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UK COMMISSION FOR EMPLOYMENT AND SKILLS

UK Employment and Skills Almanac 2009

Evidence Report 12
January 2010

Analysis › Understanding › Insight › Expert advice

Data Disclaimer

The data included within the UK Employment and Skills Almanac has been sourced from the Office for National Statistics (including Labour Force Survey, Annual Business Inquiry, Annual Survey of Hours and Earnings, and the Inter-departmental Business Register), and other official UK Government sources, including employer skills surveys from England, Wales, Northern Ireland, and Scotland. International data has been sourced from Eurostat and the Organisation for Economic Coordination and Development (OECD).

Data reliability has been maintained by adhering to the guidance provided by the administrator or owner of the data sets used. Neither the UK Commission nor Cambridge Econometrics are able to control or verify the accuracy of the raw data, therefore neither the UK Commission nor Cambridge Econometrics gives any warranty as to the accuracy or fitness for purpose of the data.

The data provided on economic performance, productivity, skills, and inequality form just one part of the picture for sectors, regions, nations, and other socio-economic groups. The data does not constitute advice in and of itself, and should not be used as the sole basis for any business decision. Neither the UK Commission nor Cambridge Econometrics take responsibility for or shall be liable for any use of the data, nor for any decisions taken on the basis of the data.

We have included within the Almanac data presented on the basis of Sector Skills Councils (SSC) footprint. It is important to note that the 'architecture' of the Sector Skills Councils (SSC's) is subject to discussion at this moment in time, which makes it difficult to produce data series. Data in the Almanac uses those Standard Industrial Classification (SIC) codes which were defined in SSC core contracts as of spring 2009. For a small number of Sector Skills Councils these footprints may not be an exact fit with their employer coverage, and care should be exercised in their interpretation. These issues are documented in more detail in the Appendix. We recommend that users seeking richer, deeper intelligence on employer and employee needs within a particular sector contact the relevant SSC.

UK Employment and Skills Almanac 2009

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Foreword

Launched on 1st April 2008, the UK Commission for Employment and Skills was a key recommendation in Lord Leitch's 2006 review of skills *Prosperity for All in the Global Economy: World Class Skills*. The UK Commission aims to raise UK prosperity and opportunity by improving employment and skills. Its ambition is to benefit individuals, employers, government and society by providing independent advice to the highest levels of the UK Government and Devolved Administrations on how improved employment and skills systems can help the UK become a world class leader in productivity, in employment and in having a fair and inclusive society.

Research and policy analysis plays a fundamental role in the work of the UK Commission and is central to its advisory function. In fulfilling this role, the Research and Policy Directorate of the UK Commission is charged with delivering a number of the core activities of the UK Commission and has a crucial role to play in:

- Assessing progress towards making the UK a world-class leader in employment and skills by 2020;
- Advising Ministers on the strategies and policies needed to increase employment, skills and productivity;
- Examining how employment and skills services can be improved to increase employment retention and progression, skills and productivities.
- Promoting employer investment in people and the better use of skills.

We will produce research of the highest quality to provide an authoritative evidence base; we will review best practice and offer policy innovations to the system; we will undertake international benchmarking and analysis and we will draw on panels of experts, in the UK and internationally, to inform our analysis.

Sharing the findings of our research and policy analysis and engaging with our audience is very important to the UK Commission. Our Evidence Reports are our chief means of reporting our detailed analytical work. Our other products include Summaries of these reports; Briefing Papers; Thinkpieces; and Research and Policy Conventions. All our outputs are accessible in the Research and Policy pages at www.ukces.org.uk

The UK Employment and Skills Almanac works alongside the *Almanac Online* 2009 website (https://almanac09.ukces.org.uk) to provide a comparable, comprehensive and robust labour market information resource. This report and accompanying website acknowledge the need to develop a more agile and responsive skills and employment system, in which there is an increasing emphasis on the need for robust labour market information (LMI) to underpin government policy. Four key themes are identified which are used to structure the report: productivity, employment, skills, and inequality. Indicators are presented across UK nations, regions, sectors, sector skills councils, and various socio-economic groupings, with international benchmarking for the UK undertaken where possible. We hope that you find the information and analysis in this report valuable.

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Acknowledgements

Several individuals and organisations have been involved in the production of this report and accompanying workbooks.

The report was commissioned by the UK Commission for Employment and Skills (UK Commission). Cambridge Econometrics (CE) was the lead contractor on the study and was responsible for the management and production of the report, contributions to most chapters and the assembling of the data workbooks which accompany this publication. Additional work that supported the authors was carried out at CE by Stephanie Binks, Rafie Faruq, Ben Gardiner, and Richard Lewney. CE was supported by the Institute for Employment Research (IER). The focus of IER's contribution was the Skills and Inequality chapters of the Almanac, along with the spotlight features and the forthcoming working paper on the depths limits and gaps of LMI. IER also contributed to the collection and preparation of data for the Excel workbooks hosted on the *Almanac Online* (https://almanac09.ukces.org.uk).

For the UK Commission, the project was managed by Genna Kik. The project team would like to thank Genna for her support and direction over the course of the project, and for helping the project team get access to key data and personnel.

Part of the work for this report involved gathering, processing and assembling data for presentation. We would like to acknowledge DELNI and IFF who reprocessed data from Employers Skills Surveys (for Northern Ireland and England respectively) into up-to-date SSC footprint definitions.

To support the theoretical foundations of the study and ensure the study did not miss any important topics of interest, a stakeholder workshop and an internal (to the UK Commission) workshop were held. We would like acknowledge and give thanks to the people who participated in these: Claire Holden (Advantage West Midlands), Sally Walters (Alliance of Sector Skills Councils), David Campbell (BIS), Tony Clarke (DCSF (Joint International Unit)), Mauricio Armellini (DWP), Patrick Watt (Futureskills Scotland), Mike Feloy (Labour Market Solutions), Rob Cirin (LSC), James Sloan (UK Commission), Carol Stanfield (UK Commission), Mike Campbell (UK Commission).

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Lastly, a Steering Group chaired by the UK Commission oversaw the direction of the report and provided comments and guidance in relation to various issues. On the Steering Group were Lesley Giles, Genna Kik and Mark Spilsbury of the UK Commission.

