes by waste treatment companies. The industry is becoming more technically-oriented as public and political demand for cleanliness of waste treatment spurs the industry to research, develop and refine new techniques for the treatment of waste. The main focus is on incineration of waste, recycling and other methods of energy recovery, approaches that are adopted widely in some other countries. At present, there is fairly strong public aversion to waste incineration, partly because it is well documented that highly toxic substances such as fly ash are created in crude incineration techniques. However, it is now far easier than it used to be to control conditions of incineration and to reduce or eliminate the production of many of these toxins.
- 3.199 The EC Landfill Directive sets mandatory targets for the reduction of biodegradable municipal waste sent to landfill. By 2020 this should have then reduced in three successive stages, to 35 per cent of the 1995 total by 2020. To comply with the Landfill Directive, national governments have established national targets for recovery of municipal waste, and recycling/composting of household waste.
- 3.200 Technology convergence has blurred the distinction between media and entertainment companies, broadcasters, and telecommunications operators. For example, in the UK the dominant cable operators, NTL and Telewest, are able to supply interactive TV services, telephony and high-speed broadband services via their cable networks. The US has seen mergers between Time Warner-AOL and Vivendi-Seagram. This has prompted cross-border consolidation by EU companies such as the 2002 merger of Pearson, the UK TV and media group, with CLT-Ufa, the pan-European broadcaster. However, cultural and linguistic differences, combined with the fragmentation of European advertising markets, make it difficult for the newly merged companies to achieve significant economies of scale.

Miscellaneous services is a diverse industry. Improvements in technology to dispose of waste with less damage to the environment are becoming increasingly important. Technology convergence is blurring the distinction between media companies, broadcasters and tele-communications operators.

3.201 Developments in digital technology allow households to receive TV channels by satellite, conventional broadcasting and high-speed telephone or cable platforms, and also allow a greater number of channels to be transmitted on the same bandwidth. As a result, the supply of television channels is rising. The technology also provides better images and enhanced transmission capabilities, such as video-on-demand, pay-per-view services, software downloading and interactive TV (iTV) services (e.g. commerce and gambling). As commercial broadcasters establish more channels and competition increases, some existing channels and new start-ups are being forced to close while others merge. Consequently the need for regulation has diminished.

Increased consumer spending on leisure and entertainment has boosted UK betting and cinema operators. Employment growth in miscellaneous services over the past decade probably reflects an increase in demand for labour-intensive personal services, cultural and sporting activities and developments in digital television.

- 3.202 Since the early 1990s, consumer spending on leisure and entertainment activities, such as gambling and the cinema, has risen at a faster rate than household spending. The introduction of the National Lottery in 1994 and the rapid growth in Internet gambling led to a sharp increase in household spending on betting and gambling during the mid- to late 1990s. By 2002, UK annual cinema admissions had more than tripled from the 1984 low of 53 million. The development of purpose-built multiplex cinemas, which have comfortable seating, state-of-the-art sound and a range of facilities such as games rooms, has been an important factor in reversing the long-term decline in admissions. Cinema attendance in the UK remains lower than in other major European countries and the US, but the growth in admissions has encouraged rapid expansion in the roll-out of new cinemas since the mid-1990s and suggests that there is still scope for more screens in the UK.
- 3.203 Around 1.5 million people are employed in the industry, and over the past decade employment has been increasing by around 3 per cent per annum, well above the rate of employment growth in the overall economy. This probably reflects an increase in demand for labour-intensive personal services, cultural and sporting activities, and developments in digital television. The fragmentation of the miscellaneous services industry means that different sub-sectors have contrasting skills needs. Nevertheless, because culture, media and sports are among the largest employers in the industry, the largest occupational group in miscellaneous services is associate professional and technical (23 per cent of the total workforce), which includes artistic and literary occupations, media associate occupations (in broadcasting), and sports and fitness occupations. Elementary occupations are the second largest occupational group (17 per cent). Strongest growth in demand has been for managers, professionals, associate technical and professional workers, and personal service staff. Employment has fallen sharply among elementary occupations.
- 3.204 Employment is expected to grow at a much slower rate between 2003 and 2008, due to restructuring among the major media players and a slowdown in growth in demand for digital TV services. The same occupational groups for which demand grew strongly in the past are again expected to see the fastest gains in employment over the next few years.
- Much slower growth in employment is expected during the next few years.*
-

- 3.205 According to NESS 2003, there are currently some 53,700 vacancies in miscellaneous services, with just 43 per cent of these vacancies being HtFVs and 21 per cent being SSVs. Approximately 9.7 per cent of employees are not fully proficient at their jobs.
- Just under 10 per cent of employees in miscellaneous services are not fully proficient at their jobs.*
- 3.206 Some 19 per cent of firms in miscellaneous services reported vacancies, with around 9.5 per cent of firms reporting HtFVs and 5.3 per cent reporting SSVs. Approximately 18 per cent of firms reported skills gaps among their employees.

Table 3.27: Industry 27: Miscellaneous services

SIC03 headings: 90–99
 Sewage and refuse disposal, sanitation etc., incl. collection of solid wastes, transportation and treatment by incineration or other means, sewage removal and disposal, and maintenance of sewers and drains.
 Recycling of waste with an industrial process is classified to Industry 11, Manufacturing and recycling; collection and purification of water is classified to Industry 12, Electricity, gas and water.
 Business, professional, religious and political organisations; trade unions; recreational, cultural and sporting activities incl. film, radio and television, theatre, arts facilities, museums, sports arenas and organisations, betting; other service activities incl. dry cleaning, hairdressing, funerals.
 Private households with employed persons; extra-territorial organisations and bodies.

Share of GVA (%)	4.9
Employment (000)	1,550
Share of England (%)	6.2
Male:female	49:51
Change: 1993–2003 (% pa)	3
Change: 1998–2003 (% pa)	3.1
Change: 2003–08 (forecast % pa)	1.6
Self-employment (%)	26.3
Top three occupational groups (% of total emp.)	
Associate professional and technical Occupations	22.5
Managers and senior officials	17
Personal service occupations	14.6
Establishments reporting HtFVs (%)	9.6
Establishments reporting SSVs (%)	5.3
GVA per worker (£)	31.2
Exports: gross output (%) ¹	6.7
Concentration	low

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes:

Data relate to England except ¹ where data are for UK.

Chapter 4: Detailed Sector Skill Council Profiles

Glossary

SSC	Footprint/Description
Asset Skills	<p>Asset Skills is the Sector Skills Council (SSC) for property, housing, cleaning and facilities management. The sector includes:</p> <ul style="list-style-type: none"> • property managers • residential estate agents • caretakers • facilities management professionals • cleaners • town planners • letting agents and housing managers. <p>Based on Standard Industrial Classification (SIC) codes, Asset Skills includes SIC 70 and 74.7.</p>
Automotive Skills	<p>Automotive Skills is the SSC for all businesses and people involved in the sales, maintenance and repair of new and used vehicles. The sector comprises:</p> <ul style="list-style-type: none"> • providers of servicing, maintenance, repair and valeting services • bodyshops (repairers, rebuilders and refinishers) • vehicle inspection and MOT testing • specialist sellers and fitters of parts • accessories, and motor fuels • vehicle rental, leasing and fleet management and insurance • roadside assistance and recovery. <p>The SIC codes covered by Automotive Skills include SIC 50 (excluding 50.5) and 71.1.</p>
Cogent	<p>Cogent is the SSC for chemicals, nuclear, oil and gas, petroleum and polymers. The SSC covers five industry groupings, which share a common foundation – science and technology. The groupings are:</p> <ul style="list-style-type: none"> • oil and gas extraction • nuclear and radiological technology • chemicals manufacturing • petroleum industry • polymers. <p>The SIC codes for Cogent include SIC 11, 23, 24, 25 and 50.5. Significant numbers of science and technology employees fall into occupations not covered by SIC codes. In reworking the <i>Working Futures</i> results 24.3 and 24.64 are excluded.</p>

