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Skills in England 2003

Volume 3

Industrial Sector Report



Learning+Skills Council

Report prepared for the Learning and Skills Council by

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

Preface

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

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

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Introduction

- 3.1 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 (NESS2003).
- 3.2 A summary table is presented for each sector, showing comparable information on variables such as:
- output;
 - employment;
 - occupational structure;
 - vacancies; and
 - productivity.

All data shown in the industry summary tables were obtained from National Statistics.

- 3.3 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 6 broad sectors and 27 industries that most closely match the grouping of economic activities covered by the network of SSCs (both licensed and under development) – see Table A1. The 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 1992 Standard Industrial Classification (SIC). Table A1 shows how the 27 industries correspond to both the 1992 SIC and the various SSCs, by identifying those SSCs with an interest in the industry grouping.
- 3.4 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 1992 and 2002, 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 significantly, and employment in utilities has fallen dramatically.

The economy has been divided up into 27 detailed industries that map as closely as possible the emerging network of Sector Skills Councils.

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

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

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

3.6 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 occs., particularly in science and technology, protective services and culture, media and sport;
- an increase in employment in personal services (above all in healthcare 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 transport, plant and machine operatives within manufacturing; and
- a decline in demand for unskilled workers in elementary occupations, particularly in administrative and service positions.

Broad Sectoral Profiles

3.7 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 2001, just over 100,000 people were employed in electricity, gas and water, compared to 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 1.1: Primary Sector and Utilities

SIC92 headings: 01-02,05,10-14,40-41 Agriculture, Mining etc, Utilities.	
Share of GVA (%)	3.9
Employment (thousands)	485
Share of total employment in England (%)	1.9
Male: Female	73:27
Change: 1992-2002 (% pa)	-3.9
Change: 1997-2002 (% pa)	-4.3
Self-Employment (%)	29.6
Top Three Occupational Groups (% of Total Emp.)	
Skilled Trades Occupations	30.8
Elementary Occupations	29.0
Transport, Plant and Machine Operatives	8.5
GVA per Worker (£s)	50,700
Exports: Gross Output (%) ¹	18.0
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Broad sector 2: Manufacturing

3.8 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 is in long-term decline and has suffered the sharpest fall in employment among manufacturing over the past decade, and metals and metal goods, which has been characterised by a wave of mergers and acquisitions activity among the major players over the past decade.

Table 1.2: Manufacturing

SIC92 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 nes and Recycling.	
Share of GVA (%)	18.5
Employment (thousands)	3,273
Share of total employment in England (%)	13.2
Male: Female	73:27
Change: 1992-2002 (% pa)	-1.3
Change: 1997-2002 (% pa)	-2.8
Self-Employment (%)	6.4
Top Three Occupational Groups (% of Total Emp.)	
Transport, Plant and Machine Operatives	21.9
Skilled Trades Occupations	21.2
Managers and Senior Officials	13.6
GVA per Worker (£s)	35,400
Exports: Gross Output (%) ¹	44.6
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Globalisation is resulting in a decline in manufacturing employment.

Broad sector 3: Construction

3.9 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, 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. 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 endemic in the labour-intensive construction industry.

Table 1.3: Construction

SIC92 headings: 45 Construction	
Share of GVA (%)	5.4
Employment (thousands)	1,562
Share of total employment in England (%)	6.3
Male: Female	90:10
Change: 1992-2002 (% pa)	0.1
Change: 1997-2002 (% pa)	1.8
Self-Employment (%)	40.9
Top Three Occupational Groups (% of Total Emp.)	
Skilled Trades Occupations	46.9
Elementary Occupations	12.6
Managers and Senior Officials	12.1
GVA per Worker (£s)	21,700
Exports: Gross Output (%) ¹	0.1
Concentration	very low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details)

Road has by far the largest shares of freight transport within the UK.

Some of the main drivers of growth in communications are now less powerful.

Broad sector 4: Distribution, Transport, etc

- 3.10 Over the past 30 years all 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.
- 3.11 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 reached saturation point.
- 3.12 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 retail and distribution industry more significantly. The hospitality sector has been hard hit by the fall out from international political events, as well as domestic problems in agriculture, but is now emerging from this situation.

Table 1.4: Distribution, Transport, etc

SIC92 headings: 50-52,55,60-64 Sale and Maintenance of Motor Vehicles, Wholesale Distribution, Other Retail Distribution. Hotels and Catering, Transport and Storage, Communications.	
Share of GVA (%)	26.7
Employment (thousands)	7,389
Share of total employment in England (%)	29.7
Male: Female	54:46
Change: 1992-2002 (% pa)	1.2
Change: 1997-2002 (% pa)	1.3
Self-Employment (%)	9.8
Top Three Occupational Groups (% of Total Emp.)	
Sales and Customer Service Occupations	20.1
Managers and Senior Officials	19.3
Elementary Occupations	15.1
GVA per Worker (£s)	22,600
Exports: Gross Output (%) ¹	5.3
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Globalisation and the diffusion of IT are key drivers of growth in business services.

Broad sector 5: Business and Other Services

- 3.13 Globalisation and the associated cross-border mergers, divestments, acquisitions and alliances are key drivers of growth in both output and employment in business and other services.
- 3.14 The use of 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 1.5: Business and Other Services

SIC92 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 (thousands)	6,556
Share of total employment in England (%)	26.4
Male: Female	53:47
Change: 1992-2002 (% pa)	3.0
Change: 1997-2002 (% pa)	2.7
Self-Employment (%)	15.0
Top Three Occupational Groups (% of Total Emp.)	
Administrative and Secretarial Occupations	21.3
Associate Professional & Technical Occs.	19.5
Managers and Senior Officials	17.8
GVA per Worker (£s)	27,700
Exports: Gross Output (%) ¹	8.5
Concentration	low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Broad sector 6: Non-marketed Services

3.15 In today's knowledge-based economy, education has become increasingly important, while developing health and social care has become increasingly important due to the ageing population, which is demanding technological innovations to cut the time involved in the treatment of patients and is therefore 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 NHS spending to rise by around 7 per cent pa in real terms over 2002–07.

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

Table 1.6: Non-marketed Services

SIC92 headings: 75,80,85 Public Administration and Defence, Education Services, Health and Social Work.	
Share of GVA (%)	16.6
Employment (thousands)	5,567
Share of total employment in England (%)	22.4
Male: Female	29.71
Change: 1992-2002 (% pa)	1.1
Change: 1997-2002 (% pa)	1.9
Self-Employment (%)	5.6
Top Three Occupational Groups (% of Total Emp.)	
Professional Occupations	25.3
Associate Professional and Technical Occupations	22.5
Personal Service Occupations	17.0
GVA per Worker (£s)	18,800
Exports: Gross Output (%) ¹	0.6
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Detailed Industrial Profiles

Industry 1: Agriculture, etc

- 3.16 Agriculture has faced major difficulties since the mid-1990s. There is little sign of a sustained 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 many farmers have undergone a dramatic reduction in their incomes. According to figures from Deloitte and Touche, net farm income fell by 90 per cent between 1995 and 2000 (after doubling between 1990 and 1995). Average net farm incomes in the UK have begun to rise again since 2000, but this is mainly the result of a sharp increase in average incomes in dairy farms. Net incomes on cereals, pigs and poultry, and mixed farms have continued to fall.
- 3.17 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. Many farmers have left the industry as a result.
- 3.18 While the industry is small relative to many others in the UK, and employment is declining, it is still an important component of the UK economy, employing around 330,000 in England, and is closely linked with growing industries, notably tourism and leisure.
- 3.19 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 due to their proximity to national parks or are too far 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 2001-02, farm-based tourist attractions were all severely affected by the restrictions in countryside access put in place during the foot-and-mouth epidemic.

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.

- 3.20 Even prior to the onset of the BSE and foot-and-mouth crises, many farmers were leaving the industry, although the decline in employment has clearly accelerated in recent years: between 1992 and 2002, employment declined on average by 3 per cent pa, and by 5 per cent per annum between 1997 and 2002. Employment has fallen across each major occupational group, with the sharpest falls being in administrative and secretarial occupations, and among managers and senior officials. There have also been sharp falls in the number of machine and transport operatives and professional staff.
- 3.21 On the other hand, the demand for personal service occupations has risen sharply, possibly reflecting strong growth in demand for veterinarian and animal care services.
- 3.22 Even though the worst of the foot-and-mouth epidemic appears to have passed, employment has continued its sharp decline. A fall of more than 8 per cent was recorded in 2002, and employment in the industry is expected to decline similarly in 2003.
- 3.23 Even prior to the onset of the 2001 foot-and-mouth crisis, a continuing decline in employment in agriculture was expected over the next few years and into the long term (although it is likely that job losses will slow somewhat compared to those seen in the 1980s and 1990s). This is not surprising, as globalisation and agricultural reforms are forcing the industry to search for even greater productivity gains, while slow output growth means that productivity improvements come at the expense of jobs.
- 3.24 The sharpest decline in demand is expected to be for managers and senior officials, machine and transport operatives and elementary occupations. 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.
- 3.25 According to NESS2003, 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 skill-shortage vacancies (SSVs). Approximately 9.5 per cent of employees are not fully proficient at their jobs.
- 3.26 Just under 12 per cent of firms in Agriculture reported vacancies, with 6.5 per cent of firms reporting having HtFVs and 4.5 per cent of firms reporting SSVs. Just under 24 per cent of firms reported skills gaps.

Employment is declining across most major occupational groups.

The pace of decline in employment is expected to slow.

Diversification is likely to result in an increase in demand for sales staff.

Nearly half of all vacancies in Agriculture are hard-to-fill vacancies.

Table 1.7: Agriculture, etc

SIC92 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 (%)	1.2
Employment (thousands)	330
Share of total employment in England (%)	1.3
Male: Female	74:26
Change: 1992-2002 (% pa)	-3.1
Change: 1997-2002 (% pa)	-5.5
Change: 2002-07 (forecast % pa)	-2.3
Self-Employment (%)	41.5
Top Three Occupational Groups (% of Total Emp.)	
Elementary Occupations	37.4
Skilled Trades Occupations	35.3
Personal Service Occupations	7.5
Establishments Reporting Hard-to-Fill Vacancies (%)	6.5
Establishments Reporting Skill-Shortage Vacancies (%)	4.6
GVA per Worker (£s)	24,200
Exports: Gross Output (%) ¹	8.3
Concentration	very low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 2: Mining and Quarrying

- 3.27 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.
- 3.28 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.
- 3.29 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.
- 3.30 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 the rate of decline has slowed in recent years. In terms of overall employment and output, the industry is small (45,000 workers in 2002), with oil and gas and non-coal (other) mining each accounting for around 40 per cent of total employment, although oil and gas accounts for virtually all of the industry's GVA.
- 3.31 In terms of occupational structure, the three most important groups are skilled trades workers (23 per cent of total employment in the industry), transport, plant and machine operatives (17 per cent) and elementary occupations (17 per cent). However, over the past decade, these three groups of workers have seen by far the sharpest falls in employment. The number of workers in sales and customer service occupations has increased, however.
- 3.32 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. Employment is expected to decline sharply. Thereafter, the pace of job shedding should become more modest. 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. 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 in the Mining and Quarrying industry is in decline.