Executive Summary

Background to the study

The UK Employment and Skills Almanac has developed and deployed a framework to organise and collate a detailed and comprehensive labour market intelligence (LMI) evidence base:

- to allow the UK Commission for Employment and Skills (the UK Commission) to become more strategic and intelligent in its use of official data;
- to provide a new resource to the wider research and policy community.

The LMI evidence base provided by this study aims to support the UK Commission to meet its high-level goals and its core responsibilities around labour market analysis. This publication and a set of accompanying workbooks (hosted on the *Almanac Online* (https://almanac09.ukces.org.uk)) are the core components of the evidence base, and together they organise and present data on a broad range of themes and measures of interest to the UK Commission at a national, regional and sectoral level.

How to use the UK Employment and Skills Almanac

Data in the *Almanac* are structured around the same four organising themes, or outcomes of interest, identified in our 2009 *Ambition 2020* report: productivity, employment, skills and reduced inequality. These chapters present the key highlights of the data collected at a national, regional and sectoral/SSC level for the four outcomes.

Each of these chapters relates productivity, employment, skills and inequality to their drivers and the relationships that underpin them. These relationships determine the rationale for the data collected and presented, and guides the way in which the data should be interpreted.

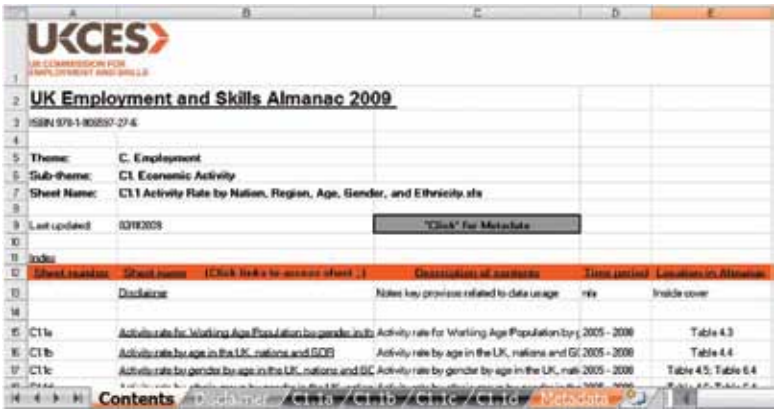
Within each chapter a discussion of the evidence for each outcome then follows, including recent international trends.

The tables and figures presented in the UK Employment and Skills Almanac 2009 are all available to download in Excel format from the *Almanac Online* 2009 project website:

https://almanac09.ukces.org.uk

The project website is arranged around the same four organising themes as the hard-copy. A wide variety of indicators can be found under each of these themes (the range of which is greater than within the hard-copy publication).

Each table and figure within the *UK Employment and Skills Almanac 2009* (hard-copy publication) includes a 'Datalink' to the indicators in Excel workbook format, which are hosted on *Almanac Online* (https://almanac09.ukces.org.uk). Users can download these workbooks to analyse the data for their own purposes.



Each workbook has a contents page with hyperlinks to the datasheets, metadata, and any accompanying data notes.

Three spotlight features are available both within the 2009 *UK Employment and Skills Almanac* and on *Almanac Online* (https://almanac09.ukces.org.uk):

- The impact of globalisation on employment and output.
- The polarisation of the demand for skills.
- The labour market impacts of the recession.

Summary of findings

Recent evidence

During much of the 2000s, the UK continued to enjoy robust economic growth bolstered by strong household expenditure and a surge in government spending, both on public services and capital investment. At the same time, the UK economy became increasingly traded. All of this supported an increase in the standard of living, and the UK gained in relative standing among the OECD countries.

In the wake of the global financial crisis, in 2008 the UK entered a recession and productivity growth ground almost to a halt because output growth slowed more rapidly than the growth in labour inputs. In the UK, the employment rate fell more sharply than the EU average and concerns about the potential for the recession to exacerbate existing labour market inequalities within the UK appear well founded. New challenges lie ahead in the years following recession.

Internationally the UK continues to enjoy one of the highest employment rates in the OECD but, despite improving its relative standing on productivity during the period of strong GDP growth between 2000 and 2007, the UK still lagged a number of countries such as the USA, France and Germany by some distance. Within the UK, marked disparities in employment rates and productivity continue to exist across the nations and regions.

Headline indicators of economic inequality show that, including the redistributive impact of taxes and benefits, income distribution in the UK is less equal than that in the euro-zone and the OECD, and has not improved in recent years. Evidence indicates that income is closely related to educational attainment. The variation of regional prosperity in the UK remains high and across the UK those regions with the highest proportion of high-skilled workers have relatively high productivity and earnings; those with high proportions of no or low-skilled workers have relatively low employment rates. But qualification rates vary widely by ethnic group.

During the last decade the sectors that generated most jobs in the UK were: the public sector (especially health and education); financial and business services; and construction. As a result, employment is now heavily concentrated in the service sector, and the UK is characterised by a large and growing share of managerial and professional occupations, a growing share of personal service occupations, and diminishing shares of skilled trades and process, plant and machinery operatives. However, if you take into consideration replacement demand (which takes account of the numbers retiring) some of these occupations remain significant.

In addition, technological and other changes have put a greater emphasis on flexibility and, at the same time, increased demand for workers from many parts of the service sector requiring relatively low-skilled workers. Demographic change has also affected the size and structure of the labour force, and this is set to continue, with an increasing role in the workforce for women, immigrants and older workers in the future projected.

Productivity

The evidence for productivity shows that England is the only UK nation whose productivity is above the UK average. In Northern Ireland and Wales productivity fell, relative to the UK average, over 2000-07. Within England, London has the highest level of productivity by some distance and only the South East and East of England had above average levels of productivity in 2007.

When looking at the evidence on productivity drivers, between 2000 and 2007 the strongest increases in investment per worker came in the capital intensive sectors, and these saw the strongest increases in productivity over 2002-08. Broadly speaking, the data supports the link between investment per worker and productivity. At the same time, the evidence indicated that the UK's comparatively lower levels of productivity are influenced in part by the relatively lower level of spending on R&D (as a percentage of GDP). However, the evidence also suggests that other countries fare even worse than the UK, suggesting that raising R&D spend alone is not enough. Skills for example also play an important role, supporting the raising of productivity directly (by increasing human capital), and indirectly through spillover effects.