<p>ConstructionSkills</p>	<p>ConstructionSkills is the SSC for the construction industry and covers a wide range of sectors in the development and maintenance of the built environment, including:</p> <ul style="list-style-type: none"> • house building (public and private) • infrastructure (roads, railways and utilities) • non-residential building in the private sector (schools and colleges, hospitals, offices) • industrial building by the private sector (factories, warehouses) • commercial building by the private sector (offices, shops, entertainment, health and education). <p>Additionally, the sector covers maintenance and repair work in all sectors. The sector also covers the renting of construction machinery and professional and design work in consultancies (engineering, architecture and surveying).</p> <p>The SIC codes for ConstructionSkills include SIC 45 (excluding 45.31 and 45.33) and 74.2.</p>
<p>Creative and Cultural Skills</p>	<p>Creative and Cultural Skills SSC is for those involved in arts, cultural heritage and craft and design. The sub-sectors covered are:</p> <ul style="list-style-type: none"> • the arts – music, performing arts, visual arts and literary arts • cultural heritage – museums, galleries and heritage organisations • craft – including designer makers of contemporary crafts, covering over 50 specialist trades and occupations • design – specialist consultancies covering graphic, spatial and domestic products. <p>The SIC codes for Creative and Cultural Skills include SIC 22.14, 22.31, 36.3, 92.31, 92.32, 92.34, 92.52 and 92.53. In reworking the <i>Working Futures</i> results 74.842, 74.843 and 92.849 are also included.</p>
<p>Energy & Utility Skills</p>	<p>Energy & Utility Skills is the SSC for electricity and renewables, gas, waste management and water industries. It represents all aspects of the generation, transmission and distribution of electricity, combined heat and power, and the production and distribution of gas and water. It is also concerned with the removal of waste water and treatment of waste products.</p> <p>These industries cover a range of fundamental services that are vital to a successful UK economy and are key to the attainment of environmental targets</p> <p>The SIC codes for Energy & Utility Skills include SIC 37, 40.1, 40.2, 41, 51.54, 51.55, 60.3 and 90. In reworking the <i>Working Futures</i> results only 37.1 is included and 60.3 is excluded.</p>

<p>e-skills UK</p>	<p>e-skills UK is the SSC for information technology, telecommunications and contact centres and is responsible for developing the quality and quantity of professional skills of:</p> <ul style="list-style-type: none"> • the IT industry, IT professionals working in all industries and telecommunications • contact centres dedicated to outsourced services and contact centres operating within all industries. <p>The SIC codes offer only a 'best fit' to the sector. SIC codes 22.33, 64.2 and 72 are used covering:</p> <ul style="list-style-type: none"> • reproduction of recorded media • telecommunications • computer consultancy, data processing, database activities and maintenance. <p>This does not cover contact centres or IT and telecoms manufacturing.</p>
<p>Financial Services Skills Council</p>	<p>Financial Services Skills Council is the SSC for the financial services sector. It includes:</p> <ul style="list-style-type: none"> • banks, building societies and central banking • leasing • credit unions, factoring and other credit-granting organisations • investment, unit trusts and venture capital • life insurance, non-life insurance (general insurance) and insurance brokers • administration of financial markets • pension funding • independent financial advisers and tied financial advisers • unit trust and investment trust companies • fund managers, asset managers and pension management • securities and derivatives traders. <p>The SIC codes for the Financial Services Skills Council include SIC 65, 66 and 67.</p>
<p>GoSkills</p>	<p>GoSkills is the SSC for passenger transport, which includes:</p> <ul style="list-style-type: none"> • aviation (airports, operators and ground services) • chauffeurs and coaches • community bus services • driving instructors • private hire vehicles • scheduled bus services • taxis • trams and transport planners. <p>The SIC codes for GoSkills include SIC 60.21, 60.22, 60.23, 61.2, 62.1, 62.2, 63.21, 63.22, 63.23, and 80.41. In reworking the <i>Working Futures</i> results 50.2 and 61.1 are also included.</p>

<p>Improve</p>	<p>Improve is the SSC for food and drink, which represents employers operating in all sectors of the food and drink manufacturing and processing industry. The sector includes:</p> <ul style="list-style-type: none"> • sea fishing • craft bakery • meat and poultry • dairy • general food and drink. <p>The SIC codes for Improve include SIC 15. In reworking the <i>Working Futures</i> results 15.113 is excluded but 51.38 is included.</p>
<p>Lantra</p>	<p>Lantra is the SSC for the environmental and land-based sector. This includes:</p> <ul style="list-style-type: none"> • agricultural livestock and crops • animal care; animal technology • aquaculture • environmental conservation • equine • farriery • fencing • fisheries management • floristry • trees and timber • game conservation • land-based engineering • landscaping • productive horticulture • veterinary nursing. <p>The SIC codes for Lantra include SIC 02.01, 05.02, 29.3, 51.66, 85.2 and 92.53. In reworking the <i>Working Futures</i> results all of 01 and 02 are included.</p>
<p>Lifelong Learning UK</p>	<p>Lifelong Learning UK is the SSC for community-based learning and development, further education, higher education, library and information services and work-based learning.</p> <p>The SIC codes for Lifelong Learning UK include SIC 80.22, 80.3, 80.42 and 92.51.</p>

<p>People 1st</p>	<p>People 1st is the SSC for the hospitality, leisure, travel and tourism sector, representing employers of all sizes in the following industries:</p> <ul style="list-style-type: none"> • hotels • pubs, bars and nightclubs • membership clubs • gambling • tourist services • youth hostels • self-catering accommodation • restaurants • contract food service providers • events • travel services • visitor attractions • holiday parks • hospitality services. <p>The SIC codes for People 1st are SIC 55 (excluding 55.22), 63.3, 92.33, 92.34, 92.53 and 92.71. In reworking the <i>Working Futures</i> results 70.2 and 74.84 are included.</p>
<p>Proskills</p>	<p>The Proskills SSC covers:</p> <ul style="list-style-type: none"> • coatings • extractives • glass • refractories and building products • print. <p>The core SIC definition is: SIC 10, 12, 13, 14, 21.24 , 22.2, 24.16, 24.3, 24.63, 26.1, 26.26, 26.4, 26.5, 26.6, 26.7, 26.8 and 37.2. In reworking the <i>Working Futures</i> results 20, all of 21, 36.1, 40.3 and 51.64 are included and SIC 10.101, 24.16, 24.3 24.63 and 26.6 are excluded.</p>
<p>SEMTA</p>	<p>SEMTA is the SSC for science, engineering and manufacturing technologies and represents the sectors of:</p> <ul style="list-style-type: none"> • aerospace • electrical engineering • electronics, including semi-conductors • mechanical engineering and metal trades • motor vehicles • shipbuilding • biotechnology • nanotechnology • mathematics • forensic science. <p>SEMTA includes SIC codes from 27.4 to 35 inclusive, excluding 28.4. Note that this excludes scientific skills employed outside engineering.</p>

<p>SkillsActive</p>	<p>SkillsActive is the SSC for active leisure and learning. The sector covers sport, recreation, children's play, health and fitness, outdoor education, training, caravans, recreation and adventure.</p> <p>The SIC codes for SkillsActive include SIC 55.22, 92.33 and 92.6. In reworking the <i>Working Futures</i> results 34.203 is included.</p>
<p>Skillsfast UK</p>	<p>Skillsfast UK is the SSC for apparel, footwear, textiles and related businesses. Its remit covers a wide variety of activities, including:</p> <ul style="list-style-type: none"> • production of raw materials e.g. leather production • manufacture of apparel, footwear, textiles and fibres • servicing of apparel, footwear and textile products e.g. dry cleaning and shoe repair • design activities related to apparel, footwear and textiles • trading in apparel, footwear and textile products, including specialist wholesale activities and activities of brand-driven holding companies. <p>The SIC codes for Skillsfast UK include SIC 17, 18, 19, 24.7, 33.1, 51.41, 51.42, 52.71 and 93.01. In reworking the <i>Working Futures</i> results 33.1 is excluded but 15.113 and 51.16 are included.</p>
<p>Skills for Care and Development</p>	<p>Skills for Care and Development is the SSC for social care, children and young people. Social care policy is fully devolved to each of the four countries. The scope of the sector is defined by legislation in each of the countries, with some differences for the devolved administrations. The current scope of the sector is:</p> <ul style="list-style-type: none"> • children's homes • care homes • domiciliary care and support agencies • day centres and services • social work • fostering agencies and services, and foster carers • nurse agencies • adoption services. <p>The SIC codes for Skills for Care and Development include SIC 85.3.</p>
<p>Skills for Health</p>	<p>Skills for Health represents the four UK health departments, all key stakeholders within the health sector, and has close working relationships with similar bodies working in related sectors.</p> <p>The SIC codes for Skills for Health include SIC 85.1.</p>
<p>Skills for Justice</p>	<p>Skills for Justice is the SSC for custodial care, community justice and police, in public, private and voluntary organisations.</p> <p>The SIC codes for Skills for Justice include SIC 75.23 and 75.24.</p>