The most important occupation groups are also those in which employment is in sharp decline.

Employment is expected to continue to decline.

Hard-to-fill vacancies account for around one-third of all vacancies in Mining and Quarrying.

- 3.33 According to NESS2003, 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.
- 3.34 Just over 10.5 per cent of firms in Mining and Quarrying reported vacancies, with 2.5 per cent of firms reporting having HtFVs and 1.75 per cent of firms reporting SSVs. Around 21.5 per cent of firms reported skills gaps among their employees.

Table 1.8: Mining and Quarrying

SIC92 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 not elsewhere specified.	
Share of GVA (%)	0.3
Employment (thousands)	55
Share of total employment in England (%)	0.2
Male: Female	86:14
Change: 1992-2002 (% pa)	-6.8
Change: 1997-2002 (% pa)	-2.2
Change: 2002-07 (forecast % pa)	-2.4
Self-Employment (%)	5.1
Top Three Occupational Groups (% of Total Emp.)	
Skilled Trades Occupations	22.9
Transport, Plant and Machine Operatives	17
Elementary Occupations	16.6
Establishments Reporting Hard-to-Fill Vacancies (%)	2.6
Establishments Reporting Skill-Shortage Vacancies (%)	1.8
GVA per Worker (£s)	43,800
Exports: Gross Output (%) ¹	48.2
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 3: Food, Drink and Tobacco

- 3.35 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 is also largely unaffected by any recovery period or time of increased consumer spending.
- 3.36 Competition to supply the UK supermarkets now dominates the food industry, which accounts for approximately 80 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.
- 3.37 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 Drink industry.
- 3.38 The Government's long-awaited *Tobacco Advertising and Promotion Act* came into effect on 14 February 2003. The Act outlaws tobacco advertisements in magazines and newspapers, and on billboards. On 14 May 2003 the ban was extended to include direct marketing, in-pack promotions and sponsorship. Trans-continental sports such as Formula 1 are exempt, but only until the global ban, which will begin in 2006. Tobacco companies argue that the advertising ban restricts competition in the industry and does not allow the companies to influence the choices of adult smokers. In any case, the tobacco market in the UK is dominated by two firms, Gallaher and Imperial Tobacco, which control 80 per cent of the market.
- 3.39 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 continued over the past decade. However, this 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 2 and 3 per cent pa between 1992 and 2002, 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 occupation group, accounting for 28 per cent of overall employment in the industry, saw a slight decline.

The Food, Drink and Tobacco industry is declining in importance.

Mergers and consolidation have transformed the Food industry.

Large firms dominate the Drink industry.

The highly regulated Tobacco industry is a virtual duopoly in the UK.

Over the past decade, trends in occupational demand have shown strong divergence from the general employment trend.

- 3.40 In Food, Drink and Tobacco, employment is forecast to continue to decline, reflecting pressure to supply supermarkets at the lowest price possible. This is 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 trades occupations, although this should be offset to some degree by an increase in demand for skilled workers in managerial, professional and associate technical and professional occupations, and also in sales positions.
- 3.41 According to NESS2003, 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.
- 3.42 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 7.5 per cent of firms reported HtFVs and 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.

These trends are expected to continue over the next five years.

A high proportion of employees in Food, Drink and Tobacco are not fully proficient at their jobs.

Table 1.9: Food, Drink and Tobacco

SIC92 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 (%)	2.3
Employment (thousands)	383
Share of total employment in England (%)	1.5
Male: Female	66:34
Change: 1992-2002 (% pa)	-0.7
Change: 1997-2002 (% pa)	-1.1
Change: 2002-07 (forecast % pa)	-0.7
Self-Employment (%)	2.6
Top Three Occupational Groups (% of Total Emp.)	
Transport, Plant and Machine Operatives	27.5
Elementary Occupations	17.1
Skilled Trades Occupations	14.7
Establishments Reporting Hard-to-Fill Vacancies (%)	7.3
Establishments Reporting Skill-Shortage Vacancies (%)	4.9
GVA per Worker (£s)	38,600
Exports: Gross Output (%) ¹	17.9
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 4: Textiles and Clothing

- 3.43 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 10 per cent of all manufacturing output and 15 per cent of employment, compared to 4 per cent and 7 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 to companies that concentrate production on the lower end of the market.
- 3.44 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 2002 also marked the beginning of the third phase of the WTO Agreement on Textiles and Clothing, in which trade will be further liberalised up to 2005 when all remaining quotas are to be removed. Individual cases of liberalisation make further import surges more likely. For example, in October 2001 the EU announced increased quotas and reduced tariffs for imports of textiles and clothing from Pakistan. This appears to have had an immediate impact. 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.
- 3.45 Employment in Textiles and Clothing in the UK has fallen for many decades, and precipitously so over the past three years. 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 37 per cent of the workforce is in transport, 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.
- 3.46 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. With regard to changing occupational structure, the trends of the past decade are likely to continue.

Textiles and Clothing producers have been forced to re-focus on high-value market niches in which they retain competitive advantage.

Further trade liberalisation is posing a significant threat to the industry.

Employment is declining rapidly among key plant and machinery operatives.

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 hard to fill.

- 3.47 According to NESS2003, 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.
- 3.48 Around 14 per cent of firms in Textiles and Clothing reported vacancies, with 8.5 per cent of firms reporting HtFVs and 4.25 per cent of firms reporting SSVs. Approximately 25 per cent of firms reported skills gaps among their employees, around the average for manufacturing as a whole.

Table 1.10: Textiles and Clothing

SIC92 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 (%)	0.7
Employment (thousands)	206
Share of total employment in England (%)	0.8
Male: Female	49:51
Change: 1992-2002 (% pa)	-6.1
Change: 1997-2002 (% pa)	-9.5
Change: 2002-07 (forecast % pa)	-6.1
Self-Employment (%)	13
Top Three Occupational Groups (% of Total Emp.)	
Transport, Plant and Machine Operatives	36.8
Managers and Senior Officials	15.1
Skilled Trades Occupations	12.8
Establishments Reporting Hard-to-Fill Vacancies (%)	8.4
Establishments Reporting Skill-Shortage Vacancies (%)	4.3
GVA per Worker (£s)	20,500
Exports: Gross Output (%) ¹	54.6
Concentration	low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 5: Wood and Paper Products

- 3.49 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.
- 3.50 Over the past decade, employment in Wood and Paper Products has declined at a more modest rate than some other manufacturing industries. 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 3.5 per cent during the period 1992–2002, but which still account for 28 per cent of total employment in the industry). There has been a sharp increase in demand for sales staff and personal service occupations
- 3.51 Competition from imports is expected to remain strong and employment to fall (albeit at a more modest rate than in the past five years), as firms strive to maintain competitiveness. The sharpest falls are expected in skilled trades, machinery and elementary occupations, with equally sharp increases in sales and personal service occupations.
- 3.52 According to NESS2003, 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.
- 3.53 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.

Hard-to-fill vacancies account for around two-thirds of all vacancies in Wood and Paper Products.

Table 1.11: Wood and Paper Products

SIC92 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 (thousands)	157
Share of total employment in England (%)	0.6
Male: Female	75:25
Change: 1992-2002 (% pa)	-1.7
Change: 1997-2002 (% pa)	-2.9
Change: 2002-07 (forecast % pa)	-1.7
Self-Employment (%)	10.6
Top Three Occupational Groups (% of Total Emp.)	
Skilled Trades Occupations	27.9
Transport, Plant and Machine Operatives	19.1
Managers and Senior Officials	13.4
Establishments Reporting Hard-to-Fill Vacancies (%)	11.9
Establishments Reporting Skill-Shortage Vacancies (%)	8.1
GVA per Worker (£s)	29,700
Exports: Gross Output (%) ¹	15.3
Concentration	low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 6: Printing and Publishing

- 3.54 It is widely believed that the rapid spread of the information revolution will affect publishers, especially as the internet and CD-ROMs take the place of hard copies of publications. To date, however, the internet and CD-ROMs seem to be functioning rather as complements to paper-based copies of books, newspapers and magazines. There are few signs of the new media replacing the old, especially as the new is being used as a marketing tool to encourage people to subscribe to paper versions of publications.
- 3.55 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.
- 3.56 In contrast to much of manufacturing, employment in Printing and Publishing has increased over the past decade, albeit only slightly (and there was a slight decline on average during the past five years). 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.
- 3.57 Prospects look good for continued employment growth in Printing and Publishing, although some industries such as newspapers and recorded music will face challenges. Employment trends over the next five years are expected to be similar to those of the past decade.
- 3.58 According to NESS2003, 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.
- 3.59 Around 12 per cent of firms in Printing and Publishing reported vacancies, with just over 6 per cent of firms reporting HtFVs and 3.5 per cent of firms reporting SSVs. Less than 20 per cent of firms reported skills gaps among their employees, the smallest proportion of any manufacturing industry.

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 increased over the past decade, as this industry is closely linked to the 'new economy'.

Hard-to-fill vacancies account for just under 40 per cent of all vacancies in Printing and Publishing.

Table 1.12: Printing and Publishing

SIC92 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 (%)	1.8
Employment (thousands)	352
Share of total employment in England (%)	1.4
Male: Female	59:41
Change: 1992-2002 (% pa)	0.2
Change: 1997-2002 (% pa)	-0.3
Change: 2002-07 (forecast % pa)	0.5
Self-Employment (%)	9.3
Top Three Occupational Groups (% of Total Emp.)	
Associate Professional & Technical Occs.	18.7
Transport, Plant and Machine Operatives	16.3
Managers and Senior Officials	15.8
Establishments Reporting Hard-to-Fill Vacancies (%)	6.2
Establishments Reporting Skill-Shortage Vacancies (%)	3.6
GVA per Worker (£s)	32,800
Exports: Gross Output (%) ¹	12.5
Concentration	low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 7: Chemicals and Non-metal Minerals

- 3.60 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.
- 3.61 The enormous strain on health care budgets has seen the Government increasingly turning to generic drugs, which sell as much as 90 per cent cheaper, in order to cut costs. Generic drugs are typically produced by smaller firms, which lack the financial resources for the extensive investment needed to launch a new product, and therefore concentrate on the generic market.
- 3.62 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 weakens. Chemicals is highly export-oriented, and is consequently very sensitive to changes in world prices.
- 3.63 The rubber industry is dominated by the production of tyres, an industry that differs markedly from others in chemicals and non-metal minerals. 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.
- 3.64 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.