Employment

The UK's employment rate is considerably higher than the OECD average. England and Scotland have a higher employment rate than the UK average, whereas Wales and Northern Ireland have a lower employment rate than Scotland and most of the English regions. The majority of workers are permanent, full-time employees.

The public sector (public administration, education and health) has the largest number of workers, followed by distribution, hotels and restaurants, and banking, finance and insurance. Consequently, the service sector comprises more than three-quarters of workers in the UK. The qualifications profiles of these sectors are quite different however. Whereas the distribution, hotels and restaurant sector has one of the lowest proportions of workers with higher education qualifications, the public sector and banking, finance and insurance are at the opposite end of the scale with high proportions of highly skilled workers.

In recent years, the fastest-growing group of workers was those aged between 60 and 64, followed by those aged 65 or over. These changes reflect an ageing population, rising activity rates and declining unemployment rates among older sections of the population. Workers between 16 and 24 saw the steepest fall in numbers due to a decline in the activity rate and an increase in the unemployment rate. Those aged between 35 and 39 have the highest activity and employment rate.

More workers in the UK are male than female, 54% compared with 46%, but since 2006 the number of women workers has been growing faster than the number of men. In the few sectors where women outnumber or equal men, the distinctive characteristic is that they have a relatively high proportion of part-time workers.

Just over 90% of those in employment are from the White ethnic group; this group has the highest activity and employment rates, and lowest unemployment rate. The Black ethnic group has the highest unemployment rate. Much of the difference in activity rates between ethnic groups reflects important gender differences.

Skills

International comparisons show that the UK performs well at the higher qualifications levels (university degree levels and equivalents), sitting in among the top third of OECD countries. However for intermediate and low level skills, the UK sits two thirds of the way down the ranking of OECD countries.

In terms of formal qualifications, the UK has seen a large improvement in the levels of qualifications held by its workforce over the last decade, with increasing numbers going on into further and higher education and obtaining qualifications at National Qualification Framework (NQF)[1] levels 4 and above. The evidence suggests that, over the past decade as a whole, demand has more or less kept pace with the large increases in supply from the domestic population and significant inward migration.

The changing industrial structure of the UK economy and the changing occupational structures within sectors (driven by technological and organisational changes), has led to a shift in occupational structure. There have been significant increases in the numbers of higher skilled jobs, as seen earlier. This has been accompanied by a fall in the numbers and shares of employment in many less skilled jobs.

[1] See Box 5.2.

Alongside this there appears to be a polarisation of the demand for skills, with a hollowing out of the number of jobs for intermediate level skills. While the recession has dampened some pressures related to skills gaps and skills shortages, there remain some acute problems in sectors where market forces are constrained or where there are other longer term structural problems.

Inequality

A key trend in the UK over the last 30 years has been that of increasing income inequality. In international terms income distribution in the UK is less equal than the OECD average. The Scandinavian countries stand out as being the most equal.

While women display a substantially higher participation rate for higher education than men, economic activity rates and employment rates are higher for men than women. However, the differential in activity rates is narrowing and unemployment rates are higher for men.

Participation in employment for young people has fallen slightly in recent years, while those for older people have increased slightly. Older workers enjoy lower unemployment rates and while earnings generally increase with age, they tend to slow or decline for older workers. At the same time, the recent increase in earnings has been slowest for young people.

Unemployment rates for ethnic minorities as a whole are still three times those for the white population and the percentage of ethnic minorities in employment remains lower than for white people. There is, however, slow convergence in employment rates for all except the lowest qualified.

1 Introduction

1 Introduction

1.1 Background to and need for report

Overall role of the UK Commission

The UK Commission for Employment and Skills (the UK Commission) was established in April 2008 as a result of Lord Leitch's 2006 review of skills with the aim of raising UK prosperity and opportunity by improving employment and skills. Its core mission is to support the governments of the UK and the Devolved Administrations achieve the twin goals of sustained economic growth and an inclusive society with opportunity for all people.

The UK Commission achieves this by providing independent advice to the UK Government and Devolved Administrations on how improved employment and skills systems can help the UK become a world class **leader** in productivity, in employment and in having a fair and inclusive society.

In broad terms, the five key responsibilities of the UK Commission are to:

- Annually assess UK progress towards becoming a world-class leader in employment and skills by 2020, consistent with the aims and priorities of the four nations;
- Advise the highest levels of Government on policies and delivery that will contribute to increased jobs, skills and productivity;
- Monitor the contribution and challenge the performance of each part of the UK employment and skills systems in meeting the needs of employers and individuals, and recommend improvements in policy, delivery and innovation;
- Promote greater employer engagement, influence and investment in workforce development;
- Fund and manage the performance of the Sector Skills Councils as key industry leaders in skills and employment.

The UK Commission's labour market information role

The need to develop a more agile and responsive skills and employment system increasingly emphasises the need for robust labour market information (LMI) to underpin government policy. Technological change, globalisation, the shift to a low-carbon economy, ageing populations and the evolution of social structures all mean that both labour markets – and the skills people need – change ever faster. Policy-makers need to be pro-active in anticipating these changes and future skills needs to be able to adapt our education and training systems to prepare for these future challenges and to enable people to develop the right skills.

High quality LMI provides a firm basis for the development of labour market intelligence that can be used to develop more responsive and strategic employment and skills policies. First-class LMI, therefore, has real value to the efficient functioning of the labour market. LMI can be used, for example, to provide information on current and future skills needs and shortages, which can help with the planning and management of labour markets, education and training systems. The more well informed that individuals, employers, training/education providers and policy makers are about the labour market, the more effective their decisions are likely to be. This is particularly true in the context of developing Government policy for a more 'active', strategic approach to industrial policy to support future growth.

This brings greater demands in terms of LMI, with more high quality information needed on current and possible future trends in the labour market, skills and employment, to inform policy development.

From the perspective of the UK Commission for Employment and Skills, LMI is a crucial tool in providing the 'big picture' in terms of the skills and employment agenda across the UK, and, looking internationally, in benchmarking the UK's economic and skills position against that of its major international competitors. A high quality, UK-wide LMI evidence base is crucial if the UK Commission is to be able to properly fulfil its roles in monitoring the progress of the UK towards its economic, employment and skills goals, and informing policy development.