Skills for Logistics	<p>Skills for Logistics is the SSC for the logistics sector. The sector covers freight transport by road, storage and warehousing, activities of other transport agencies, courier services, airfreight, rail freight, freight inland and sea and coastal water transport.</p> <p>The SIC codes Skills for Logistics include SIC 60.24, 62.1, 62.2, 63.1, 63.23, 63.4 and 64.1.</p>
Skillset	<p>Skillset is the SSC for the audio-visual industries. The sector covers broadcast, film, video, interactive media and photo imaging.</p> <p>The SIC codes for Skillset include SIC 21.12, 22.3, 24.64, 25.21, 33.4, 74.81, 92.1 and 92.2.</p> <p>It is also important to note that this definition does not include some industries that are core to other SSCs, such as interactive media. Furthermore, self-employed (freelancers) account for a large proportion of the workforce represented by Skillset. In reworking the <i>Working Futures</i> results only 22.32 is included, 21.12, 25.21 and 33.4 were excluded.</p>
Skillsmart Retail	<p>Skillsmart Retail is the SSC for the retail sector, established in 2002, and includes:</p> <ul style="list-style-type: none"> • supermarkets, department stores and corner shops • specialist food, drink and tobacco stores • specialist retailers of goods including textiles, clothing, footwear and leather, furniture, electrical, hardware, books and stationery, floor coverings and photographic equipment • antique retailers • markets and mail order. <p>The SIC codes for Skillsmart Retail include SIC 52.1 to 52.6.</p>
SummitSkills	<p>SummitSkills is the SSC for the electrotechnical, heating, ventilating, air conditioning, refrigeration and plumbing industries. The sector covers:</p> <ul style="list-style-type: none"> • design, installation and maintenance of electrotechnical heating, ventilation, air conditioning, refrigeration and plumbing • oil and gas fitting design, installation and maintenance. <p>The SIC codes for SummitSkills include SIC 31.1, 31.62, 33.3, 45.31, 45.33, and 52.72.</p>

Detailed Sector Skill Council profile tables (alphabetical order)**Table 4.1: Asset Skills**

Share of GVA (%)	9.8
Employment (000)	384
Share of England (%)	1.5
Male:female	54:46
Change: 1993–2003 (% pa)	3.5
Change: 1998–2003 (% pa)	4.7
Change: 2003–08 (forecast % pa)	5.2
Self-employment (%)	12.3
Top three occupational groups (% of total emp.)	
Associate professional and technical occupations	20.4
Managers and senior officials	18.8
Administrative and secretarial occupations	17.1
GVA per worker (£)	249.4
Exports: gross output (%) ¹	0.2
Concentration	very low
% establishments with vacancies	
% establishments with HtFVs	
% establishments with SSVs	
% establishments with skill gaps	

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.2: Automotive Skills

Share of GVA (%)	2.2
Employment (000)	541
Share of England (%)	2.2
Male:female	73:27
Change: 1993–2003 (% pa)	-0.5
Change: 1998–2003 (% pa)	0
Change: 2003–08 (forecast % pa)	0.5
Self-employment (%)	11.4
Top three occupational groups (% of total emp.)	
Sales and customer service occupations	23.2
Managers and senior officials	21.9
Skilled trades occupations	13.9
GVA per worker (£)	38.3
Exports: gross output (%) ¹	0.3
Concentration	very low
% establishments with vacancies	16.3
% establishments with HtFVs	10.0
% establishments with SSVs	7.9
% establishments with skill gaps	23.0

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.3: Cogent

Share of GVA (%)	2.8
Employment (000)	458
Share of England (%)	1.8
Male:female	77:23
Change: 1993–2003 (% pa)	-0.6
Change: 1998–2003 (% pa)	-2.4
Change: 2003–08 (forecast % pa)	-1.3
Self-employment (%)	4.1
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	22.8
Managers and senior officials	15.2
Elementary occupations	14.7
GVA per worker (£)	58.3
Exports: gross output (%) ¹	52.8
Concentration	medium
% establishments with vacancies	23.6
% establishments with HtFVs	13.6
% establishments with SSVs	7.9
% establishments with skill gaps	27.7

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.4: ConstructionSkills

Share of GVA (%)	5.4
Employment (000)	1,549
Share of England (%)	6.2
Male:female	84:16
Change: 1993–2003 (% pa)	0.7
Change: 1998–2003 (% pa)	1.3
Change: 2003–08 (forecast % pa)	-0.1
Self-employment (%)	35.4
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	38.4
Elementary occupations	13.5
Skilled trades occupations	11.2
GVA per worker (£)	33.8
Exports: gross output (%) ¹	1.4
Concentration	very low
% establishments with vacancies	13.1
% establishments with HtFVs	7.4
% establishments with SSVs	6.1
% establishments with skill gaps	15.4

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.5: Creative and Cultural Skills

Share of GVA (%)	1.2
Employment (000)	488
Share of England (%)	2
Male:female	52:48
Change: 1993–2003 (% pa)	4.5
Change: 1998–2003 (% pa)	2.3
Change: 2003–08 (forecast % pa)	1.5
Self-employment (%)	17.4
Top three occupational groups (% of total emp.)	
Associate professional and technical occupations	20.9
Managers and senior officials	18.1
Administrative and secretarial occupations	14.5
GVA per worker (£)	23.8
Exports: gross output (%) ¹	20.1
Concentration	very low
% establishments with vacancies	10.7
% establishments with HtFVs	4.1
% establishments with SSVs	3.3
% establishments with skill gaps	12.7

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.6: Energy & Utility Skills

Share of GVA (%)	2.3
Employment (000)	263
Share of England (%)	1.1
Male:female	71:29
Change: 1993–2003 (% pa)	-1.5
Change: 1998–2003 (% pa)	-0.4
Change: 2003–08 (forecast % pa)	-0.4
Self-employment (%)	5.1
Top three occupational groups (% of total emp.)	
Associate professional and technical occupations	16.1
Skilled trades occupations	14.2
Managers and senior officials	13.9
GVA per worker (£)	82
Exports: gross output (%) ¹	0.6
Concentration	medium
% establishments with vacancies	22.8
% establishments with HtFVs	8.4
% establishments with SSVs	6.4
% establishments with skill gaps	24.6

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data are for 2003 except ¹ where data are 2002. Data relate to England except ¹ where data are for UK.

Table 4.7: e-skills UK

Share of GVA (%)	4.8
Employment (000)	715
Share of England (%)	2.9
Male:female	64:36
Change: 1993–2003 (% pa)	6.2
Change: 1998–2003 (% pa)	6
Change: 2003–08 (forecast % pa)	3.7
Self-employment (%)	6.2
Top three occupational groups (% of total emp.)	
Administrative and secretarial occupations	21.5
Managers and senior officials	15.8
Professional occupations	15.4
GVA per worker (£)	63.5
Exports: gross output (%) ¹	7.5
Concentration	medium
% establishments with vacancies	15.7
% establishments with HtFVs	4.6
% establishments with SSVs	3.8
% establishments with skill gaps	14.9

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.8: Financial Services Skills Council

Share of GVA (%)	5.6
Employment (000)	985
Share of England (%)	4
Male:female	49:51
Change: 1993–2003 (% pa)	0.2
Change: 1998–2003 (% pa)	-0.4
Change: 2003–08 (forecast % pa)	0.4
Self-employment (%)	10.4
Top three occupational groups (% of total emp.)	
Administrative and secretarial occupations	44.2
Managers and senior officials	15.7
Associate professional and technical occupations	12.7
GVA per worker (£)	54
Exports: gross output (%) ¹	16
Concentration	very low
% establishments with vacancies	22.9
% establishments with HtFVs	7.6
% establishments with SSVs	6.4
% establishments with skill gaps	27.5

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data are 2003 except ¹ where data are 2002. Data relate to England except ¹ where data are for UK.

Table 4.9: GoSkills

Share of GVA (%)	2.5
Employment (000)	593
Share of England (%)	2.4
Male:female	71:29
Change: 1993–2003 (% pa)	1.2
Change: 1998–2003 (% pa)	1
Change: 2003–08 (forecast % pa)	0.3
Self-employment (%)	16.9
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	22.3
Managers and senior officials	13.9
Administrative and secretarial occupations	12.9
GVA per worker (£)	40.9
Exports: gross output (%) ¹	15.6
Concentration	very low
% establishments with vacancies	25.4
% establishments with HtFVs	17.8
% establishments with SSVs	11.3
% establishments with skill gaps	17.1

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.10: Improve

Share of GVA (%)	2.1
Employment (000)	394
Share of England (%)	1.6
Male:female	67:33
Change: 1993–2003 (% pa)	-0.2
Change: 1998–2003 (% pa)	-1.5
Change: 2003–08 (forecast % pa)	-1
Self-employment (%)	2.8
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	26.7
Elementary occupations	16.5
Skilled trades occupations	14.6
GVA per worker (£)	52.1
Exports: gross output (%) ¹	16.2
Concentration	medium
% establishments with vacancies	24.8
% establishments with HtFVs	12.6
% establishments with SSVs	9.0
% establishments with skill gaps	25.5

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.11: Lantra

Share of GVA (%)	1.1
Employment (000)	356
Share of England (%)	1.4
Male:female	68:32
Change: 1993–2003 (% pa)	-3.3
Change: 1998–2003 (% pa)	-5.7
Change: 2003–08 (forecast % pa)	-0.7
Self-employment (%)	34.9
Top three occupational groups (% of total emp.)	
Elementary occupations	32.1
Skilled trades occupations	30.8
Personal service occupations	9.4
GVA per worker (£)	27.8
Exports: gross output (%) ¹	10
Concentration	very low
% establishments with vacancies	10.9
% establishments with HtFVs	7.6
% establishments with SSVs	5.5
% establishments with skill gaps	14.0

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data are 2003 except ¹ where data are 2002. Note(s): Data relate to England except ¹ where data are for UK.