- 3.65 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.
- 3.66 The Non-Metal 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 small and medium-sized enterprises 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.
- 3.67 Despite the domestic focus of the industry, firms are increasingly seeking joint ventures in order to spread risk and avoid the danger of creating excess capacity. Joint ventures would, however, be less effective in the manufacture of clay and concrete, since economies of scale are absent.
- 3.68 Competition from low-cost Asian producers has damaged the UK's china and ceramics sub-sector. Worldwide, the greatest growth opportunities are in Asia and South America, where many acquisitions have been taking place. The developing world is becoming an increasingly attractive target for expansion because its lower capital costs and more relaxed environmental regulations mean that production costs are much lower. This expansion will, however, increase the industry's sensitivity to world prices, and expose UK companies to conditions in other countries.
- 3.69 Technological progress is probably more important for the flat-glass sub-sector than for many others in this industry, because it is highly capital-intensive. However, technology will become increasingly important for all industries, as companies seek to compete in the global market and look for mergers, not least to support research and development (R&D) costs.

In manufactured fuels, since the late 1980s, the decline in demand for petrol has led to a rationalisation of refinery capacity.

Non-Metal Mineral Products is closely linked to general economic conditions.

Employment has been declining over the past decade.

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-Metal Minerals are reporting vacancies.

- 3.70 Employment has been declining in the industry over the past decade. The top three occupational groups are transport, plant and machine operatives (25 per cent), elementary occupations (17 per cent) and skilled trades occupations (15 per cent). However, employment has been declining across these occupational groups at a faster rate than for the industry as a whole (and more than the twice the rate among skilled trades people). The strongest employment growth has been among sales staff, personal services staff, and demand for managerial workers has also increased.
- 3.71 Among Chemicals and Non-Metal Minerals, employment is likely to continue to decline, and the rate of decline is expected to accelerate. Even in the fast-growing (in output terms) pharmaceuticals industry, employment levels are expected to be static at best, due 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.
- 3.72 According to NESS2003, there are currently just under 9,400 vacancies in Chemicals and Non-Metal 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.
- 3.73 Around 22 per cent of firms in Chemicals and Non-Metal 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.

Table 1.13: Chemicals and Non-metal Minerals

SIC92 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 (%)	4.2
Employment (thousands)	547
Share of total employment in England (%)	2.2
Male: Female	77:23
Change: 1992-2002 (% pa)	-0.9
Change: 1997-2002 (% pa)	-2.4
Change: 2002-07 (forecast % pa)	-2.1
Self-Employment (%)	4.4
Top Three Occupational Groups (% of Total Emp.)	
Transport, Plant and Machine Operatives	24.7
Elementary Occupations	16.9
Skilled Trades Occupations	15.4
Establishments Reporting Hard-to-Fill Vacancies (%)	10.5
Establishments Reporting Skill-Shortage Vacancies (%)	7.5
GVA per Worker (£s)	49,500
Exports: Gross Output (%) ¹	37.8
Concentration	low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 8: Metals and Metal Goods

- 3.74 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 Anglo-Dutch group Corus, that together account for almost two-thirds of total annual output. Each 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 steelmaking at three sites.
- 3.75 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.
- 3.76 Metals and Metal Goods employs approximately 530,000 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. More than half of the workforce is made up of skilled trades workers (30 per cent) and transport, plant and machine operatives (21 per cent). Employment has been declining significantly over the past decade as firms have restructured to cope with over-capacity 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.
- 3.77 The decline in employment in the industry of the past decade is expected to continue during the next five years, and at a similar rate, reflecting generally flat output and efficiency gains. Employment is expected to decline in all occupational groups, with the exception of sales staff.
- 3.78 According to NESS2003, there are currently just over 6,600 vacancies in Metals and Metal Goods, with 50 per cent 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.

Major UK and European steel makers are re-structuring, 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.

Only among sales staff are employment levels likely to rise over the next five years.

Around 25 per cent of firms in Metals and Metal Goods reported skills gaps among their employees.

3.79 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 25 per cent of firms reported skills gaps among their employees.

Table 1.14: Metals and Metal Goods

SIC92 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 not elsewhere specified.	
Share of GVA (%)	1.9
Employment (thousands)	424
Share of total employment in England (%)	1.7
Male: Female	81:19
Change: 1992-2002 (% pa)	-2.1
Change: 1997-2002 (% pa)	-4.0
Change: 2002-07 (forecast % pa)	-2.5
Self-Employment (%)	7.3
Top Three Occupational Groups (% of Total Emp.)	
Skilled Trades Occupations	29.2
Transport, Plant and Machine Operatives	21.1
Elementary Occupations	14.5
Establishments Reporting Hard-to-Fill Vacancies (%)	7.2
Establishments Reporting Skill-Shortage Vacancies (%)	4.9
GVA per Worker (£s)	28,300
Exports: Gross Output (%) ¹	27.6
Concentration	low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 9: Engineering

- 3.80 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.
- 3.81 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.
- 3.82 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, overinvestment and the subsequent slump in global ICT spending at the end of the 1990s led to a sharp decline in both output and employment.
- 3.83 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.
- 3.84 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.

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.

In electrical and instruments engineering, pressure on margins makes relocation to lower-cost countries increasingly attractive.

- 3.85 Engineering employs approximately 661,000 workers in England, although employment has been declining for several decades. Mechanical engineering accounts for 42 per cent of total employment in the industry, electronics and electrical engineering around 21 per cent each and instruments 16 per cent, although electronics accounts for around 50 per cent of value-added. Skilled trades occupations (for example tool makers and electrical/electronics engineers) make up around 23 per cent of employment, transport, plant and machine operatives 17 per cent, and managers and senior officials 16 per cent. Engineering employment fell by around 1.5 per cent per annum between 1992 and 2002. The sharpest declines were in skilled trades, secretarial and administrative and elementary occupations. However, employment rose among sales, personal services, managerial and associate technical and professional occupations.
- 3.86 Employment is expected to decline at an even faster rate over the next five years than during the past decade. This 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 is also expected to fall, albeit modestly, as is the demand for sales in contrast to most other areas of the economy.
- 3.87 According to NESS2003, 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.
- 3.88 Around 14.5 per cent of firms in Engineering reported vacancies, with just over 7 per cent of firms reporting HtFVs, of which virtually all firms reported 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.

Mechanical engineering and skilled trades dominate employment, but both are in decline.

Even in electronics, employment is expected to decline.

A higher proportion of firms in Engineering reported skills gaps among their employees than in any other manufacturing industry.

Table 1.15 Engineering

SIC92 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 not elsewhere specified.	
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 (%)	3.9
Employment (thousands)	661
Share of total employment in England (%)	2.7
Male: Female	77:23
Change: 1992-2002 (% pa)	-1.4
Change: 1997-2002 (% pa)	-3.4
Change: 2002-07 (forecast % pa)	-2.0
Self-Employment (%)	5.2
Top Three Occupational Groups (% of Total Emp.)	
Skilled Trades Occupations	22.8
Transport, Plant and Machine Operatives	16.6
Managers and Senior Officials	15.7
Establishments Reporting Hard-to-Fill Vacancies (%)	8.7
Establishments Reporting Skill-Shortage Vacancies (%)	6.8
GVA per Worker (£s)	37,800
Exports: Gross Output (%) ¹	75.7
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 10: Transport Equipment

- 3.89 Since the mid-1990s, there has been a period of consolidation among car producers, with much take-over 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.
- 3.90 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. This trend was highlighted in October 2002, when Peugeot announced that it was to build a new £450 million plant in central Europe. Manufacturing labour costs in central and eastern Europe are in some cases as low as 20 per cent of those in western Europe. Consequently, it is now much less likely that new volume car plants will be built in the UK.
- 3.91 However, this does not necessarily imply that volume car manufacturing will come to an end in the UK, as most UK-based volume car producers claim that they remain committed to manufacturing in the UK. Another factor influencing investment decisions is the specific characteristics of existing plants. This seems to have been the deciding factor in Nissan's decision to proceed with the manufacture of the new Micra at Sunderland.
- 3.92 Because the civil share of aerospace production has risen, this industry is now 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 has faced a severe downturn in orders since 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, have made sharp cuts in output and employment, while component suppliers have suffered from the knock-on effects. More than 47,000 job cuts were announced worldwide by aerospace manufacturers in the aftermath of September 11, including around 11,000 in the UK, and many thousands more have been announced since.

In recent years there has been much take-over activity and forging of alliances between motor vehicle 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.

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.

All occupational groups are likely to see falls in employment over the next five years.

A relatively high proportion of employees in Transport Equipment are not fully proficient at their jobs.

- 3.93 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-tech 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.
- 3.94 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.
- 3.95 Transport Equipment employs approximately 339,000 workers in England in motor vehicles, aerospace and other transport equipment (such as rail rolling stock and shipbuilding). More than half of the workforce is employed in motor vehicles, and more than 80 per cent of the workforce is male. Skilled trades occupations account for nearly 29 per cent of employment, although at the same time, over the past decade, employment in this occupational group has fallen 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.
- 3.96 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. Sales staff are likely to see the slowest decline in demand.
- 3.97 According to NESS2003, there are currently just under 3,600 vacancies in Transport Equipment, with just over 50 per cent 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.
- 3.98 Around 14.5 per cent of firms in Transport Equipment reported vacancies, with 7.5 per cent of firms reporting HtFVs and 5.25 per cent of firms reporting SSVs. Twenty-five per cent of firms reported skills gaps among their employees.

Table 1.16: Transport Equipment

SIC92 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 not elsewhere specified.	
Share of GVA (%)	1.9
Employment (thousands)	339
Share of total employment in England (%)	1.4
Male: Female	82:18
Change: 1992-2002 (% pa)	-0.6
Change: 1997-2002 (% pa)	-0.8
Change: 2002-07 (forecast % pa)	-4.4
Self-Employment (%)	3.3
Top Three Occupational Groups (% of Total Emp.)	
Skilled Trades Occupations	28.8
Transport, Plant and Machine Operatives	20.1
Elementary Occupations	13.2
Establishments Reporting Hard-to-Fill Vacancies (%)	7.4
Establishments Reporting Skill-Shortage Vacancies (%)	5.2
GVA per Worker (£s)	35,700
Exports: Gross Output (%) ¹	61.4
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 11: Manufacturing (nes) and Recycling

- 3.99 Manufacturing nes (not elsewhere specified) 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 in 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.
- 3.100 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 to 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 re-usable 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.
- 3.101 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 60–80 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.
- 3.102 In 2000, WRAP (Waste and Resources Action Plan) 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. 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.

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.