Where possible, this evidence base must allow the UK Commission to monitor and assess progress not just at a UK level, but at national and regional level, and across industry sectors and sector skills councils (SSCs). In this way, the UK Commission can identify and learn from those cases that serve as examples for others.

The time is now particularly ripe, therefore, for providing clear, accurate, comparable, timely and insightful LMI on a range of issues. This publication and its accompanying workbooks present and interpret labour market intelligence covering four key outcomes of interest: employment, inequality, productivity and skills.

This study is designed to support the UK Commission meet these needs by providing it with the evidence base required. This publication and accompanying workbooks are the core components of the evidence base, and together they draw and present data on a broad range of themes and measures of interest to the UK Commission at a national, regional and sectoral level (subject to data availability).

1.2 Almanac content and structure

Employment and skills are not the only determinants of productivity and a fairer and more inclusive society; other external drivers include economic, technological, institutional and political factors and fall outside the remit of the UK Commission. This study has sought to recognise these other drivers and incorporate them into the evidence base where necessary and possible.

In the wake of the global financial crisis, the UK entered a recession in 2008. New challenges will lie ahead in the years following recession. The latest data included within the Almanac runs to 2008, covering the recessionary period in part. Where relevant to the discussion the implication of the recession is noted, and we have included in our concluding chapter a spotlight feature on 'the labour market impacts of recession'. Our 2010 Almanac will include 2009 indicators which will give an updated picture on how the recession has played out across various measures.

This report and accompanying workbooks hosted on the *Almanac Online* website (https://almanac09.ukces.org.uk) form the evidence base. Both the report and *Almanac Online* (https://almanac09.ukces.org.uk) are structured around four organising themes, or outcomes of interest, identified in *Ambition 2020*[2]: productivity, employment, skills and reduced inequality. The data (both outcomes and drivers) that make up the evidence base are presented under one of these themes. This publication presents only a selection of the data that make up the evidence base. The full datasets and workbooks are available to view and download from the *Almanac Online* site (https://almanac09.ukces.org.uk).

This report is structured as follows:

- The final section of this chapter provides a methodological overview of the approach taken to develop the evidence base and its organising framework;
- In Chapter 2, the context for understanding trends in the outcomes of interest (productivity, employment, skills and reduced inequality) is provided in the form of an overview of policies and policy developments and of recent developments in the wider economy.

[2] UK CES (2009), *Ambition 2020: World Class Skills and Jobs for the UK*, May 2009.

- In Chapters 3, 4, 5 and 6 we present a selection of the evidence related to each of the outcomes of interest: productivity, employment, skills and inequality. Each chapter begins by relating the outcome to the conceptual framework of drivers and the relationships that underpin it. This framework determines the rationale for the data collected and presented for the evidence base. This is followed by an overview of the evidence on recent international trends. There follows a selection of tables with evidence for the UK nations, regions and sectors (subject to the availability of data) accompanied by short commentary paragraphs discussing the outcomes of interest and underpinning drivers.

The workbooks which accompany this publication present the collected evidence (on outcomes and drivers) in all its detail are available to download from the *Almanac Online* 2009 project website:

https://almanac09.ukces.org.uk

The project website is arranged around the same four organising themes as the hard-copy: productivity, employment, skills and inequality. A wide variety of indicators can be found under each of these themes (the range of which is greater than within this hard-copy publication).

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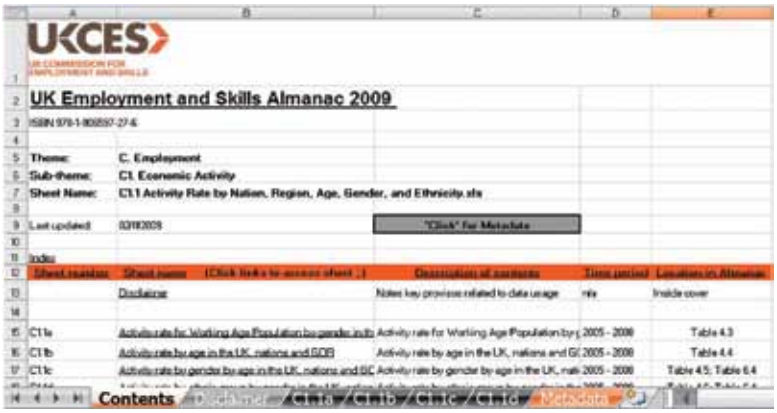

Each workbook has a contents page with hyperlinks to the datasheets, metadata, and any accompanying data notes.

Finally, three spotlight features are available both within the 2009 *UK Employment and Skills Almanac* and on *Almanac Online* (https://almanac09.ukces.org.uk):

- The impact of globalisation on employment and output.
- The polarisation of the demand for skills.
- The labour market impacts of the recession.

A working paper on the depth limits and gaps of the data will accompany this report and be released in early 2010 on *Almanac Online* (https://almanac09.ukces.org.uk).

1.3 Methodological overview

In *Ambition 2020* (UKCES, 2009) the UK Commission developed a policy framework to aid and inform policy deliberation and development, together with the establishment of appropriate measures of success, which aims to connect skills, employment and economic development policy, in pursuit of the 2020 ambitions.

Based on this[3], for the purpose of this Almanac we have identified a number of key outcomes and for each outcome identified the objectives, outcomes of interest, conceptual frameworks (including drivers and processes), key variables, and empirical indicators. This method has provided the basis for specifying the data to be collected, for its presentation and interpretation, and for identifying data gaps and limitations.

To capture the UK Commission's key objectives, four key outcomes of interest were identified from the *Ambition 2020* policy framework: productivity; employment; reduced inequality; and skills. The ultimate goals of the UK Commission, namely economic performance, productivity, employment and reduced inequality, sit in the top component of the organising framework (in Figure 1.1).

- The high level objectives (outcomes) of improved employment and productivity determine economic performance.
- Reduced inequality sits alongside employment and productivity indicating that it is a desired outcome in its own right and because success in improving employment and productivity outcomes will depend to some extent on reducing the inequality of labour market outcomes (by improving the employment and productivity of disadvantaged groups).