Table 4.12: Lifelong Learning UK

Share of GVA (%)	2.2
Employment (000)	752
Share of England (%)	3
Male:female	31:69
Change: 1993–2003 (% pa)	2.2
Change: 1998–2003 (% pa)	3.5
Change: 2003–08 (forecast % pa)	1
Self-employment (%)	6.1
Top three occupational groups (% of total emp.)	
Professional occupations	48.6
Associate professional and technical occupations	15.3
Personal service occupations	10.3
GVA per worker (£)	29.1
Exports: gross output (%) ¹	2.9
Concentration	very low
% establishments with vacancies	28.5
% establishments with HtFVs	9.0
% establishments with SSVs	6.1
% establishments with skill gaps	20.9

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.13: People 1st

Share of GVA (%)	13.5
Employment (000)	2,256
Share of England (%)	9.1
Male:female	45:55
Change: 1993–2003 (% pa)	2.5
Change: 1998–2003 (% pa)	2.2
Change: 2003–08 (forecast % pa)	0.5
Self-employment (%)	8.8
Top three occupational groups (% of total emp.)	
Managers and senior officials	26.4
Elementary occupations	26
Associate professional and technical occupations	10.1
GVA per worker (£)	57.9
Exports: gross output (%) ¹	5.5
Concentration	very low
% establishments with vacancies	21.4
% establishments with HtFVs	9.3
% establishments with SSVs	6.1
% establishments with skill gaps	22.7

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.14: Proskills

Share of GVA (%)	2.9
Employment (000)	645
Share of England (%)	2.6
Male:female	69:31
Change: 1993–2003 (% pa)	-0.3
Change: 1998–2003 (% pa)	-1.7
Change: 2003–08 (forecast % pa)	-0.6
Self-employment (%)	9.9
Top three occupational groups (% of total emp.)	
Skilled trades occupations	21.5
Process, plant and machine operatives	18
Managers and senior officials	15.2
GVA per worker (£)	41.9
Exports: gross output (%) ¹	19
Concentration	low
% establishments with vacancies	20.8
% establishments with HtFVs	11.9
% establishments with SSVs	10.3
% establishments with skill gaps	24.3

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.15: SEMTA

Share of GVA (%)	5.9
Employment (000)	1,307
Share of England (%)	5.3
Male:female	79:21
Change: 1993–2003 (% pa)	-0.9
Change: 1998–2003 (% pa)	-3.7
Change: 2003–08 (forecast % pa)	-2.3
Self-employment (%)	5.1
Top three occupational groups (% of total emp.)	
Skilled trades occupations	25.7
Process, plant and machine operatives	18.5
Managers and senior officials	13.6
GVA per worker (£)	42.1
Exports: gross output (%) ¹	65.3
Concentration	low
% establishments with vacancies	17.9
% establishments with HtFVs	10.5
% establishments with SSVs	8.5
% establishments with skill gaps	22.1

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.16: SkillsActive

Share of GVA (%)	1.1
Employment (000)	330
Share of England (%)	1.3
Male:female	48:52
Change: 1993–2003 (% pa)	3
Change: 1998–2003 (% pa)	4.1
Change: 2003–08 (forecast % pa)	2.1
Self-employment (%)	26.8
Top three occupational groups (% of total emp.)	
Associate professional and technical occupations	22.1
Managers and senior officials	17.8
Personal service occupations	14.5
GVA per worker (£)	31.8
Exports: gross output (%) ¹	11.3
Concentration	low
% establishments with vacancies	22.3
% establishments with HtFVs	9.3
% establishments with SSVs	6.3
% establishments with skill gaps	16.5

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.17: Skillsfast UK

Share of GVA (%)	0.9
Employment (000)	313
Share of England (%)	1.3
Male:female	53:47
Change: 1993–2003 (% pa)	-4.1
Change: 1998–2003 (% pa)	-6.6
Change: 2003–08 (forecast % pa)	-3.3
Self-employment (%)	15.3
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	25.1
Managers and senior officials	17
Elementary occupations	11.6
GVA per worker (£)	27.3
Exports: gross output (%) ¹	38.5
Concentration	low
% establishments with vacancies	14.3
% establishments with HtFVs	7.0
% establishments with SSVs	4.2
% establishments with skill gaps	18.7

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.18: Skills for Care and Development

Share of GVA (%)	1.7
Employment (000)	897
Share of England (%)	3.6
Male: female	19:81
Change: 1993–2003 (% pa)	1.3
Change: 1998–2003 (% pa)	1.8
Change: 2003–08 (forecast % pa)	1.2
Self-employment (%)	8.5
Top three occupational groups (% of total emp.)	
Personal service occupations	28.9
Associate professional and technical occupations	28.2
Professional occupations	12.3
GVA per worker (£)	18.2
Exports: gross output (%) ¹	0
Concentration	very low
% establishments with vacancies	33.4
% establishments with HtFVs	16.2
% establishments with SSVs	9.6
% establishments with skill gaps	23.2

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data are 2003 except ¹ where data are 2002. Data relate to England except ¹ where data are for UK.

Table 4.19: Skills for Health

Share of GVA (%)	4.6
Employment (000)	1,588
Share of England (%)	6.4
Male:female	19:81
Change: 1993–2003 (% pa)	1.3
Change: 1998–2003 (% pa)	1.8
Change: 2003–08 (forecast % pa)	1.2
Self-employment (%)	8.5
Top three occupational groups (% of total emp.)	
Personal service occupations	28.9
Associate professional and technical occupations	28.2
Professional occupations	12.3
GVA per worker (£)	28.2
Exports: gross output (%) ¹	0.2
Concentration	low
% establishments with vacancies	26.9
% establishments with HtFVs	12.1
% establishments with SSVs	7.0
% establishments with skill gaps	25.8

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.20: Skills for Justice

Share of GVA (%)	1.3
Employment (000)	299
Share of England (%)	1.2
Male:female	51:49
Change: 1993–2003 (% pa)	-0.2
Change: 1998–2003 (% pa)	0.3
Change: 2003–08 (forecast % pa)	-0.5
Self-employment (%)	1.3
Top three occupational groups (% of total emp.)	
Administrative and secretarial occupations	27.6
Associate professional and technical occupations	23
Managers and senior officials	12.6
GVA per worker (£)	41.7
Exports: gross output (%) ¹	0.9
Concentration	very low
% establishments with vacancies	29.7
% establishments with HtFVs	-
% establishments with SSVs	-
% establishments with skill gaps	35.6

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.21: Skills for Logistics

Share of GVA (%)	3.5
Employment (000)	875
Share of England (%)	3.5
Male:female	72:28
Change: 1993–2003 (% pa)	2.1
Change: 1998–2003 (% pa)	1.5
Change: 2003–08 (forecast % pa)	0.5
Self-employment (%)	13.5
Top three occupational groups (% of total emp.)	
Process, plant and machine operatives	25.7
Administrative and secretarial occupations	17.1
Elementary occupations	14.3
GVA per worker (£)	38
Exports: gross output (%) ¹	9.3
Concentration	low
% establishments with vacancies	18.0
% establishments with HtFVs	8.3
% establishments with SSVs	5.7
% establishments with skill gaps	18.3

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK. Logistics also covers anyone with a logistics occupation code employed outside the logistic sector *per se*. These are not included here.

Table 4.22: Skillset

Share of GVA (%)	0.5
Employment (000)	170
Share of England (%)	0.7
Male:female	50:50
Change: 1993–2003 (% pa)	3.2
Change: 1998–2003 (% pa)	3.4
Change: 2003–08 (forecast % pa)	1.9
Self-employment (%)	23.7
Top three occupational groups (% of total emp.)	
Associate professional and technical occupations	21.8
Managers and senior officials	17.6
Personal service occupations	13.5
GVA per worker (£)	30.8
Exports: gross output (%) ¹	19.4
Concentration	low
% establishments with vacancies	11.5
% establishments with HtFVs	-
% establishments with SSVs	-
% establishments with skill gaps	14.1

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.23: Skillsmart Retail

Share of GVA (%)	5.4
Employment (000)	2,558
Share of England (%)	10.3
Male:female	37:63
Change: 1993–2003 (% pa)	1.4
Change: 1998–2003 (% pa)	1.3
Change: 2003–08 (forecast % pa)	0.9
Self-employment (%)	8.2
Top three occupational groups (% of total emp.)	
Sales and customer service occupations	36.4
Managers and senior officials	16.7
Administrative and secretarial occupations	10.6
GVA per worker (£)	20.3
Exports: gross output (%) ¹	0
Concentration	Low
% establishments with vacancies	16.5
% establishments with HtFVs	5.6
% establishments with SSVs	3.4
% establishments with skill gaps	22.3

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.24: SummitSkills

Share of GVA (%)	1.5
Employment (000)	392
Share of England (%)	1.6
Male:female	86:14
Change: 1993–2003 (% pa)	0.6
Change: 1998–2003 (% pa)	-0.1
Change: 2003–08 (forecast % pa)	-0.4
Self-employment (%)	35.2
Top three occupational groups (% of total emp.)	
Skilled trades occupations	41.5
Managers and senior officials	12.6
Elementary occupations	12
GVA per worker (£)	35.4
Exports: gross output (%) ¹	8.7
Concentration	Very low
% establishments with vacancies	13.1
% establishments with HtFVs	7.5
% establishments with skill shortage vacancies	6.3
% establishments with skill gaps	22.5

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data are 2003 except ¹ where data are 2002. Note(s): Data relate to England except ¹ where data are for UK.