- 3.103 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.
- 3.104 Employment now appears to be on a downward trend, although the rate of decline forecast over the next five years is much slower than in some other manufacturing industries. 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 workers is likely to be slower than between 1997–2002, while demand for skilled trades workers is likely to decline.
- 3.105 According to NESS2003, there are currently some 4,600 vacancies in Manufacturing nes and Recycling, with just over 50 per cent of these vacancies being HtFVs and just over 25 per cent being SSVs. Approximately 9.5 per cent of employees are not fully proficient at their jobs.
- 3.106 Around 16.5 per cent of firms in Manufacturing nes and Recycling reported vacancies, with 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.

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 hard-to-fill vacancies.

Table 1.17: Manufacturing (nes) and Recycling

SIC92 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-metal waste and scrap; (but excl. new products from secondary raw material, e.g. paper from pulp).	
Share of GVA (%)	0.7
Employment (thousands)	203
Share of total employment in England (%)	0.8
Male: Female	73:27
Change: 1992-2002 (% pa)	1.4
Change: 1997-2002 (% pa)	-0.1
Change: 2002-07 (forecast % pa)	-0.5
Self-Employment (%)	11.8
Top Three Occupational Groups (% of Total Emp.)	
Skilled Trades Occupations	31.2
Transport, Plant and Machine Operatives	23.4
Managers and Senior Officials	13.3
Establishments Reporting Hard-to-Fill Vacancies (%)	9.4
Establishments Reporting Skill-Shortage Vacancies (%)	4.5
GVA per Worker (£s)	22,100
Exports: Gross Output (%) ¹	26.6
Concentration	very low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 12: Electricity, Gas and Water

- 3.107 Across the EU, liberalisation of energy markets has opened the way for a series of domestic and cross-border take-overs, 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 take-over 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.
- 3.108 The liberalisation of energy supply industries has been of widespread benefit to the UK economy; not only has productivity in power supply increased five-fold since privatisation in the early 1990s, but also lower real prices have improved the competitiveness of the rest of the UK.
- 3.109 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).
- 3.110 As the electricity, gas and water industries have consolidated over the past decade, there has been a sharp fall in employment, of around 4.5 per cent per annum between 1992 and 2002, although the rate of decline has slowed in recent years. By 2002, just 110,000 people were employed in England, just about a 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.
- 3.111 In Electricity, Gas and Water, the decline in employment is expected to continue, albeit at a slower rate than in the past decade, as 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.

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.

All occupational groups are expected to see a decline in employment in the future.

Hard-to-fill vacancies account for a relatively low proportion of all vacancies in Electricity, Gas and Water.

- 3.112 According to NESS2003, 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.
- 3.113 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 25 per cent of firms reported skills gaps among their employees.

Table 1.18: Electricity, Gas and Water

SIC92 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 (%)	2.3
Employment (thousands)	110
Share of total employment in England (%)	0.4
Male: Female	63:37
Change: 1992-2002 (% pa)	-4.6
Change: 1997-2002 (% pa)	-0.8
Change: 2002-07 (forecast % pa)	-2.1
Self-Employment (%)	3.9
Top Three Occupational Groups (% of Total Emp.)	
Administrative and Secretarial Occupations	21.9
Skilled Trades Occupations	20.5
Professional Occupations	10.9
Establishments Reporting Hard-to-Fill Vacancies (%)	6.2
Establishments Reporting Skill-Shortage Vacancies (%)	4.8
GVA per Worker (£s)	132,800
Exports: Gross Output (%) ¹	0.2
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 13: Construction

- 3.114 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.
- 3.115 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 be forced to specialise in work for regional clients.
- 3.116 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 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.
- 3.117 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.

Consolidation is becoming more widespread in the traditionally fragmented construction industry.

Skills shortages are endemic in the labour-intensive Construction industry.

- 3.118 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.
- 3.119 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.
- 3.120 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 (such as bricklayers, steel erectors, roofers, carpenters, glaziers etc) compared to 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, and growth has also been strong in sales and customer service jobs and in associate technical and professional positions.
- 3.121 The current boost to Government spending is also expected to lead to an increase in employment for the sixth consecutive year in 2003. Over the next decade, the Construction industry should receive a boost from the Government's plans for a massive expansion of UK airport capacity. Some of the largest airport schemes in London, the South East, the Midlands and the North of England could provide employment for several thousand construction workers. Nevertheless, overall employment in Construction is still expected to decline slightly between 2002 and 2007. 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.

Skilled trades people are very important in Construction.

Employment is expected to continue to grow in most occupational groups.

Nearly 60 per cent of all vacancies in Construction are hard-to-fill vacancies.

- 3.122 According to NESS2003, there are more than 35,000 vacancies in Construction, with 58 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.
- 3.123 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.

Table 1.19: Construction

SIC92 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 (%)	5.3
Employment (thousands)	1,562
Share of total employment in England (%)	6.3
Male: Female	90:10
Change: 1992-2002 (% pa)	0.1
Change: 1997-2002 (% pa)	1.8
Change: 2002-07 (forecast % pa)	-0.2
Self-Employment (%)	40.9
Top Three Occupational Groups (% of Total Emp.)	
Skilled Trades Occupations	46.9
Elementary Occupations	12.6
Managers and Senior Officials	12.1
Establishments Reporting Hard-to-Fill Vacancies (%)	7.2
Establishments Reporting Skill-Shortage Vacancies (%)	5.0
GVA per Worker (£s)	21,700
Exports: Gross Output (%) ¹	0.1
Concentration	very low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 14: Sale and Maintenance of Motor Vehicles

- 3.124 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 manufacturers' attempts to maintain these differentials.
- 3.125 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.
- 3.126 The Sale and Maintenance of Motor Vehicles industry (sale and repair of motor vehicles, sale of automotive fuel) employs approximately 560,000 workers in England. The industry is predominantly male, and employment has declined by around 0.5 per cent per annum over the past decade. Around 24 per cent of the workforce is made up of customer service and salespersons, with managers and senior officials accounting for 22 per cent of employment, with skilled trades operatives 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.
- 3.127 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.
- 3.128 According to NESS2003, there are currently some 15,400 vacancies in Sale and Maintenance of Motor Vehicles, with more than 50 per cent of these vacancies being HtFVs and 31 per cent being SSVs. Approximately 10 per cent of employees are not fully proficient at their jobs.

Modest changes to the block exemption mean that the motor trade is unlikely to change much as a result.

Sales staff are increasing in importance.

Professional and customer service occupations are expected to increase in importance in the next few years.

More than half of all vacancies in Sale and Maintenance of Motor Vehicles are hard-to-fill vacancies.

3.129 Around 15.5 per cent of firms in Sale and Maintenance of Motor Vehicles reported vacancies, with 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.

Table 1.20: Sale and Maintenance of Motor Vehicles

SIC92 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 (%)	1.9
Employment (thousands)	560
Share of total employment in England (%)	2.3
Male: Female	78:22
Change: 1992-2002 (% pa)	-0.6
Change: 1997-2002 (% pa)	-0.4
Change: 2002-07 (forecast % pa)	0.7
Self-Employment (%)	12.2
Top Three Occupational Groups (% of Total Emp.)	
Sales and Customer Service Occupations	23.8
Managers and Senior Officials	22.6
Skilled Trades Occupations	15.4
Establishments Reporting Hard-to-Fill Vacancies (%)	9.6
Establishments Reporting Skill-Shortage Vacancies (%)	5.9
GVA per Worker (£s)	21,800
Exports: Gross Output (%) ¹	0.3
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 15: Wholesale Distribution

- 3.130 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.
- 3.131 Since the mid-1990s much has occurred to change the nature of the distribution industry and to blur the lines between Wholesale Distribution and Other 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.
- 3.132 Wholesale Distribution employs more than 1.1 million workers in England. Approximately 69 per cent of the workforce is male, and around 60 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 professional, associate professional and technical, personal services and managerial occupations.
- 3.133 Employment in Wholesale Distribution is expected to begin to rise once again over the next few years, although 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.
- 3.134 According to NESS2003, there are currently some 21,000 vacancies in Wholesale Distribution, with just over 33 per cent of these vacancies being HtFVs and 17 per cent being SSVs. Approximately 10 per cent of employees are not fully proficient at their jobs.
- 3.135 Around 11.25 per cent of firms in Wholesale Distribution reported vacancies, a much lower proportion than in most other industries, with 4.25 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.

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.

A much lower proportion of firms in Wholesale Distribution reported vacancies than in most other industries.

Table 1.21: Wholesale Distribution

SIC92 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 (%)	5.0
Employment (thousands)	1,143
Share of total employment in England (%)	4.6
Male: Female	69:31
Change: 1992-2002 (% pa)	1.2
Change: 1997-2002 (% pa)	-0.3
Change: 2002-07 (forecast % pa)	0.0
Self-Employment (%)	11.6
Top Three Occupational Groups (% of Total Emp.)	
Sales and Customer Service Occupations	24.9
Managers and Senior Officials	21.8
Skilled Trades Occupations	13.8
Establishments Reporting Hard-to-Fill Vacancies (%)	4.3
Establishments Reporting Skill-Shortage Vacancies (%)	2.5
GVA per Worker (£s)	28,400
Exports: Gross Output (%) ¹	1.1
Concentration	low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 16: Retail Distribution

- 3.136 High-street retailing is in the grip of a price war due 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 are on offer and are therefore both thriving off 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.
- 3.137 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 50 per cent of household expenditure, yet in 2000, retail sales accounted for little more than 33 per cent. Retailers can protect themselves from this competition by specialising in certain brands. Sports clothing retailing, for example, is centred around 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.
- 3.138 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.

Capacity in Other 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.

- 3.139 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.
- 3.140 Other Retail Distribution is one of the largest industries in England, employing more than 2.5 million workers, and more than 66 per cent of the workforce is female. In fact, retailing is an important source of output and employment in each region of the UK, 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.
- 3.141 Not surprisingly, by far the highest share of employment (36 per cent) is in sales and customer service occupations, followed by managers and senior officials (17 per cent) and administrative and secretarial occupations (11 per cent). Over the past decade, employment has increased by 1.5 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 personal service occupations. Perhaps surprisingly, demand for sales and customer services staff has grown at a more modest rate.
- 3.142 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. 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.
- 3.143 According to NESS2003, there are currently some 73,000 vacancies in Other Retail Distribution, with 33 per cent 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.
- 3.144 Around 16.5 per cent of firms in Other Retail Distribution reported vacancies, with 6.5 per cent of firms reporting HtFVs and 3 per cent of firms reporting SSVs. Just under 26 per cent of firms reported skills gaps among their employees.

Sales and customer service staff dominate employment in retailing.

More modest growth in employment is expected in coming years.

Other Retail Distribution is characterised by a high number of vacancies.