[3] The organising framework (see Figure 1.1) used for the LMI evidence base in this report is an extension and modification of the UK Commission's *Ambition 2020* policy framework; it includes other external drivers of the key outcomes of interest and new elements that were not previously highlighted explicitly.

- Skills have a vital role to play in stimulating employment, productivity and cohesion. Skills are represented by the three further components of the framework:

  – the demand side (in light orange) summarises the determinants of the required workforce, i.e. the skills needed;

  – the supply side (in dark orange) summarises the potential workforce, i.e. the quantity and quality of skills available;

  – and (in shaded grey) jobs matches and mismatches between supply and demand.

In order to set the role of skills in a wider context, and to reflect the role played by other external drivers that influence the development of employment and productivity, the framework set out in Figure 1.1 includes these other key drivers (dark orange outline) of employment and productivity, skills supply and demand. They are:

- globalisation, technology and the economic cycle affect productivity and also determine the activity and structure of the economy and employment [skills demand];

- demographic change (e.g. the age structure of population, historic trends in birth rates, annual fluctuations in international migration by age and gender, changing labour market participation rates) affects employment and the potential workforce [skills supply];

- barriers to participation exist in the form of factors such as cultural attitudes to learning and employment, and institutional structures; these affect employment and the potential workforce [skills supply].

The framework therefore includes not only measures of skills and employment, but also a wide range of additional indicators such as measures of output, trade performance, etc.

From chapters three onwards we present evidence related to each of the key outcomes of interest. To provide a sound basis for the interpretation of the evidence, each chapter begins by presenting our understanding of drivers and relationships that underpin that outcome.

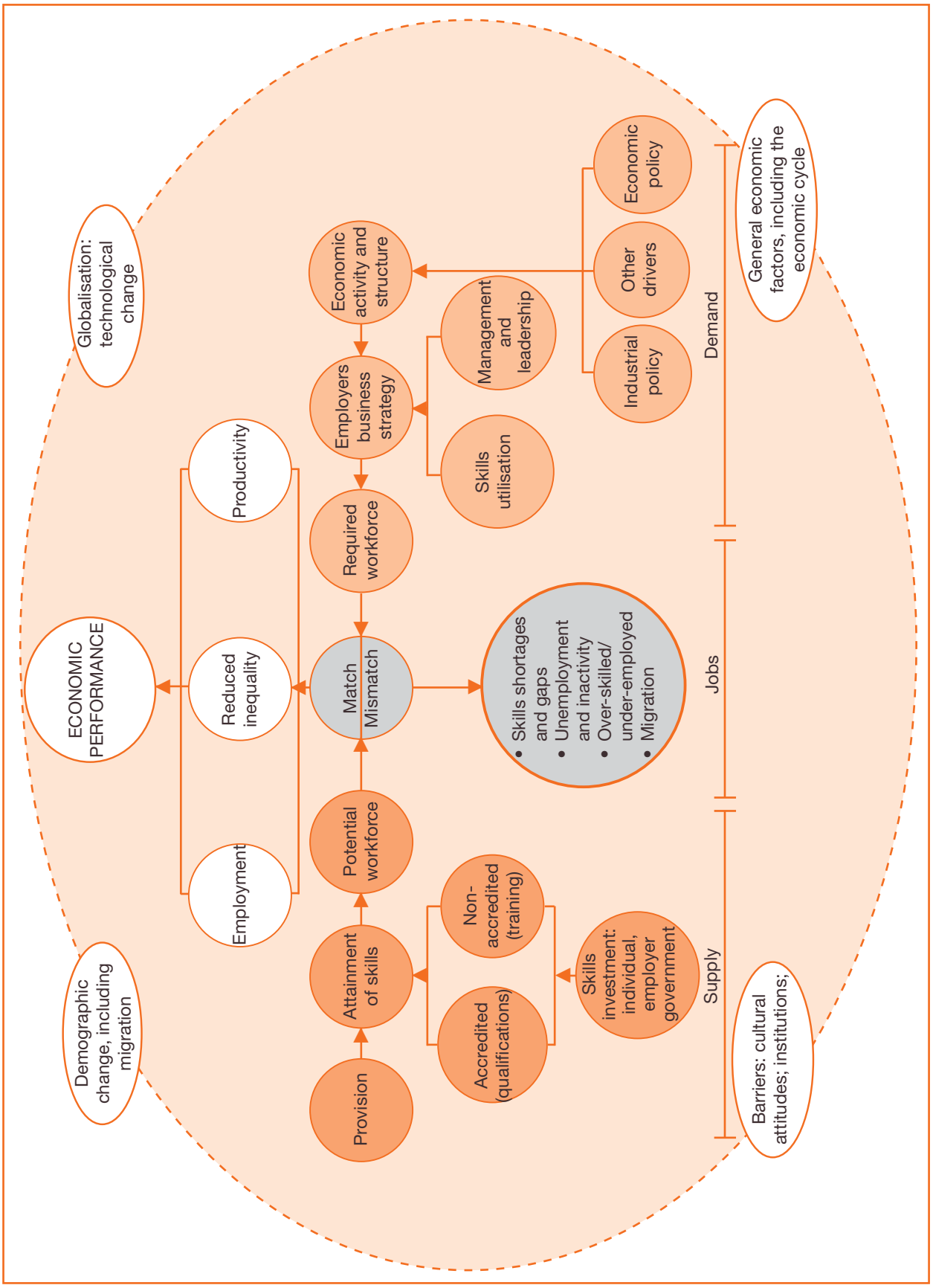

Figure 1.1: *Ambition 2020* Policy Framework

2 Contextual summary

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2.1 Introduction

This section provides a brief summary of the policy environment and prevailing macroeconomic overview which provides the context for understanding trends in the key outcomes of interest discussed in subsequent chapters.

2.2 Policy environment

In this policy context we describe the current employment, industrial strategy and skills environment in which this work is positioned.

2.2.1 Employment

The government's long-term goal[4] is an employment rate of 80%, built on the following other targets:

- a lone parent employment rate of 70% by 2010;
- reducing the number of incapacity benefit claimants by 1m between 2006 and 2016[5];
- increasing the number of over-50s in employment by 1m between 2006 and 2016[6];
- raising employment rates among disadvantaged groups and closing the gaps with the general working-age population.