Table 4.25: Sectors without an SSC

Share of GVA (%)	26.2
Employment (000)	6,560
Share of England (%)	26.4
Male:female	52:48
Change: 1993–2003 (% pa)	1.7
Change: 1998–2003 (% pa)	1.4
Change: 2003–08 (forecast % pa)	0.6
Self-employment (%)	10.6
Top three occupational groups (% of total emp.)	
Professional occupations	19
Associate professional and technical occupations	17.7
Managers and senior officials	15.2
GVA per worker (£)	38.4
Exports: gross output (%) ¹	10.5
Concentration	very low
% establishments with vacancies	
% establishments with HtFVs	
% establishments with SSVs	
% establishments with skill gaps	

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Table 4.26: Overlapping

Share of GVA (%)	-11.1
Employment (000)	-854
Share of England (%)	-3.4
Male:female	59:41
Change: 1993–2003 (% pa)	2.6
Change: 1998–2003 (% pa)	1.1
Change: 2003–08 (forecast % pa)	1.6
Self-employment (%)	11.7
Top three occupational groups (% of total emp.)	
Managers and senior officials	18
Associate professional and technical occupations	17.3
Administrative and secretarial occupations	14.2
GVA per worker (£)	124
Exports: gross output (%) ¹	8
Concentration	very low
% establishments with vacancies	
% establishments with HtFVs	
% establishments with SSVs	
% establishments with skill gaps	

Sources: CE and IER estimates based on various National Statistics sources (see Annex for details).

Notes: Data relate to England except ¹ where data are for UK.

Annex to Volume 3: Statistical Sources

Many of the data in the broad sector and detailed industry summary tables were taken from the estimates and projections produced by Cambridge Econometrics (CE) and the Institute for Employment Research (IER) and published in Wilson, R.A., A. Dickerson and K. Homenidou (2003). *'Working Futures': New Projections of Occupational Employment by Sector and Region*. Sector Skills Development Agency: Wath-upon-Dearne.

National statistics sources

GVA (gross value added), export and concentration estimates are based on data from several sources: *United Kingdom National Accounts – The Blue Book* (a publication of the Government Statistical Office); *Index of Production*; and *Input-Output Supply and Use*.

Other sources

Employment and occupational estimates are based on *Working Futures* data.

Vacancy and skill gap estimates were obtained from the *National Employer Skills Survey 2003* (NESS 2003).

Table A.1a: Industrial coverage

No.	Industry	SIC 1992	SSC representation (industry coverage if partial)
		01–02,	
1	Agriculture, etc.	05	Lantra
2	Mining and quarrying	10–14	Cogent
3	Food, drink and tobacco	15–16	Improve (food and drink manufacturing)
4	Textiles and clothing	17–19	Skillsfast
5	Wood and paper products	20–21	Proskills (manufacture of paper)
6	Publishing and printing	22	Skillset (publishing)
7	Chemicals and non-metallic minerals	23–26	Cogent Proskills (non-metallic mineral products)
8	Metals and metal goods	27–28	SEMTA
9	Engineering	29–33	SEMTA
10	Transport equipment	34–35	SEMTA
11	Manufacturing nes and recycling	36–37	Proskills (manufacture of furniture)
12	Electricity, gas and water	40–41	Energy & Utility Skills
13	Construction	45	ConstructionSkills (building of complete constructions) SummitSkills (building installation)
14	Sale and maintenance of motor vehicles	50	Automotive Skills (repair and maintenance of motor vehicles) Cogent (retail of automotive fuel)
15	Wholesale distribution	51	
16	Retail distribution	52	Skillsmart Retail
17	Hotels and catering	55	People 1st
18	Transport	60–63	GoSkills (passenger transport) Skills for Logistics (freight transport) People 1st (auxiliary transport services)
19	Communications	64	e-skills UK (telecommunications)
20	Banking and insurance	65–67	Financial Services Skills Council
		70–71,	
21	Professional services	73	Asset Skills (real estate activities)
22	Computing and related services	72	e-skills UK
23	Other business services	74	Asset Skills (facilities management)
24	Public administration and defence	75	Skills for Justice (justice and judicial activities)
25	Education	80	Lifelong Learning UK
26	Health and social work	85	Skills for Health
27	Miscellaneous services	90–99	Energy & Utility Skills (waste treatment) People 1st (gaming and betting) SkillsActive (sporting activities) Skillset (motion picture and video activities)

Source: SSDA.

Table A.1b: SSDA sector mappings

Matrix Standard Sector Groupings			SSC
1	Agriculture	01 Agriculture, hunting, etc.	Lantra
		02 Forestry, logging, etc.	Improve
		05 Fishing, operation fish hatcheries/farms	
2	Mining & quarrying	10 Mining coal/lignite; extraction of peat	Cogent
		11 Extraction crude petroleum/natural gas	Proskills
		12 Mining of uranium and thorium ores	
		13 Mining of metal ores	
		14 Other mining and quarrying	
3	Food, drink & tobacco	15 Manuf. food products and beverages	Improve
		16 Manuf. tobacco products	Lantra; Skillsfast UK
4	Textiles & clothing	17 Manuf. textiles	Skillsfast UK
		18 Manuf. apparel; dressing/dyeing fur	
		19 Tanning/dressing of leather, etc.	
5	Wood, paper	20 Manuf. wood/products/cork, etc.	Proskills
		21 Manuf. pulp, paper and paper products	Skillset
6	Printing & publishing	22 Publishing, printing repro recorded media	Skillset; e-skills UK
7	Chemicals & non-metallics	23 Manuf. coke, refined petroleum products	Cogent
		24 Manuf. chemicals and chemical products	Proskills
		25 Manuf. rubber and plastic goods	Skillset
		26 Manuf. other non-metallic products	
8	Metals & metal goods	27 Manuf. basic metals	SEMTA
		28 Manuf. fabricated metal products, etc.	
9	Engineering	29 Manuf. machinery and equipment nec	SEMTA
		30 Manuf. office machinery and computers	Summitskills
		31 Manuf. electrical machinery/apparatus nec	e-skillsUK
		32 Manuf. radio, TV/communications equipment	Skillsfast UK
		33 Manuf. medical, precision instruments, etc.	Skillset
10	Transport equipment	34 :Manuf. motor vehicles, trailers, etc.	SEMTA
		35 :Manuf. other transport equipment	

(continued)

Table A.1b: SSDA sector mappings (continued)

Matrix standard sector groupings		SSC	
11	Manufacturing nes & recycling	36 :Manuf. furniture; manufacturing nec	Energy & Utility Skills; Proskills
		37 :Recycling	
12	Utilities	40 :Electricity, gas, steam/hot water supply	Energy and Utility Skills; Proskills
		41 :Collection, purification/distribution of water	
13	Construction	45 :Construction	ConstructionSkills; SummitSkills; Energy & Utility Skills
14	Sales & maint. motor vehicles	50 :Sale, maintenance/repair motor vehicles	Automotive Skills; GoSkills; Cogent
15	Wholesale distribution	51 :Wholesale trade/commission trade, etc.	Skillsfast UK; Improve; Lantra; Proskills; Energy & Utility Skills
16	Retail distribution	52 :Retail trade, except of motor vehicles	Skillsmart Retail; Skillset; Skillsfast UK; Improve; Lantra; SummitSkills
17	Hotels & catering	55 :Hotels and restaurants	People 1st; SkillsActive
18	Transport	60 :Land transport; transport via pipelines	GoSkills; Skills for Logistics; Energy & Utility Skills; People 1st
		61 :Water transport	
		62 :Air transport	
		63 :Supporting/auxiliary transport, etc.	
19	Communications	64 :Post	Skills for Logistics; e-skills UK
		64 :Telecommunications	
20	Banking & insurance	65 :Financial intermediation, etc.	Financial Services Skills Council
		66 :Insurance and pension funding, etc.	
		67 :Act auxiliary financial intermediation	
21	Professional services	70 :Real estate activities	Asset Skills; Automotive Skills
		71 :Renting machinery/equipment	
		73 :Research and development	
22	Computing & related	72 :Computing and related activities	e-skills UK
23	Other business services	74 :Other business activities	ConstructionSkills; Skillsfast UK; Asset Skills; People 1st; Skillset
24	Public administration	75 :Public admin/defence; compulsory SS	Skills for Justice
26	Health & social work	85 :Health	Skills for Health; Skills for Care and Development
		85 :Social work	Lantra
27	Other services	90 :Sewage/refuse disposal, sanitation, etc.	Energy & Utility Skills; Proskills
		91 :Activities membership organisations	
		92 :Recreational, cultural and sporting	Skillset; SkillsActive; People 1st; Lantra