Table 1.22: Retail Distribution

SIC92 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 (%)	6.4
Employment (thousands)	2,568
Share of total employment in England (%)	10.3
Male: Female	37:63
Change: 1992-2002 (% pa)	1.4
Change: 1997-2002 (% pa)	1.8
Change: 2002-07 (forecast % pa)	0.8
Self-Employment (%)	8.6
Top Three Occupational Groups (% of Total Emp.)	
Sales and Customer Service Occupations	36.2
Managers and Senior Officials	16.7
Administrative and Secretarial Occupations	10.8
Establishments Reporting Hard-to-Fill Vacancies (%)	6.6
Establishments Reporting Skill-Shortage Vacancies (%)	2.9
GVA per Worker (£s)	16,000
Exports: Gross Output (%) ¹	0.0
Concentration	low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 17: Hotels and Catering

- 3.145 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.
- 3.146 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. They are choosing to expand by means of integrated chains and franchising rather than by direct ownership, in part because of the reduction in banks' involvement in property markets, and the scarcity of land in many of Europe's key cities.
- 3.147 Increasing globalisation has affected the pattern of demand for holidays, which may in turn reflect changing working patterns across the wider economy. Over recent years there has been a sharp increase in demand for short-break holidays (mainly in cities) and a reduction in longer-stay holidays. Furthermore, growth in demand for conference facilities has led to a recognition that operators need to be able to cater to business customers. Business tourism tends to be less seasonal than leisure tourism, and this has implications for labour demand.
- 3.148 Hotels and Catering employs approximately 1.5 million people in England, working in sub-sectors as diverse as hotels, restaurants, bars and catering establishments. Between 1992 and 2002 employment grew by 1.5 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/waitresses 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.

Growth in Hotels and Catering is hugely dependent on sustained increases in tourism.

Changes in holiday patterns are affecting the demand for skills.

Employment is increasing across all occupation groups, except elementary workers.

- 3.149 Over the period 2002–07, employment is expected to decline slightly in hotels and catering, although this mainly reflects the difficulties that the industry has faced during 2002–03 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. Nevertheless, 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 is also expected, possibly due to consolidation in the industry.
- 3.150 According to NESS2003, 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.
- 3.151 More than 25 per cent 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 1.23: Hotels and Catering

SIC92 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 take-aways; public houses and bars; night clubs, including residential clubs; canteens; contract catering for airlines, corporate hospitality, weddings etc.	
Share of GVA (%)	2.3
Employment (thousands)	1,549
Share of total employment in England (%)	6.2
Male: Female	41:59
Change: 1992-2002 (% pa)	1.5
Change: 1997-2002 (% pa)	1.5
Change: 2002-07 (forecast % pa)	-0.2
Self-Employment (%)	6.5
Top Three Occupational Groups (% of Total Emp.)	
Elementary Occupations	33.8
Managers and Senior Officials	30.3
Skilled Trades Occupations	11.1
Establishments Reporting Hard-to-Fill Vacancies (%)	12.4
Establishments Reporting Skill-Shortage Vacancies (%)	5.0
GVA per Worker (£s)	9,500
Exports: Gross Output (%) ¹	14.9
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 18: Transport

- 3.152 Travel by road accounts for about 93 per cent of the total passenger-kilometres travelled in the UK by all modes of public and private transport. Travel by car, van or taxi is the dominant method, accounting for 85 per cent of total passenger-kilometres. Motor cycles and pedal cycles each account for 1 per cent of passenger-kilometres and buses (and coaches) for 6 per cent.
- 3.153 Between 1990 and 2000 the number of passenger journeys on public transport in Great Britain fell by 6.2 per cent, but the number of journeys taken by local bus fell by 16 per cent and the share of local bus journeys in all public transport journeys fell from 59 per cent to 54 per cent. In the same period the number of journeys made on the national rail network rose by 17 per cent as rail's share of public transport journeys rose from 11 per cent to 14 per cent. Long-distance bus travel increased its share from 8 per cent to 9 per cent. In the English metropolitan areas outside London local bus passenger-kilometres fell by 10 per cent over the same period. In Great Britain as a whole local bus passenger-kilometres remained almost unchanged. The figure for London over this period was a 7 per cent rise in passenger-kilometres.
- 3.154 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.
- 3.155 The national rail network accounts for nearly 5.5 per cent of the total passenger-kilometres of all modes of public and private transport within the UK, for just over 7 per cent of the tonne-kilometres of all freight transported, and for 4.5 per cent by weight of all goods lifted. Between privatisation in 1997 and 2000 national rail's share of total (public and private) investment in all modes of transport in the UK rose from 6 per cent to 6.5 per cent. Passenger-kilometres travelled on national rail had fallen from 32.5 billion in the financial year 1991/92 to a low point of 28.7 billion in 1994/95, but then began rising sharply and reached 39.1 billion in 2001/02. The volume of freight carried by rail (measured in tonne-kilometres) fell from 16 billion in 1990/91 to a low point of 13 billion in 1994/95. Thereafter it rose to 19.7 billion in 2000/01. In 1999 and 2000, however, two serious train crashes (Paddington and Hatfield) exposed the extent to which the track had deteriorated. Although passenger and freight traffic continued to grow, the pace of growth (especially in the months after Hatfield) became much slower than in the late 1990s.
- 3.156 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-

Road transport predominates in the carriage of passengers and freight in the UK.

Passenger and freight traffic on the railways grew strongly in the late 1990s, but recent disruptions have curtailed that growth.

International freight and passenger transport is the predominant sub-sector in UK water transport.

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.

- 3.157 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. There are very few canals still in service for freight. More than 70 per cent of domestic waterborne freight is bulk fuel.
- 3.158 September 11 has 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 worsened 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 falling 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.
- 3.159 A likely consequence of the terrorist attack is much faster consolidation among major European airlines. Consolidation and liberalisation of the heavily fragmented European airline industry is in the forefront of the EC's agenda, following EC arguments over many years that the European air transport industry is unable to compete with its US counterpart, as fragmentation prevents it from benefiting fully from the Single Market. Increasing demand for cheaper and more reliable high-frequency services to business destinations or major holiday resorts is likely to force flag-carriers themselves to consolidate. At present only a handful of airlines (BA, Lufthansa and, most recently, Air France) have consolidated any of their operations. But the weakened financial position of airlines other than the low-cost carriers after September 11 is likely to force the pace of restructuring, consolidation and new alliances.
- 3.160 Since 2000 passenger numbers on budget airlines have increased sharply, and take-overs have led to considerable consolidation. Airports in southern England, namely Stansted and Luton, still dominate, 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 the summer of 2003.

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.

- 3.161 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. Its logistics 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.
- 3.162 The de-regulation 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.
- 3.163 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.
- 3.164 The Transport industry (road, rail, sea, air and other transport services) employs around 1.1 million people in the UK. Employment grew strongly in the second half of the last decade, by around 2.5 per cent. 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 Transport, Plant and machine operatives (28 per cent), 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.
- 3.165 The trends in skills demand of the past decade is expected to continue, although overall employment growth is expected to be slower. The only occupational group for which demand is expected to accelerate during the next five years is associate technical and professional workers.
- 3.166 According to NESS2003, there are currently some 28,500 vacancies in Transport, with 47 per cent of these vacancies being HtFVs and around 25 per cent being SSVs. Approximately 10.5 per cent of employees are not fully proficient at their jobs.
- 3.167 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 20 per cent of firms reported skills gaps among their employees.

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.

The employment trends of the past decade are likely to continue.

Just under half of all vacancies in Transport are hard-to-fill vacancies.

Table 1.24: Transport

SIC92 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 (%)	5.3
Employment (thousands)	1,091
Share of total employment in England (%)	4.4
Male: Female	72:28
Change: 1992-2002 (% pa)	1.1
Change: 1997-2002 (% pa)	1.8
Change: 2002-07 (forecast % pa)	0.2
Self-Employment (%)	17.8
Top Three Occupational Groups (% of Total Emp.)	
Transport, Plant and Machine Operatives	27.8
Administrative and Secretarial Occupations	16.1
Elementary Occupations	15.1
Establishments Reporting Hard-to-Fill Vacancies (%)	8.7
Establishments Reporting Skill-Shortage Vacancies (%)	4.8
GVA per Worker (£s)	31,300
Exports: Gross Output (%) ¹	11.6
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 19: Communications

- 3.168 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.
- 3.169 More than a decade after the 1992 Postal Green Paper laid the foundations for liberalisation of EU postal markets, the market for letter services in most EU countries is still largely under the control of state-owned groups (Royal Mail, in the case of the UK) because the pace of deregulation has been slow. However, in preparation for the erosion of its monopoly in mail delivery, Royal Mail is adopting a more market-oriented approach. The company is in the process of a restructuring including 30,000 job losses (12 per cent of the total workforce), the closure of 3,000 urban post offices (17 per cent of the Post Office network) and the scrapping of the second post delivery, which came into effect in early 2003.
- 3.170 Communications employs around 477,000 workers in postal (including courier) and telecommunications activities. Around 45 per cent of workers are employed in the telecommunications sub-sector, with the remainder in postal and courier activities. Administrative and secretarial occupations and transport, plant and machine operatives (mainly in the postal sub-sector) are the two most important occupational groups, each accounting for around 20–21 per cent of the workforce. Skilled trades occupations account for around 20 per cent of the workforce. However, over the past decade, demand for skilled trades workers has fallen, while demand for all other occupational groups has risen, above all among sales and customer services staff and managers.
- 3.171 Because much activity in Communications is in high-value added services closely tied to the new economy, further technological and regulatory developments will be the key drivers of output growth: liberalisation of local telecommunications networks; the roll-out of high-speed broadband technology; the roll-out of third-generation (3G) mobile telephony; and the take-up of digital television. Communications is expected to continue to be one of the fastest-growing industries in the UK in output terms. Because much of the growth in output is driven by developments in technology, employment is forecast to show little or no growth, and may well decline slightly, with sharper declines among skilled-trades workers, plant and

Some of the main drivers of growth in communications are now less powerful.

Royal Mail is restructuring its business as competition is opened up in the UK letters market.

Demand for most types of workers has risen over the past decade.

Skills needs in telecommunications will be driven by the roll-out of new technologies.

machinery operatives and elementary workers. Robust growth in demand is expected for managers, associate technical and professional, and sales staff. In the postal sub-sector, as competition gathers pace, Royal Mail may seek to expand in non-mail delivery activities. For example, financial services are an increasingly important area of growth among major postal operators across Europe. Such a strategy would further increase demand for managerial and sales and customer service staff.

- 3.172 According to NESS2003, there are currently some 9,000 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.
- 3.173 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.

A higher proportion of employees in Communications are not fully proficient at their jobs than in any other industry.