Responsibility for employment (and benefits) programmes in England, Scotland and Wales lies with the Department for Work and Pensions (DWP) and Jobcentre Plus. In Northern Ireland, it lies with the Department for Employment and Learning (employment) and Department of Social Development (benefits). The extent and range of support for unemployed people varies across the four UK nations.

4 Department for Work and Pensions, *Five Year Strategy: Opportunity and security throughout life*, Cm 6447, February 2005.
5 Department for Work and Pensions, *A new deal for welfare: empowering people to work*, Cm 6730, January 2006.
6 Department for Work and Pensions, *Five Year Strategy: Opportunity and security throughout life*, Cm 6447, February 2005.

The underpinning approach to employment strategy is captured in a series of publications by DWP[7]. The strategy is informed by five core principles:

1. **A stronger framework of rights and responsibilities**: under which a more active benefits system encourages greater job search activity by those out of work and helps those who help themselves, but which remains fair by supporting those who genuinely cannot work.

2. **A personalised and responsive approach**: under which personalised support is offered to the individual, who has some choice in the programmes that meet their needs; the benefits system and employment programmes are simplified to make them easier to administer and navigate; and initiatives and legislation are used to reduce (intentional or unintentional) discrimination by employers.

3. **Partnership (public, private and third sectors working together)**: under which the importance of partnership is recognised and continues to be emphasised in order to support a more demand-led approach (with employers encouraged to influence the design of programmes and work closely with government on recruitment behaviour), and to deliver more personalised and holistic services; greater collaboration across government and with local authorities and agencies to reduce child poverty; public sector reform and modernisation to increase the efficiency and effectiveness of employment and benefit services.

4. **Devolving and empowering communities**: under which responsibilities are devolved to provide greater flexibility at the local level to deal with unemployment or worklessness.

5. **Jobs that pay and offer opportunities for progression**: under which, in recognition of the fact that a strict 'work-first' approach to employment programmes leads to churning between benefits and temporary employment, a greater balance is struck between 'work-first' and 'human capital' approaches to employment programmes, supported by a system that rewards contractors for longer- lasting (sustainable) jobs. This is enhanced with support to improve employability targeted at those that need it the most, and a drive by Jobcentre Plus to capture more high-skilled job vacancies (as these offer better prospects for sustained employment).

Between 1997 and 2008 the UK enjoyed a period of sustained economic growth, which was accompanied by increasing levels of employment and falling unemployment. However, the current recession has cut across this policy background, and actions have been introduced to mitigate its impact. After peaking at 74.9% in April 2008 the overall employment rate fell back to 72.5% in July 2009.

[7] Department for Work and Pensions, *A new deal for welfare: empowering people to work*, Cm 6730, January 2006.

The full impact of the recession on the labour market has yet to be seen, but lessons from previous recessions suggest[8] that to avoid the worst, the government needs to focus on offering more and faster support; maximise the transparency and fluidity of the labour market; minimise the flow into long-term (more than twelve months) unemployment; and invest in skills training, in conjunction with continued welfare reform. To date the government has not changed its 80% employment rate target, but has indicated that it will continue with its plans for welfare reform; and that it will develop specific responses to deal with rising unemployment.

In the November 2008 Pre-Budget Report, the Chancellor announced a £1bn contingency fund for DWP to support new measures to help the unemployed. The main measures to date include:

- £100m over 2008-11 to help the newly unemployed look for work, retrain and develop their skills;
- an additional 35,000 apprenticeships;
- £83m to offer around 75,000 people high quality training places;
- the Rapid Response Service to be extended to cover all employers announcing 20 or more redundancies;
- Local Employment Partnerships will be re-focused to include the short-term unemployed as well as the harder to help groups;
- incentives (golden hellos) worth up to £2,500 for employers to recruit and train unemployed people;
- a £1,000 subsidy available to unemployed people who wish to become self-employed.

2.2.2 Industrial strategy

In *New Industry, New Jobs*[9], the government set out a strategy for being prepared when a sustained economic upturn is in place. Whilst the policies in this paper are specific to England, some of the challenges are common to all UK nations.

[8] UKCES (2009), *A strategic overview of UK employment and skills policies*, mimeo.
[9] BIS (April 2009), *New Industry, New Jobs*, available for download from http://www.berr.gov.uk/files/file51023.pdf

Driving the strategy is the recognition that the structure of the economy will be different in the coming years to what it was before the recession, driven in part by constrained public and household spending, and an increasing emphasis on value for money. This will take place in a global economy that is set to continue to grow strongly and present significant new opportunities for firms and workers. To meet the challenges thrown up, the government recognises the need to continue to support the improvement in the skills of workers and adapt them to meet the needs of the marketplace; strengthen R&D capacity; promote more innovation and foster increased commercialisation of innovations. Critical to this, argues the government, is ensuring that science and technology are at the heart of the revolutions in industrial production in the 21st century.

The strategy identifies skills as being one of four immediate priority areas to bolster competitiveness. The focus is on fostering a talented workforce, by supporting the development of educated, entrepreneurial and skilled people. Investment in education and skills will remain a key element of government strategy. In particular the strategy proposes to focus on addressing our comparative international weakness in low and intermediate skills. The reform of the education and training system to be more demand-led will continue, but there is also the aim of enabling the skills system to anticipate future demand, rather than just respond to current demand. This is not just in response to changing sectoral or skills needs, but also changes in the profile of the workforce.

In tandem with this, the government will seek to tailor industrial policy (within England) in recognition of the fact that the scale of opportunities varies across sectors. The tailoring of policy is not intended to signal anything about the importance attached by government to any sector. Rather, it will be based on where the government believes the sector is constrained and needs support to fully capitalise on opportunities in the market.

This is consistent with the ideas put forward in *The Future of EU Competitiveness: From economic recovery to sustainable growth*[10] to build on the EU's existing capacity and prosper in the long term. The paper sets out for consideration a five-year agenda to support the continued development of the EU economy in response to the recovery in the wake of the global financial crisis and its impact on industrial structure and the demand for workers and skills. Sectoral policies should focus on: the low-carbon economy; advanced/high value-added manufacturing; post-2010 services; life sciences; and the digital economy.