Skillsfast UK;
SkillsActive

93 :Other service activities

Total

Source: SSDA

Note: nec – not elsewhere classified

Table A.2: Employment by detailed industry

No.	Industry	SIC 2003	Employment in England in 2003 (000)
1	Agriculture, etc.	01–02, 05	304
2	Mining and quarrying	10–14	44
3	Food, drink and tobacco	15–16	383
4	Textiles and clothing	17–19	191
5	Wood and paper products	20–21	155
6	Publishing and printing	22	353
7	Chemicals and non-metallic minerals	23–26	533
8	Metals and metal goods	27–28	413
9	Engineering	29–33	638
10	Transport equipment	34–35	324
11	Manufacturing nes and recycling	36–37	199
12	Electricity, gas and water	40–41	109
13	Construction	45	1,572
14	Sale and maintenance of motor vehicles	50	562
15	Wholesale distribution	51	1,142
16	Retail distribution	52	2,580
17	Hotels and catering	55	1,567
18	Transport	60–63	1,082
19	Communications	64	469
20	Banking and insurance	65–67	985
21	Professional services	70–71, 73	650
22	Computing and related services	72	497
23	Other business services	74	2,875
24	Public administration and defence	75	1,177
25	Education	80	1,947
26	Health and social work	85	2,513
27	Miscellaneous services	90–99	1,550

Sources: CE and IER estimates from *Working Futures* (see above for details).

Table A.3: Employment by broad sector

No	Sector	Sector Matrix industries	Employment in England in 2003 (000)
1	Primary sector and utilities	1–2, 12	457
2	Manufacturing	3–11	3,189
3	Construction	13	1,572
4	Distribution, transport etc.	14–19	7,402
5	Business and other services	20–23, 27	6,557
6	Non-marketed services	24–26	5,637

Sources: CE and IER estimates from *Working Futures* (see above for details).

Table A.4: Summary industrial indicators – employment change

	Level	Change (%)		Change (000)		Rank	
	(000)	Emp	Emp	Emp	Emp	Emp	Emp
	Emp 2003	1993– 2003	1998– 2003	1993– 2003	1998– 2003	1993– 2003	1998– 2003
Agriculture, etc.	304	-3.8	-6.9	-130	-145	25	26
Mining and quarrying	44	-3.7	1.1	2	-20	24	11
Food, drink and tobacco	383	-0.3	-1.5	-31	-12	18	19
Textiles and clothing	191	-6.6	-10.2	-136	-189	27	27
Wood and paper products	155	-2.2	-2.9	-24	-39	23	23
Publishing and printing	353	0.5	-0.8	-14	18	14	18
Chemicals and non-metallic minerals	533	-0.9	-2.9	-84	-48	20	21
Metals and metal goods	413	-2	-4	-93	-93	22	24
Engineering	638	-1	-4.2	-151	-66	21	25
Transport equipment	324	0.4	-2.9	-52	12	15	22
Manufacturing nes and recycling	199	1.3	-2	-21	24	11	20
Electricity, gas and water	109	-4.1	-0.2	-1	-56	26	16
Construction	1,572	0.8	1	77	124	13	12
Sale and maintenance of motor vehicles	562	-0.7	-0.1	-4	-40	19	15
Wholesale distribution	1,142	1.4	-0.1	-8	147	9	14
Retail distribution	2,580	1.4	1.3	163	340	8	10
Hotels and catering	1,567	1.9	1.9	142	270	7	7
Transport	1,082	1.2	1.7	90	121	12	9
Communications	469	1.9	2.6	57	82	6	5
Banking and insurance	985	0.2	-0.4	-21	15	16	17
Professional services	650	2.7	3.7	107	151	4	2
Computing and related services	497	8.7	6.2	128	281	1	1
Other business services	2,875	3.1	2	267	749	2	6
Public administration and defence	1,177	-0.2	0.3	17	-21	17	13
Education	1,947	2.1	3.4	300	364	5	3
Health and social work	2,513	1.3	1.8	212	309	10	8
Miscellaneous services	1,550	3	3.1	222	398	3	4

Notes: Ranking of employment change by industry: 1 equals the industry with the strongest employment growth.

Sources: CE and IER estimates from *Working Futures* (see above for details).

Table A.5: Summary industrial indicators – occupational employment structure

	Rank								
	Managers	Prof.	Prof. Assoc.	Admin	Skilled	Personal	Sales	Operatives	Other
Agriculture, etc.	26	27	27	27	2	5	27	17	1
Mining and quarrying	16	12	13	12	7	20	21	10	5
Food, drink and tobacco	18	19	16	17	12	26	6	3	3
Textiles and clothing	12	24	18	21	16	15	16	1	11
Wood and paper products	13	22	11	10	6	18	13	9	15
Publishing and printing	9	18	6	9	14	12	9	12	16
Chemicals and non-metallic minerals	14	13	12	18	11	19	17	4	4
Metals and metal goods	17	14	22	20	4	23	22	6	7
Engineering	10	9	9	14	8	22	18	11	17
Transport equipment	24	10	15	13	5	24	23	8	9
Manufacturing nes and Recycling	15	20	23	19	3	25	19	5	14
Electricity, gas and water	23	8	14	3	9	17	5	15	18
Construction	20	15	26	22	1	27	25	13	10
Sale and maintenance of motor vehicles	2	23	20	26	13	10	3	14	20
Wholesale distribution	3	21	17	24	15	8	2	16	22
Retail distribution	8	25	21	11	19	14	1	19	19
Hotels and catering	1	26	24	23	17	11	8	25	2
Transport	22	17	19	8	18	9	14	2	6
Communications	25	16	25	4	10	13	7	7	8
Banking and insurance	11	11	10	1	25	21	4	26	27
Professional services	5	3	4	7	22	4	12	22	24
Computing and related services	4	2	7	5	20	16	10	23	26
Other business services	6	4	5	6	23	6	11	21	23
Public administration and defence	19	6	2	2	24	7	20	20	13
Education	27	1	8	25	27	3	26	24	21
Health and social work	21	5	1	16	26	1	24	27	25
Miscellaneous services	7	7	3	15	21	2	15	18	12

Notes: Ranking of employment by occupational group: 1 equals the industry with highest proportion of workers in a particular occupational group.

Sources: CE and IER estimates from *Working Futures* (see above for details).

Table A.6: Summary industrial indicators – occupational employment levels

	Levels (000)								
	Managers	Prof.	Prof' Assoc	Admin	Skilled	Perso-nal	Sales	Opera-tives	Other
Agriculture, etc.	20	2	5	8	108	24	3	22	112
Mining and quarrying	6	3	4	5	10	1	1	7	7
Food, drink and tobacco	48	15	32	32	56	2	28	105	64
Textiles and clothing	30	5	16	14	24	5	5	69	24
Wood and paper products	21	4	17	17	41	3	5	28	17
Publishing and printing	56	14	67	44	49	11	15	58	37
Chemicals and non-metallic minerals	72	39	57	42	81	10	12	131	89
Metals and metal goods	54	22	30	30	119	5	7	87	60
Engineering	102	66	82	58	144	9	14	105	59
Transport equipment	31	26	28	30	92	4	5	65	42
Manufacturing nes and recycling	27	6	14	15	62	2	4	46	22
Electricity, gas and water	11	12	10	23	22	3	8	10	9
Construction	193	80	78	106	732	6	19	161	198
Sale and maintenance of motor vehicles	124	16	46	33	81	24	138	52	47
Wholesale distribution	251	33	97	72	158	52	285	100	94
Retail distribution	432	67	213	273	216	70	939	153	216
Hotels and catering	473	20	92	105	176	63	79	32	528
Transport	119	45	90	174	109	48	34	301	161
Communications	35	20	27	99	85	14	27	95	67
Banking and insurance	155	76	125	435	31	15	82	20	45
Professional services	125	108	135	113	28	58	23	23	38
Computing and related services	96	101	94	105	24	13	21	17	26
Other business services	534	457	597	565	121	212	112	103	173
Public administration and defence	148	134	271	324	39	59	25	42	134
Education	103	997	288	117	22	195	20	43	162
Health and social work	293	310	709	222	44	726	37	41	133
Miscellaneous services	264	175	349	140	73	226	42	101	181

Sources: CE and IER estimates from *Working Futures* (see above for details).