Table 1.25: Communications

SIC92 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 (%)	5.1
Employment (thousands)	477
Share of total employment in England (%)	1.9
Male: Female	73:27
Change: 1992-2002 (% pa)	1.5
Change: 1997-2002 (% pa)	3.3
Change: 2002-07 (forecast % pa)	-0.1
Self-Employment (%)	1.9
Top Three Occupational Groups (% of Total Emp.)	
Administrative and Secretarial Occupations	20.9
Transport, Plant and Machine Operatives	20.5
Skilled Trades Occupations	18.8
Establishments Reporting Hard-to-Fill Vacancies (%)	6.1
Establishments Reporting Skill-Shortage Vacancies (%)	3.2
GVA per Worker (£s)	68,500
Exports: Gross Output (%) ¹	4.3
Concentration	very high

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 20: Banking and Insurance

- 3.174 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.
- 3.175 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.
- 3.176 Banking and Insurance (encompassing banks, building societies, insurance and financial intermediation) is one of England's most important industries in terms of its global position. Employment has declined slightly overall between 1992 and 2002 (declining in the mid-1990s and rising in the late 1990s). The industry employs 989,000 people (banking and finance accounting for the vast majority (70 per cent) of employment). This represents around 3 per cent of the total workforce in England, but accounts for 8 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 45 per cent of employees in banking and finance, although this proportion is declining. 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 situated there 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.
- 3.177 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 2002 and 2007, 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.

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.

Rising overall employment over the next five years will be accompanied by further falls in secretarial and administrative positions.

- 3.178 According to NESS2003, there are currently just under 25,000 vacancies in Banking and Insurance, with 20 per cent of these vacancies being HtFVs and just 10 per cent being SSVs. Approximately 12.5 per cent of employees are not fully proficient at their jobs.
- 3.179 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.

A relatively low number of vacancies in Banking and Insurance are hard-to-fill vacancies.

Table 1.26: Banking and Insurance

SIC92 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 not elsewhere specified. 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 (%)	8.1
Employment (thousands)	989
Share of total employment in England (%)	4.0
Male: Female	48:52
Change: 1992-2002 (% pa)	-0.2
Change: 1997-2002 (% pa)	-0.2
Change: 2002-07 (forecast % pa)	0.3
Self-Employment (%)	8.9
Top Three Occupational Groups (% of Total Emp.)	
Administrative and Secretarial Occupations	45.3
Managers and Senior Officials	15.4
Associate Professional & Technical Occs.	12.4
Establishments Reporting Hard-to-Fill Vacancies (%)	6.1
Establishments Reporting Skill-Shortage Vacancies (%)	3.9
GVA per Worker (£s)	52,600
Exports: Gross Output (%) ¹	14.8
Concentration	very low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 21: Professional Services

- 3.180 Professional Services consists 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.
- 3.181 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. Overall employment growth has been strong over the past decade, averaging 3 per cent per annum between 1992 and 1997, and just under 4 per cent per annum during 1997–2002. Employment is rising in virtually all occupational groups, with the strongest growth in demand for personal service and sales and customer service staff. There has also been robust growth in demand for professionals and associate technical and professional workers.
- 3.182 Output growth in the industry is expected to outstrip that of the overall economy during the next few years. This good performance reflects the pick-up in global activity that has benefited the industry in the past, reflecting returns to trend growth rates in the industry's corporate clients. This is expected to stimulate employment growth of around 2.75 per cent per annum over 2002–07, with the strongest growth in demand for professionals and associate technical and professionals. Demand for administrative and secretarial and elementary workers is expected to decline.
- 3.183 According to NESS2003, there are currently some 17,500 vacancies in Professional Services, with 33 per cent of these vacancies being HtFVs and 17 per cent being SSVs. Approximately 8.75 per cent of employees are not fully proficient at their jobs.
- 3.184 Around 11.25 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 1.27: Professional Services

SIC92 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 (%)	7.6
Employment (thousands)	650
Share of total employment in England (%)	2.6
Male: Female	57:43
Change: 1992-2002 (% pa)	3.3
Change: 1997-2002 (% pa)	3.7
Change: 2002-07 (forecast % pa)	2.7
Self-Employment (%)	13.1
Top Three Occupational Groups (% of Total Emp.)	
Associate Professional & Technical Occs.	21.0
Managers and Senior Officials	19.8
Administrative and Secretarial Occupations	17.2
Establishments Reporting Hard-to-Fill Vacancies (%)	3.8
Establishments Reporting Skill-Shortage Vacancies (%)	2.2
GVA per Worker (£s)	17,000
Exports: Gross Output (%) ¹	3.2
Concentration	very low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 22: Computing and Related Services

- 3.185 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.
- 3.186 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 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.
- 3.187 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.
- 3.188 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.

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.

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.

A smaller proportion of firms in Computing and Related Services reported skills gaps among their employees than in any other industry.

- 3.189 Computing and Related Services encompasses 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 10 per cent per annum between 1992 and 2002, with the strongest growth (over 16 per cent) among sales and customer service occupations. Personal service, administrative and secretarial and associate technical and professional occupations also saw double-digit rates of employment growth. However, the sharp slowdown in computing services output growth during 2001 and 2002 was reflected in a 0.75 per cent fall in employment in 2002, the first year in which employment in the industry had failed to show an increase since 1992.
- 3.190 In Computing and Related Services over the next few years, Government expenditure seems likely to be the mainstay of both growth in demand and output. The next cycle of growth is expected to depend on developments centred on the extensive spread of broadband access and third-generation wireless telephony. This should result in a resumption of strong growth in employment, most notably among sales and customer service staff, associate technical and professional workers, managers, professionals and personal services staff.
- 3.191 According to NESS2003, 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.
- 3.192 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 1.28: Computing and Related Services

SIC92 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 on-line data retrieval; maintenance and repair of computer equipment; and other computer-related activities.	
Share of GVA (%)	2.6
Employment (thousands)	503
Share of total employment in England (%)	2.0
Male: Female	62:38
Change: 1992-2002 (% pa)	9.8
Change: 1997-2002 (% pa)	9.4
Change: 2002-07 (forecast % pa)	3.9
Self-Employment (%)	8.0
Top Three Occupational Groups (% of Total Emp.)	
Administrative and Secretarial Occupations	21.6
Professional Occupations	20.1
Managers and Senior Officials	19.1
Establishments Reporting Hard-to-Fill Vacancies (%)	3.8
Establishments Reporting Skill-Shortage Vacancies (%)	2.8
GVA per Worker (£s)	33,600
Exports: Gross Output (%) ¹	7.7
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 23: Other Business Services

- 3.193 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.
- 3.194 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.
- 3.195 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 usual to those operating in marketing and advertising.
- 3.196 Other Business Services also contains 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. Some parts of the industry are exposed to economic slowdown, notably labour recruitment, but also activities that represent 'investment' rather than 'maintenance' activities.

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.

- 3.197 Other Business Services employs 650,000 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 skilled trades workers and elementary workers saw their numbers decline.
- 3.198 In Other Business Services, from 2004 onwards, expenditure on IT and mergers and acquisitions 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 a resumption of employment growth in these high-skilled activities, following declines in 2002 and 2003, above all among personal service, sales and customer service, associate technical and professional (the largest employment group in the industry) and professional workers.
- 3.199 According to NESS2003, there are currently some 85,000 vacancies in Other Business Services, with 40 per cent of these vacancies being HtFVs and around 25 per cent being SSVs. Approximately 11 per cent of employees are not fully proficient at their jobs.
- 3.200 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 1.29: Other Business Services

SIC92 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 (%)	7.8
Employment (thousands)	2,879
Share of total employment in England (%)	11.6
Male: Female	55:45
Change: 1992-2002 (% pa)	3.2
Change: 1997-2002 (% pa)	2.5
Change: 2002-07 (forecast % pa)	0.7
Self-Employment (%)	12.7
Top Three Occupational Groups (% of Total Emp.)	
Administrative and Secretarial Occupations	20.4
Associate Professional & Technical Occs.	20.4
Managers and Senior Officials	18.3
Establishments Reporting Hard-to-Fill Vacancies (%)	5.9
Establishments Reporting Skill-Shortage Vacancies (%)	4.0
GVA per Worker (£s)	77,700
Exports: Gross Output (%) ¹	14.7
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 24: Public Administration and Defence

3.201 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 20–30 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.

3.202 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.

3.203 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. However, the recent increases go some way to reversing the falls seen throughout the 1990s. Between 1992 and 1998 the number of civil service staff fell by over 100,000 (full-time equivalents). Since then their number has increased by almost 30,000. At the same time 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.

3.204 The growth in Government spending in this area is expected to remain strong in the short term, and will support continued employment growth in 2004 and 2005. After 2005, slower growth in Government spending is expected to be accompanied by modest falls in employment, particularly among administrative and secretarial, skilled trades and elementary occupations. On the other hand, demand for managers and personal service staff is expected to increase.

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.

3.205 According to NESS2003, there are currently some 24,000 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.

3.206 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 1.30: Public Administration and Defence

SIC92 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 (thousands)	1,163
Share of total employment in England (%)	4.7
Male: Female	51:49
Change: 1992-2002 (% pa)	-0.3
Change: 1997-2002 (% pa)	1.0
Change: 2002-07 (forecast % pa)	-0.2
Self-Employment (%)	1.3
Top Three Occupational Groups (% of Total Emp.)	
Administrative and Secretarial Occupations	28.0
Associate Professional & Technical Occs.	22.8
Managers and Senior Officials	12.4
Establishments Reporting Hard-to-Fill Vacancies (%)	7.5
Establishments Reporting Skill-Shortage Vacancies (%)	3.5
GVA per Worker (£s)	27,100
Exports: Gross Output (%) ¹	0.7
Concentration	very low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 25: Education

3.207 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. 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.

3.208 Some 1.9 million people are employed in Education in England, of which 70 per cent are female. Employment grew by 2 per cent per annum on average between 1992 and 2000, 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.

3.209 In the short term, output and employment are both expected to continue to rise at faster rates than for the economy as a whole, as large increases in funding take effect. In the April 2003 budget the Government announced an increase in spending on education in England of 5 per cent per annum in real terms between 2003/4 and 2005/6. After this, growth in spending is likely to fall back in line with that of the overall economy. The Government's aim to recruit many more school staff over the coming years is well known, and numbers on teacher training courses have risen. Employment, which rose by 2.25 per cent in 2002, is expected to increase by a further 2.5 per cent in 2003 and by 1.25 per cent in 2004, and by 1 per cent per annum on average between 2002 and 2007. Trends in employment by occupation are expected to be similar to those of the past decade.

3.210 According to NESS2003, 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.

3.211 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 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.

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 further increases in employment in Education in the future.