[10] BIS (June 2009), *The Future of EU Competitiveness: From economic recovery to sustainable growth*, available for download from http://www.berr.gov.uk/files/file51732.pdf

2.2.3 Skills

The Leitch Review challenged the UK to raise its skills levels and become a world leader in skills by 2020, setting targets for qualification attainment (which have been updated by the UK Commission in *Ambition 2020*) and also underlining the importance of the effective use of skills in the workplace, in order to fully realise their benefits. The agenda set out by the Leitch Review, has been adopted to varying degrees across the four UK nations. As a result, the economic and social focus of programmes, and how they involve individuals and employers, vary somewhat.[11]

However, across all four nations a growing emphasis of skills policy has been on the contribution of improving skills levels to economic prosperity (by helping to improve productivity, facilitate social mobility; and minimise social exclusion). A detailed overview on the approach adopted by each UK nation can be found in *Ambition 2020* (pp. 43-44).

While the four UK nations may differ in their policy priorities, the detail of policies adopted and in the delivery mechanisms, there are some broad similarities. They all seek (i) an increased role for employers in the design of qualifications and delivery programmes, to make the system more demand-led; (ii) an increased emphasis on lifelong learning and upskilling the existing workforce; and (iii) more integrated skills and employment policies focused on sustainable employment.

Skills policies and strategies in the UK are underpinned by the following key principles[12]:

- improving the systems responsiveness to the market (individuals and employers) to become more demand led; promote choice and contestability; ensure qualifications meet labour market needs; ensure flexibility in the provision of training to suit individuals and employers;

- balancing the role and responsibilities of individuals and employers with the state's main role to redress market failure and/or secure wider social benefits to investments in education and training;

[11] The nature of devolution varies between the different countries, in Scotland and Northern Ireland the Parliament or Assembly have primary legislative powers. This means they can pass legislation similar in status to Acts of the United Kingdom Parliament, but the Welsh Assembly has only secondary legislative powers. There are also variations in policy coverage among the devolved bodies. In general, Northern Ireland has the widest range of policy areas, including social security and aspects of utility regulation, with the notable exception of law and order policy. Scotland covers the full range of law and order functions, and continues to have an entirely different legal system. Wales has the narrowest remit, with some functions continuing to be administered on an England and Wales basis.

[12] UKCES (2009), *A strategic overview of UK employment and skills policies*, mimeo.

- providing entitlements to individuals to enable them to attain a minimum level of qualifications;

- continuing the tradition of a largely voluntaristic approach (i.e. with low levels of market regulation);

- actively managing the performance of key players in the system.

Broadly, across the UK skills strategies focus on[13]:

- Maximising the numerical supply of skills, with employment policies aimed at increasing the proportion of adults in employment;

- The skills that young people develop in the initial education and training system, so that the inflow is qualitatively improved. The key intention is to increase participation and attainment in education; and to narrow the gap in educational achievement between children from low income and disadvantaged backgrounds and those from more advantaged backgrounds. In England, by 2015 participation in accredited training or education will be compulsory for all young people aged under 18;

- Improving the operation of the adult vocational education and training, learning and skills system; and encouraging employers and individuals to invest in skills development.

Specifically for England, *New Industries for New Jobs* proposes an approach rooted in supporting individual people to acquire the skills they require to meet their career ambitions. The emphasis is on a more demand-led approach that not only responds to the needs of businesses, but anticipates future needs. In addition, it recognises the importance of a more flexible labour market which better matches the supply of and demand for skills by making it easier for employers to hire people when they need them and for workers to work in way that suits their lifestyle.

The underpinning assumption of skills strategies in the UK has been to raise skills levels as a means to achieve higher levels of productivity, employment and prosperity. Until recently, relatively little attention had therefore been paid to what happens after initial skills acquisition, and in particular how this 'potential' is turned into 'performance'. However, slow progress in productivity growth has demonstrated that raising skills levels alone is not enough and will not necessarily lead to the levels of improved economic performance sought.

[13] UKCES (2009), *A strategic overview of UK employment and skills policies*, mimeo.

This has led to suggestions of a need to enhance skills policy from a primary concern with improving skills supply to an equal emphasis on skills demand and, in particular, considering the means to ensure that skills are effectively utilised as well as developed in the workplace.

In *Ambition 2020: World Class Skills and Jobs for the UK (2009)*, the UK Commission sets out the evidence on skills and employment in the UK and assesses progress to date against the UK's international competitors in the context of the Leitch ambitions and the aims and priorities of the four UK nations.

In November 2009 the government published *Skills for Growth – The national skills strategy*.[14] The strategy sets out the approach of the government to address the weakness of the skills base, particularly in intermediate skills, and to ensure workers and employers have the right skills for the future economy. The strategy argues that this requires a stronger focus on strategic skills; greater employer involvement in shaping demand for skills and the training system; and a system which allows individuals to choose what they learn and where and when they learn. In short, it argues for a demand-led system, which is able to anticipate future skills needs.

The Almanac and workbooks present data that measure skills levels and distributions across various dimensions, including by age bands and disadvantaged groups. Where possible, breakdowns by regions and sectors are also presented, as are data on involvement in and access to training.

2.3 Macroeconomic overview

To set the outcomes of skills, employment, and productivity in their wider context, macroeconomic drivers such as the economic cycle, globalisation and demographic change, are discussed in the remainder of this chapter.

2.3.1 Economic performance

During much of the 2000s, the UK enjoyed robust economic growth that supported an increase in the standard of living, as measured by GDP per capita. Between 2000 and 2007 GDP per capita increased by 16%, and the UK improved its relative standing among the G7 countries. In 2007 GDP per capita in the USA was 26% higher than that in the UK; in France and Germany the levels of GDP per capita were 9% and 7% lower than in the UK, respectively.

[14] Skills are a devolved matter. This strategy is for England only; it does not commit any of the four UK governments to any UK-wide actions or policy positions.
BIS (November 2009), *Skills for Growth – The national skills strategy*, available for download from http://www.bis.gov.uk/wp-content/uploads/publications/Skills-Strategy.pdf

UK GDP growth averaged 2.5-3% pa during 2000-2007; growth was bolstered by robust household expenditure and a surge in government spending, both on public services and capital investment. Driven by globalisation, the UK economy has become increasingly traded: exports accounted for 27% of GDP in 2008 compared with 18% in 1990; imports accounted for 29% of domestic demand in 2008 compared with 18% in 1990.