Table A.7: Summary industrial indicators – occupational employment shares

	% of employment								
	Managers	Prof.	Prof. Assoc.	Admin	Skilled	Personal	Sales	Operatives	Other
Agriculture, etc.	6.7	0.8	1.5	2.6	35.4	7.9	0.9	7.2	37
Mining and quarrying	13.5	7.5	9.5	10.3	22.6	1.7	1.8	16.7	16.3
Food, drink and tobacco	12.6	3.8	8.5	8.3	14.6	0.6	7.4	27.3	16.8
Textiles and clothing	15.5	2.8	8.4	7.1	12.7	2.6	2.4	36	12.5
Wood and paper products	13.6	2.9	10.8	11.2	26.6	2.2	3.5	18.3	11
Publishing and printing	16	4.1	19.1	12.6	14	3.1	4.3	16.3	10.5
Chemicals and non-metallic minerals	13.6	7.2	10.7	7.8	15.2	1.9	2.2	24.6	16.8
Metals and metal goods	13	5.4	7.3	7.2	28.8	1.1	1.7	21	14.4
Engineering	15.9	10.3	12.8	9	22.5	1.4	2.2	16.4	9.3
Transport equipment	9.5	7.9	8.8	9.4	28.3	1.1	1.7	20.1	13.1
Manufacturing nes and recycling	13.5	3	7.1	7.7	31.3	1	2.1	23	11.3
Electricity, gas and water	10	11.1	9.5	21.4	20.3	2.3	7.7	9	8.6
Construction	12.3	5.1	4.9	6.7	46.5	0.4	1.2	10.2	12.6
Sale and maintenance of motor vehicles	22.1	2.8	8.3	5.9	14.5	4.3	24.6	9.3	8.3
Wholesale distribution	22	2.9	8.5	6.3	13.9	4.6	24.9	8.8	8.2
Retail distribution	16.7	2.6	8.2	10.6	8.4	2.7	36.4	5.9	8.4
Hotels and catering	30.2	1.3	5.9	6.7	11.2	4	5	2.1	33.7
Transport	11	4.2	8.4	16	10.1	4.5	3.2	27.8	14.9
Communications	7.5	4.2	5.7	21.1	18.1	3	5.7	20.3	14.3
Banking and insurance	15.7	7.7	12.7	44.2	3.1	1.6	8.3	2	4.6
Professional services	19.2	16.6	20.8	17.3	4.2	8.9	3.5	3.5	5.9
Computing and related services	19.3	20.2	19	21.1	4.9	2.6	4.2	3.5	5.3
Other business services	18.6	15.9	20.8	19.7	4.2	7.4	3.9	3.6	6
Public administration and defence	12.6	11.4	23	27.6	3.4	5	2.1	3.6	11.4
Education	5.3	51.2	14.8	6	1.1	10	1	2.2	8.3
Health and social work	11.6	12.3	28.2	8.8	1.7	28.9	1.5	1.6	5.3
Miscellaneous services	17	11.3	22.5	9	4.7	14.6	2.7	6.5	11.7

Sources: CE and IER estimates from *Working Futures* (see above for details).

Table A.8: Summary indicators – vacancies (levels)

	Levels (000)				Staff not fully proficient
	Employees (2003)	Vacancies	HtFVs	SSVs	
Agriculture, etc.	55.5	1.4	0.7	0.4	5.4
Mining and quarrying	42.8	0.9	0.3	0.1	4.9
Food, drink and tobacco	376.1	9.5	3.7	1.8	52.8
Textiles and clothing	185.7	2.4	1.4	0.7	16.7
Wood and paper products	138.9	3.0	2.0	1.4	15.4
Publishing and printing	319.8	6.7	2.6	1.6	25.9
Chemicals and non-metallic minerals	528.4	9.4	3.4	2.2	67.8
Metals and metal goods	399.1	6.6	3.3	2.1	42.0
Engineering	646.8	9.1	3.7	2.7	68.2
transport equipment	333.2	3.6	1.7	1.3	44.0
Manufacturing nes and recycling	181.6	4.6	2.4	1.2	17.3
Electricity, gas and water	111.3	2.5	0.3	0.2	10.0
Construction	981.6	35.2	20.8	13.5	86.0
Sale and maintenance of motor vehicles	472.0	15.4	8.3	4.8	48.0
Wholesale distribution	1,015.3	21.0	7.2	3.6	103.3
Retail distribution	2,456.6	73.3	24.2	9.4	310.7
Hotels and catering	1,408.1	80.9	34.3	10.9	195.8
Transport	897.5	28.6	13.4	6.7	93.6
Communications	475.1	9.5	2.6	1.5	69.3
Banking and insurance	923.0	24.9	5.1	2.8	115.1
Professional services	556.5	17.6	5.8	3.0	48.4
Computing and related services	472.9	18.5	4.8	3.4	37.7
Other business services	2,524.8	84.7	33.7	22.4	277.0
Public administration and defence	1,098.1	24.8	5.7	2.8	127.2
Education	1,834.6	41.1	11.3	6.6	138.7
Health and social work	2,294.8	90.1	45.3	17.3	265.8
Miscellaneous services	1,147.4	53.7	23.3	11.0	111.2

Notes: The number of employees is lower for each industry than the figures in the Industrial Summary tables, as self-employed workers are excluded.

Source: NESS 2003.

Table A.9: Summary industrial indicators – vacancies (shares)

	Vacancies (as % of employees)	HtFVs (as % of total vacancies)	SSVs (as % of total vacancies)	Staff not fully proficient (as % of employees)
Agriculture, etc.	2.5	48.8	31.9	9.7
Mining and quarrying	2.2	35.2	9.0	11.5
Food, drink and tobacco	2.5	39.5	18.6	14.0
Textiles and clothing	1.3	59.3	28.8	9.0
Wood and paper products	2.2	65.1	46.2	11.1
Publishing and printing	2.1	38.5	23.4	8.1
Chemicals and non-metallic minerals	1.8	35.8	23.3	12.8
Metals and metal goods	1.7	49.2	30.9	10.5
Engineering	1.4	40.4	30.0	10.5
Transport equipment	1.1	48.3	35.0	13.2
Manufacturing nes and recycling	2.5	51.2	26.5	9.6
Electricity, gas and water	2.2	11.6	6.9	9.0
Construction	3.6	59.2	38.2	8.8
Sale and maintenance of motor vehicles	3.3	54.1	30.9	10.2
Wholesale distribution	2.1	34.2	16.9	10.2
Retail distribution	3.0	33.1	12.9	12.6
Hotels and catering	5.7	42.4	13.5	13.9
Transport	3.2	47.0	23.4	10.4
Communications	2.0	27.4	16.3	14.6
Banking and insurance	2.7	20.7	11.4	12.5
Professional services	3.2	32.9	17.2	8.7
Computing and related services	3.9	26.1	18.4	8.0
Other business services	3.4	39.7	26.4	11.0
Public administration and defence	2.3	22.9	11.4	11.6
Education	2.2	27.6	16.1	7.6
Health and social work	3.9	50.3	19.2	11.6
Miscellaneous services	4.7	43.4	20.5	9.7

Source: NESS 2003.

Table A.10: Summary industrial indicators – vacancies by organisation

	Yes		No		Don't know		Total
	000	%	000	%	000	%	000
Agriculture, etc.	1.0	11.8	7.5	88.2	0.0	0.0	8.5
Mining and quarrying	0.3	10.6	2.3	89.4	0.0	0.0	2.6
Food, drink and tobacco	1.9	23.3	6.3	76.5	0.0	0.2	8.2
Textiles and clothing	1.6	13.3	10.1	85.9	0.1	0.8	11.8
Wood and paper products	1.8	17.9	8.3	81.9	0.0	0.2	10.1
Publishing and printing	3.6	12.3	25.6	87.5	0.1	0.2	29.3
Chemicals and non-metallic minerals	3.8	22.1	13.2	77.7	0.0	0.2	17.0
Metals and metal goods	4.9	15.9	25.8	84.0	0.0	0.1	30.7
Engineering	5.0	17.0	24.5	82.4	0.2	0.6	29.7
Transport equipment	0.8	14.6	4.8	84.9	0.0	0.5	5.6
Manufacturing nes and recycling	3.1	16.6	15.8	83.3	0.0	0.1	19.0
Electricity, gas and water	0.5	28.0	1.3	71.7	0.0	0.3	1.8
Construction	21.5	12.7	147.3	87.0	0.6	0.4	169.4
Sale and maintenance of motor vehicles	11.2	15.6	60.3	84.2	0.1	0.2	71.6
Wholesale distribution	13.4	11.3	105.1	88.5	0.3	0.2	118.8
Retail distribution	41.5	16.5	209.8	83.2	0.8	0.3	252.1
Hotels and catering	33.5	25.4	97.5	74.1	0.6	0.4	131.5
Transport	11.6	17.0	56.6	82.9	0.1	0.1	68.3
Communications	3.3	15.2	18.1	84.3	0.1	0.5	21.5
Banking and insurance	7.6	19.0	32.3	80.6	0.1	0.4	40.1
Professional services	10.8	11.2	85.7	88.6	0.2	0.2	96.7
Computing and related services	13.6	11.3	106.5	88.6	0.2	0.2	120.3
Other business services	46.1	14.6	267.5	84.9	1.4	0.4	315.1
Public administration and defence	6.2	30.2	14.2	68.5	0.3	1.3	20.7
Education	15.2	32.0	32.1	67.7	0.1	0.2	47.4
Health and social work	28.3	31.8	59.9	67.4	0.7	0.8	88.9
Miscellaneous services	34.5	19.3	143.5	80.4	0.6	0.3	178.6

Source: NESS 2003.