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

Table 1.31: Education

SIC92 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, TECs and LECs.	
Share of GVA (%)	4.7
Employment (thousands)	1,913
Share of total employment in England (%)	7.7
Male: Female	30:70
Change: 1992-2002 (% pa)	1.9
Change: 1997-2002 (% pa)	2.8
Change: 2002-07 (forecast % pa)	1.2
Self-Employment (%)	4.7
Top Three Occupational Groups (% of Total Emp.)	
Professional Occupations	50.8
Associate Professional & Technical Occs.	14.8
Personal Service Occupations	9.8
Establishments Reporting Hard-to-Fill Vacancies (%)	12.0
Establishments Reporting Skill-Shortage Vacancies (%)	7.4
GVA per Worker (£s)	16,000
Exports: Gross Output (%) ¹	1.5
Concentration	low

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 26: Health and Social Work

- 3.212 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.
- 3.213 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.
- 3.214 Health and Social Work employs around 2.5 million people in England, of which some 84 per cent are female. Over the past decade, employment has increased at a slightly slower rate than in education, with the strongest growth in personal service, managerial and professional occupations. Employment has declined sharply among administrative and secretarial and elementary occupations.
- 3.215 The 2003 Budget provided for NHS spending to rise by just over 7 per cent per annum in real terms over 2002–07. In 2003 the overall Government demand for all health and social services is expected to rise by 5.5 per cent per annum over 2003–04, before slowing down. 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 to attract more staff that have been put in place in the last couple of years. Although the additional investment in IT will come on stream during 2003 this is not expected to be associated with an overall loss of jobs. 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. Trends by occupational group are, however, likely to remain similar to those of the past decade.
- 3.216 According to NESS2003, 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.

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.

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 hard-to-fill vacancies.

3.217 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 1.32: Health and Social Work

SIC92 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 (%)	6.6
Employment (thousands)	2,491
Share of total employment in England (%)	10.0
Male: Female	16:84
Change: 1992-2002 (% pa)	1.3
Change: 1997-2002 (% pa)	1.6
Change: 2002-07 (forecast % pa)	1.2
Self-Employment (%)	8.4
Top Three Occupational Groups (% of Total Emp.)	
Personal Service Occupations	28.3
Associate Professional & Technical Occs.	28.2
Professional Occupations	12.2
Establishments Reporting Hard-to-Fill Vacancies (%)	14.7
Establishments Reporting Skill-Shortage Vacancies (%)	6.8
GVA per Worker (£s)	17,000
Exports: Gross Output (%) ¹	0.1
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Industry 27: Miscellaneous Services

- 3.218 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).
- 3.219 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 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.
- 3.220 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. To comply with the Landfill Directive, national Governments have established national targets for recovery of municipal waste, and recycling/composting of household waste.
- 3.221 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.
- 3.222 Developments in digital technology allow households to receive TV channels by satellite, conventional broadcasting and high-speed telephone or cable platforms. They also allow more 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 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.

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 telecommunications operators.

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.

Much slower growth in employment is expected during the next few years.

Just under 10 per cent of employees in Miscellaneous Services are not fully proficient at their jobs.

- 3.223 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, with 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 remains lower than in other 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 further expansion.
- 3.224 Around 1.5 million people are employed in the industry. 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 reflects an increase in demand for labour-intensive personal services, cultural and sporting activities, and developments in digital television. The fragmentation of the 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 is associate professional and technical. This includes artistic and literary, media associate, and sports and fitness occupations, which account for 22 per cent of the total workforce. Elementary occupations (predominantly in cleaning) are the second-largest occupational group (19 per cent), but employment here is falling sharply. Strongest growth has been for managers, professionals, associate technical and professional workers and personal service staff.
- 3.225 Employment is expected to grow at a much slower rate between 2002 and 2007, 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.
- 3.226 According to NESS2003, 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 9.75 per cent of employees are not fully proficient at their jobs.
- 3.227 Some 19 per cent of firms in Miscellaneous Services reported vacancies, with around 9.5 per cent of firms reporting HtFVs and 5.25 per cent reporting SSVs. Approximately 18 per cent of firms reported skills gaps among their employees.

Table 1.33: Miscellaneous Services

SIC92 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 (%)	4.6
Employment (thousands)	1,536
Share of total employment in England (%)	6.2
Male: Female	49:51
Change: 1992-2002 (% pa)	3.2
Change: 1997-2002 (% pa)	3.0
Change: 2002-07 (forecast % pa)	1.4
Self-Employment (%)	26.3
Top Three Occupational Groups (% of Total Emp.)	
Associate Professional & Technical Occs.	22.1
Managers and Senior Officials	17
Personal Service Occupations	14.4
Establishments Reporting Hard-to-Fill Vacancies (%)	9.6
Establishments Reporting Skill-Shortage Vacancies (%)	5.3
GVA per Worker (£s)	19,500
Exports: Gross Output (%) ¹	6.7
Concentration	medium

Note(s): 1. Data are for 2002 and relate to England except where indicated, where data are for 2000 and are for the UK.

Source(s): CE and IER estimates based on various national sources (see Annex A for details).

Annex A: Statistical Sources and Detailed Tables

Many of the data in the broad sector and detailed industry summary tables were taken from Wilson, R.A., A. Dickerson and K. Homenidou (2004), *Working Futures: New Projections of Occupational Employment by Sector and Region*, Sector Skills Development Agency: Wath on Dearne.

National Statistics Sources

Most of the estimates in the broad sector, detailed industry and summary industrial indicators tables are based on various national sources:

Employment estimates are based on *Annual Business Inquiry* data.

Occupational estimates are IER estimates based on *Labour Force Survey* data and information from the Census of Population. Full details of sources and methods are given in Wilson *et al* (2004).

GVA estimates are based on data from several sources: *UK National Accounts – The Blue Book; Index of Production; and Input-Output Supply and Use*.

Trade estimates are based on data published in *UK Trade Analysed in Terms of Industry*

Other Sources

Vacancies and other measures of skill deficiencies were obtained from the 2003 *National Employer Skills Survey*.

Table A1: Industrial Coverage

No.	Industry	SIC 1992	SSC representation
1	Agriculture, etc	01-02, 05	Lantra; Improve
2	Mining and Quarrying	10-14	Cogent Plus; Proskills
3	Food, Drink and Tobacco	15-16	Improve; Lantra; Skillsfast-UK
4	Textiles and Clothing	17-19	Skillsfast-UK
5	Wood and Paper Products	20-21	Proskills; Skillset
6	Publishing and Printing	22	Skillset; E-Skills UK
7	Chemicals and Non-Metal Minerals	23-26	Cogent Plus; Proskills; Skillset
8	Metals and Metal Goods	27-28	SEMTA
9	Engineering	29-33	SEMTA; Summitskills; E-Skills UK, Skillsfast-UK; Skillset
10	Transport Equipment	34-35	SEMTA
11	Manufacturing nes and Recycling	36-37	Energy and Utilities; Proskills
12	Electricity, Gas and Water	40-41	Energy and Utilities; Proskills
13	Construction	45	Construction; SummitSkills; Energy and Utilities
14	Sale and Maintenance of Motor Vehicles	50	Automotive; Goskills; Cogent Plus
15	Wholesale Distribution	51	Skillsfast-UK; Improve; Lantra; Proskills; Energy and Utilities; Skillsmart; Skillset; Skillsfast-UK
16	Other Retail Distribution	52	Improve; Lantra; Skillsmart; Summitskills
17	Hotels and Catering	55	Hospitality; Skillsactive
18	Transport	60-63	Goskills; Logistics; Hospitality; Energy and Utilities
19	Communications	64	E-Skills UK; Logistics
20	Banking and Insurance	65-67	Finance
21	Professional Services	70-71, 73	Facilities Management; Automotive
22	Computing and Related Services	72	E-Skills UK
23	Other Business Services	74	Facilities Management; Skillsfast-UK; Construction; Hospitality; Skillset
24	Public Administration and Defence	75	Justice
25	Education	80	Lifelong Learning
26	Health and Social Work	85	Health; Care; Lantra
27	Miscellaneous Services	90-99	Energy and Utilities; Hospitality; Skillsactive; Skillset; Lantra; Skillsfast-UK

Source(s): SSDA.

Table A2: Employment by detailed industry

No.	Industry	SIC 1992	Employment in England in 2002 (000s)
1	Agriculture, etc	01–02, 05	330
2	Mining and Quarrying	10–14	55
3	Food, Drink and Tobacco	15–16	383
4	Textiles and Clothing	17–19	206
5	Wood and Paper Products	20–21	157
6	Publishing and Printing	22	352
7	Chemicals and Non-Metal Minerals	23–26	547
8	Metals and Metal Goods	27–28	424
9	Engineering	29–33	661
10	Transport Equipment	34–35	339
11	Manufacturing nes and Recycling	36–37	203
12	Electricity, Gas and Water	40–41	110
13	Construction	45	1,562
14	Sale and Maintenance of Motor Vehicles	50	560
15	Wholesale Distribution	51	1,143
16	Other Retail Distribution	52	2,568
17	Hotels and Catering	55	1,549
18	Transport	60–63	1,091
19	Communications	64	477
20	Banking and Insurance	65–67	989
21	Professional Services	70–71, 73	1,650
22	Computing and Related Services	72	503
23	Other Business Services	74	2,879
24	Public Administration and Defence	75	1,163
25	Education	80	1,913
26	Health and Social Work	85	2,491
27	Miscellaneous Services	90–99	1,536

Source(s): CE and IER estimates based on Annual Business Inquiry (ABI) data (see the beginning of Annex A for details).

Table A3: Employment by broad sector

No.	Sector	SiE, 2003 Industries ¹	Employment in England in 2002 (000s)
1	Primary Sector and Utilities	1–2, 12	485
2	Manufacturing	3–11	3,273
3	Construction	13	1,562
4	Distribution, Transport etc	14–19	7,389
5	Business and Other Services	20–23, 27	6,556
6	Non-Marketed Services	24–26	5,567

Source(s): CE and IER estimates based on ABI data (see the beginning of Annex A for details).

Note: 1. As in Table A2.

Table A4: Summary industrial indicators – employment change

	Level (000s)	Change (%)	Change (000s)		Rank ¹	Rank ¹	
	2002	92–02	97–02	92–02	97–02	92–02	97–02
Agriculture, etc	330	-3.1	-5.5	-122	-108	24	26
Mining and Quarrying	45	-6.8	-2.2	-46	-5	27	21
Food, Drink and Tobacco	383	-0.7	-1.1	-26	-22	19	20
Textiles and Clothing	206	-6.1	-9.5	-181	-132	26	27
Wood and Paper Products	157	-1.7	-2.9	-30	-24	22	23
Publishing and Printing	352	0.2	-0.3	8	-4	13	15
Chemicals and Non-Metal Minerals	547	-0.9	-2.4	-51	-70	20	22
Metals and Metal Goods	424	-2.1	-4	-101	-97	23	25
Engineering	661	-1.4	-3.4	-97	-126	21	24
Transport Equipment	339	-0.6	-0.8	-19	-14	18	18
Manufacturing nes and Recycling	203	1.4	-0.1	26	-1	9	13
Electricity, Gas and Water	110	-4.6	-0.8	-67	-5	25	19
Construction	1,562	0.1	1.8	18	131	14	7
Sale and Maintenance of Motor Vehicles	560	-0.6	-0.4	-32	-12	17	17
Wholesale Distribution	1,143	1.2	-0.3	127	-19	11	16
Other Retail Distribution	2,568	1.4	1.8	327	215	8	8
Hotels and Catering	1,549	1.5	1.5	221	111	7	11
Transport	1,091	1.1	1.8	116	94	12	9
Communications	477	1.5	3.3	67	71	6	3
Banking and Insurance	989	-0.2	-0.2	-16	-11	15	14
Professional Services	650	3.3	3.7	180	109	2	2
Computing and Related Services	503	9.8	9.4	305	183	1	1
Other Business Services	2,879	3.2	2.5	781	330	4	6
Public Administration and Defence	1,163	-0.3	1	-39	55	16	12
Education	1,913	1.9	2.8	324	245	5	5
Health and Social work	2,491	1.3	1.6	297	194	10	10
Miscellaneous Services	1,536	3.2	3	418	211	3	4

Note(s): 1. Ranking of employment change by industry: 1 equals the industry with the strongest employment growth.

Source(s): CE and IER estimates based on ABI data (see the beginning of Annex A for details).

Table A5: Summary industrial indicators – occupational employment structure

	Rank								
	Managers	Prof.	Assoc Prof.	Admin.	Skilled trades	Personal services	Sales	Opps.	Elementary
Agriculture, etc	26	27	27	27	2	5	27	17	1
Mining and Quarrying	16	12	14	11	7	20	21	10	5
Food, Drink and Tobacco	19	19	17	17	13	26	6	3	3
Textiles and Clothing	12	24	19	21	16	16	16	1	11
Wood and Paper Products	13	23	12	12	6	19	13	9	14
Publishing and Printing	9	18	7	9	14	12	9	12	16
Chemicals and Non-Metal Minerals	14	13	11	18	12	18	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	15
Electricity, Gas and Water	23	8	13	3	9	17	5	15	19
Construction	20	15	26	22	1	27	25	13	10
Sale and Maintenance of Motor Vehicles	2	21	20	26	11	11	3	14	21
Wholesale Distribution	3	22	16	24	15	8	2	16	22
Other Retail Distribution	8	25	21	10	19	14	1	19	20
Hotels and Catering	1	26	24	23	17	10	8	25	2
Transport	22	17	18	8	18	9	14	2	6
Communications	25	16	25	5	10	13	7	7	8
Banking and Insurance	11	11	10	1	25	21	4	26	27
Professional Services	4	3	4	7	22	4	12	23	25
Computing and Related Services	5	2	6	4	20	15	10	22	26
Other Business Services	6	4	5	6	23	6	11	21	23
Public Administration and Defence	18	6	2	2	24	7	20	20	13
Education	27	1	8	25	27	3	26	24	18
Health and Social Work	21	5	1	16	26	1	24	27	24
Miscellaneous Services	7	7	3	15	21	2	15	18	12

Note(s): Ranking of employment by occupational group: 1 equals the industry with highest proportion of workers in a particular occupational group.

Source(s): CE and IER estimates based on Labour Force Survey (LFS) and other data (see the beginning of Annex A for details).

Table A6: Summary industrial indicators – occupational employment levels

	Levels (000s)		Assoc.		Skilled	Personal				
	Managers	Prof.	Prof.	Admin.	trades	services	Sales	Opps.	Elementary	
Agriculture, etc	22	3	5	9	116	25	3	24	124	
Mining and Quarrying	6	3	4	5	10	1	1	8	7	
Food, Drink and Tobacco	47	14	32	32	56	2	28	105	65	
Textiles and Clothing	31	6	17	14	26	5	5	76	26	
Wood and Paper Products	21	4	16	16	44	3	5	30	18	
Publishing and Printing	56	14	66	47	49	11	15	57	37	
Chemicals and Non-Metal Minerals	73	39	58	44	84	10	12	135	93	
Metals and Metal Goods	54	23	30	31	124	5	7	89	62	
Engineering	104	67	83	61	151	9	14	110	62	
Transport Equipment	32	26	29	32	97	4	5	68	45	
Manufacturing nes and Recycling	27	6	14	16	63	2	4	48	23	
Electricity, Gas and Water	11	12	10	24	23	3	8	10	10	
Construction	188	78	75	107	733	6	18	159	197	
Sale and Maintenance of Motor Vehicles	127	16	45	30	86	21	133	54	47	
Wholesale Distribution	249	32	96	77	158	53	285	99	95	
Other Retail Distribution	429	66	208	277	217	69	930	154	218	
Hotels and Catering	470	19	90	104	172	61	77	32	524	
Transport	118	45	90	176	113	48	33	303	164	
Communications	35	20	27	100	90	14	26	98	69	
Banking and Insurance	153	74	122	448	30	16	81	19	46	
Professional Services	129	110	137	112	28	54	22	22	37	
Computing and Related Services	96	101	94	109	25	13	21	18	27	
Other Business Services	526	448	586	588	123	211	112	105	180	
Public Administration and Defence	144	131	265	326	40	56	24	43	135	
Education	99	972	282	118	22	188	19	44	167	
Health and Social Work	287	305	703	227	44	705	36	42	142	
Miscellaneous Services	261	171	340	141	73	222	42	102	184	

Source(s): CE and IER estimates based on LFS and other data (see the beginning of Annex A for details).

Table A7: Summary industrial indicators – occupational employment shares

	% of employment Managers	Prof.	Assoc. Prof.	Admin.	Skilled trades	Personal services	Sales	Opps.	Elementary
Agriculture, etc	6.8	0.8	1.5	2.6	35.3	7.5	0.8	7.2	37.4
Mining and Quarrying	13.1	7.4	9.2	10.4	22.9	1.6	1.8	17.0	16.6
Food, Drink and Tobacco	12.4	3.8	8.3	8.4	14.7	0.6	7.3	27.5	17.1
Textiles and Clothing	15.1	2.8	8.2	7.0	12.8	2.5	2.3	36.8	12.6
Wood and Paper Products	13.4	2.8	10.3	10	27.9	1.8	3.2	19.1	11.5
Publishing and Printing	15.8	4.0	18.7	13.3	13.9	3.2	4.3	16.3	10.6
Chemicals and Non-Metal Minerals	13.3	7.1	10.5	8.0	15.4	1.9	2.2	24.7	16.9
Metals and Metal Goods	12.7	5.3	7.1	7.2	29.2	1.1	1.7	21.1	14.5
Engineering	15.7	10.2	12.6	9.3	22.8	1.4	2.1	16.6	9.4
Transport Equipment	9.3	7.8	8.6	9.5	28.8	1.1	1.6	20.1	13.2
Manufacturing nes and Recycling	13.3	2.9	7.0	7.8	31.2	1.0	2.1	23.4	11.4
Electricity, Gas and Water	9.8	10.9	9.4	21.9	20.5	2.3	7.6	9.0	8.7
Construction	12.1	5.0	4.8	6.8	46.9	0.4	1.2	10.2	12.6
Sale and Maintenance of Motor Vehicles	22.6	2.8	8.1	5.4	15.4	3.7	23.8	9.6	8.5
Wholesale Distribution	21.8	2.8	8.4	6.7	13.8	4.6	24.9	8.6	8.3
Other Retail Distribution	16.7	2.6	8.1	10.8	8.5	2.7	36.2	6.0	8.5
Hotels and Catering	30.3	1.3	5.8	6.7	11.1	4.0	4.9	2.1	33.8
Transport	10.8	4.1	8.3	16.1	10.4	4.4	3.0	27.8	15.1
Communications	7.3	4.2	5.6	20.9	18.8	2.9	5.4	20.5	14.4
Banking and Insurance	15.4	7.4	12.4	45.3	3.0	1.6	8.2	1.9	4.7
Professional Services	19.8	16.9	21.0	17.2	4.3	8.4	3.3	3.4	5.6
Computing and Related Services	19.1	20.1	18.7	21.6	4.9	2.6	4.1	3.5	5.3
Other Business Services	18.3	15.6	20.4	20.4	4.3	7.3	3.9	3.7	6.2
Public Administration and Defence	12.4	11.2	22.8	28.0	3.5	4.8	2.1	3.7	11.6
Education	5.2	50.8	14.8	6.2	1.2	9.8	1.0	2.3	8.7
Health and Social Work	11.5	12.2	28.2	9.1	1.8	28.3	1.4	1.7	5.7
Miscellaneous Services	17.0	11.1	22.1	9.2	4.8	14.4	2.7	6.6	12.0

Source(s): CE and IER estimates based on Labour Force Survey (LFS) and other data (see the beginning of Annex A for details).

Table A8: Summary indicators – vacancies (levels)

	Levels (000s) Employees (2003)	Unfilled Vacancies	Hard-to-fill vacancies	Skill-vacancies shortage	Staff not fully proficient
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-Metal 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
Other 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

Note(s): The number of employees is lower for each industry than the figures in Table A4 since self-employed workers are excluded here.

Source(s): NESS.

Table A9: Summary industrial indicators – vacancies (shares)

	Unfilled vacancies (as% of employees)	Hard to fill vacancies (as % of total vacancies)	Skill shortage vacancies (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-Metal 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
Other 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(s): NESS.

Table A10: Summary industrial indicators – organisations reporting unfilled vacancies

	Yes		No		Don't know		Total ¹ 000s
	000s	%	000s	000s	000s	%	
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-Metal 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
Other 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(s): NESS.

Note(s): 1. Grossed up number of establishments.

Table A11: Summary industrial indicators – organisations reporting hard-to-fill vacancies

	Yes		No		Don't know		Total ¹ 000s
	000s	%	000s	000s	000s	%	
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-Metal 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
Other 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(s): NESS.

Note(s): 1. Grossed up number of establishments.

Table A12: Summary industrial indicators – organisations reporting skills-shortage vacancies

	Yes		No		Total ¹ 000s
	000s	%	000s	%	
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-Metal 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
Other 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

Source(s): NESS.

Note(s): 1. Grossed up number of establishments.

Table A13: Summary industrial indicators – organisations reporting skills gaps

	Yes		No		Don't know		Total ¹ 000s
	000s	%	000s	000s	000s	%	
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-Metal 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
Other 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(s): NESS.

Note(s): 1. Grossed up number of establishments.

Notes

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