Table A.11: Summary industrial indicators – organisations reporting hard-to-fill vacancies

	Yes 000	%	No 000	%	Don't know 000	%	Total 000
Agriculture, etc.	0.6	6.5	7.9	93.2	0.0	0.3	8.5
Mining and quarrying	0.1	2.6	2.5	97.4	0.0	0.0	2.6
Food, drink and tobacco	0.6	7.3	7.2	88.2	0.4	4.5	8.2
Textiles and clothing	1.0	8.4	10.8	91.2	0.0	0.4	11.8
Wood and paper products	1.2	11.9	8.8	87.4	0.1	0.7	10.1
Publishing and printing	1.8	6.2	27.0	92.4	0.4	1.4	29.3
Chemicals and non-metallic minerals	1.8	10.5	15.0	88.1	0.2	1.4	17.0
Metals and metal goods	2.2	7.2	28.0	91.2	0.5	1.6	30.7
Engineering	2.6	8.7	26.9	90.6	0.2	0.7	29.7
Transport equipment	0.4	7.4	5.2	92.4	0.0	0.1	5.6
Manufacturing nes and recycling	1.8	9.4	17.0	89.5	0.2	1.2	19.0
Electricity, gas and water	0.1	6.2	1.6	91.2	0.0	2.6	1.8
Construction	12.2	7.2	155.4	91.8	1.7	1.0	169.4
Sale and maintenance of motor vehicles	6.9	9.6	64.2	89.7	0.5	0.7	71.6
Wholesale distribution	5.1	4.3	112.3	94.6	1.3	1.1	118.8
Retail distribution	16.7	6.6	233.4	92.6	1.9	0.8	252.1
Hotels and catering	16.4	12.4	113.8	86.5	1.4	1.0	131.5
Transport	6.0	8.7	61.6	90.3	0.7	1.0	68.3
Communications	1.3	6.1	20.1	93.6	0.1	0.3	21.5
Banking and insurance	2.5	6.1	37.3	93.1	0.3	0.7	40.1
Professional services	3.7	3.8	92.4	95.5	0.6	0.6	96.7
Computing and related services	4.6	3.8	114.5	95.2	1.2	1.0	120.3
Other business services	18.5	5.9	293.8	93.3	2.8	0.9	315.1
Public administration and defence	1.5	7.5	18.7	90.1	0.5	2.4	20.7
Education	5.7	12.0	40.3	85.0	1.4	3.0	47.4
Health and social work	13.0	14.7	73.6	82.8	2.2	2.5	88.9
Miscellaneous services	17.2	9.6	159.2	89.2	2.1	1.2	178.6

Source: NESS 2003.

Table A.12: Summary industrial indicators – organisations reporting skills-shortage vacancies

	Yes 000	%	No 000	%	Total 000
Agriculture, etc.	0.4	4.6	8.1	95.4	8.5
Mining and quarrying	0.0	1.8	2.6	98.2	2.6
Food, drink and tobacco	0.4	4.9	7.8	95.1	8.2
Textiles and clothing	0.5	4.3	11.3	95.7	11.8
Wood and paper products	0.8	8.1	9.3	91.9	10.1
Publishing and printing	1.1	3.6	28.2	96.4	29.3
Chemicals and non-metallic minerals	1.3	7.5	15.7	92.5	17.0
Metals and metal goods	1.5	4.9	29.2	95.1	30.7
Engineering	2.0	6.8	27.7	93.2	29.7
Transport equipment	0.3	5.2	5.4	94.8	5.6
Manufacturing nes and recycling	0.9	4.5	18.1	95.5	19.0
Electricity, gas and water	0.1	4.8	1.7	95.2	1.8
Construction	8.5	5.0	160.8	95.0	169.4
Sale and maintenance of motor vehicles	4.2	5.9	67.4	94.1	71.6
Wholesale distribution	3.0	2.5	115.8	97.5	118.8
Retail distribution	7.4	2.9	244.7	97.1	252.1
Hotels and catering	6.6	5.0	124.9	95.0	131.5
Transport	3.3	4.8	65.0	95.2	68.3
Communications	0.7	3.2	20.8	96.8	21.5
Banking and insurance	1.6	3.9	38.5	96.1	40.1
Professional services	2.1	2.2	94.7	97.8	96.7
Computing and related services	3.4	2.8	116.9	97.2	120.3
Other business services	12.6	4.0	302.5	96.0	315.1
Public administration and defence	0.7	3.5	20.0	96.5	20.7
Education	3.5	7.4	43.9	92.6	47.4
Health and social work	6.0	6.8	82.8	93.2	88.9
Miscellaneous services	9.4	5.3	169.1	94.7	178.6

Sources: NESS 2003.

Table A.13: Summary industrial indicators – organisations reporting skills gaps

	Yes 000	%	No 000	%	Don't know 000	%	Total 000
Agriculture, etc.	2.0	23.6	6.4	75.7	0.1	0.7	8.5
Mining and quarrying	0.6	21.4	2.0	76.8	0.0	1.8	2.6
Food, drink and tobacco	3.8	45.8	4.4	53.5	0.1	0.8	8.2
Textiles and clothing	3.0	25.6	8.8	74.1	0.0	0.3	11.8
Wood and paper products	3.0	30.0	7.1	69.8	0.0	0.1	10.1
Publishing and printing	5.8	19.7	23.4	80.0	0.1	0.3	29.3
Chemicals and non-metallic minerals	4.8	28.5	12.0	70.8	0.1	0.8	17.0
Metals and metal goods	7.7	25.1	22.9	74.5	0.1	0.3	30.7
Engineering	9.1	30.5	20.5	69.1	0.1	0.4	29.7
Transport equipment	1.4	25.0	4.2	74.5	0.0	0.5	5.6
Manufacturing nes and recycling	4.0	21.1	14.8	77.9	0.2	1.0	19.0
Electricity, gas and water	0.4	24.5	1.3	72.9	0.0	2.6	1.8
Construction	29.9	17.6	139.2	82.2	0.3	0.2	169.4
Sale and maintenance of motor vehicles	17.1	23.9	54.3	75.8	0.2	0.3	71.6
Wholesale distribution	22.4	18.9	95.4	80.3	1.0	0.8	118.8
Retail distribution	65.2	25.9	185.9	73.7	1.0	0.4	252.1
Hotels and catering	40.2	30.6	90.6	68.9	0.7	0.5	131.5
Transport	13.8	20.2	54.1	79.3	0.4	0.6	68.3
Communications	5.0	23.3	16.4	76.4	0.1	0.2	21.5
Banking and insurance	10.9	27.1	28.8	71.8	0.4	1.1	40.1
Professional services	16.7	17.3	79.6	82.2	0.5	0.5	96.7
Computing and related services	15.6	13.0	104.3	86.7	0.4	0.3	120.3
Other business services	58.3	18.5	256.0	81.2	0.9	0.3	315.1
Public administration and defence	7.3	35.1	12.7	61.1	0.8	3.8	20.7
Education	15.5	32.7	31.3	65.9	0.7	1.4	47.4
Health and social work	25.2	28.3	62.9	70.8	0.8	0.9	88.9
Miscellaneous services	31.6	17.7	146.1	81.8	0.9	0.5	178.6

Source: NESS 2003.



Related Publications

Skills in England 2004: Index

Publication Reference: LSC-P-NAT-050412

Skills in England 2004 Volume 1: Key Messages

Publication Reference: LSC-P-NAT-050432

Skills in England 2004 Volume 2: Research Report

Publication Reference: LSC-P-NAT-050161

Skills in England 2004 Volume 4: Regional/local

Publication Reference: LSC-P-NAT-050163

Useful Websites:

Skills and Education network

<http://senet.lsc.gov.uk>

Further Information

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