The demand for labour is derived from the demand for goods and services produced in the UK. The changing composition of demand for goods and services has shaped the structure of the UK economy and patterns of growth by industry sector. During the 2000s the growth of manufacturing and agriculture fell further behind that of the economy as a whole, whilst the fastest-growing sectors of the economy were financial services, transport and communications and public services. The share of manufacturing in the UK economy fell from 23% in 1990 to 12% in 2008 (see Figure 2.1); in contrast financial services expanded from 22% to 32% of the economy.

Table 2.1: Headline economic indicators for the UK

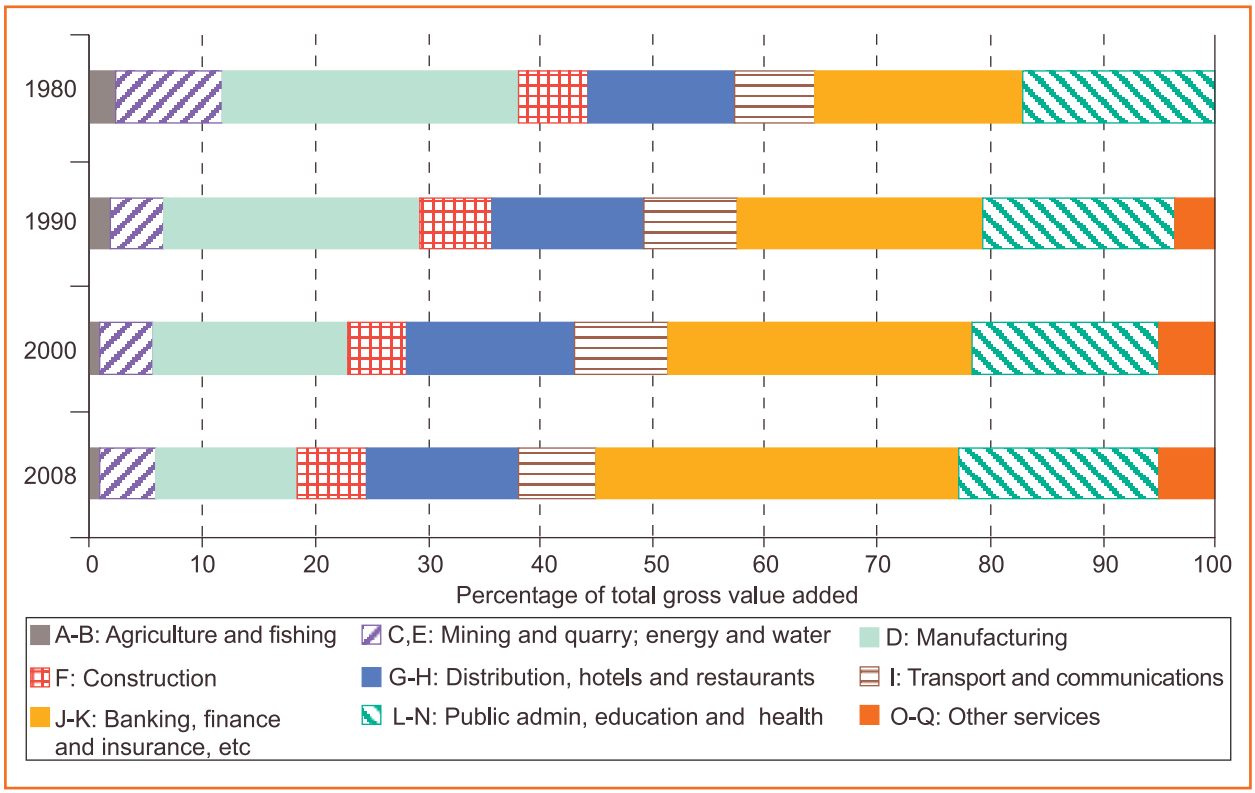
		2000-05	2006	2007	2008
GDP growth	(% pa)	2.5	2.9	2.6	0.7
Employment rate	(% working age population, Q1)	71.4	71.5	71.1	71.6
Unemployment rate	(% working age population, Q1)	4.9	5.2	5.5	5.1
Productivity	(GDP per hour worked, 2005=100)	96.6	102.4	104.3	104.6
Productivity growth	(% pa)	1.8	2.4	1.9	0.3
Income distribution:					
Gini coefficient	(ratio, after taxes and transfers)	0.37	0.34	n/a	n/a
Sub regional variation in GDP per capita	(variation, dispersion of regional GDP at NUTS3 level)	27.4	27.9	n/a	n/a
Educational attainment	(% of the 25-64 year-old population by highest level of education attained)				
	Below Upper Secondary	36.5	30.7	31.5	n/a
	Upper Secondary	35.4	38.5	36.4	n/a
	Tertiary	27.9	30.0	31.8	n/a

Note(s): Gini coefficient 2000-2005 is for 'around 2000'; 2006 for 'mid-2000s'.
Source(s): ONS, Eurostat, OECD Education at a Glance.
Datalink: https://almanac09.ukces.org.uk

A marked slowdown in UK growth was prompted in 2008 by the global credit crunch, and the economy fell into recession. Households curbed spending to rebuild savings, investment collapsed as credit was constrained and confidence undermined, and the brakes were put on trade, both imports and exports, as the global economy faltered. Consequently, the slowdown that emerged in the financial and business services sector, which accounts for a substantial proportion of the UK economy, developed into recession across all industry sectors.

The OECD forecasts that GDP in the UK and the euro-zone will be harder hit than the OECD average during 2009 and 2010. In the UK, the rescue measures implemented by government have greatly worsened public debt; cuts in government spending and increases in taxation will be required to reduce this debt and will act as a drag on growth early on during any recovery.

Figure 2.1: UK output by broad industry sector, 1980-2008



Source(s) ONS.
Datalink: https://almanac09.ukces.org.uk/context/A2/A2.1_GVA_Shares_in_UK.xls

Table 2.2: Headline economic indicators for comparator countries

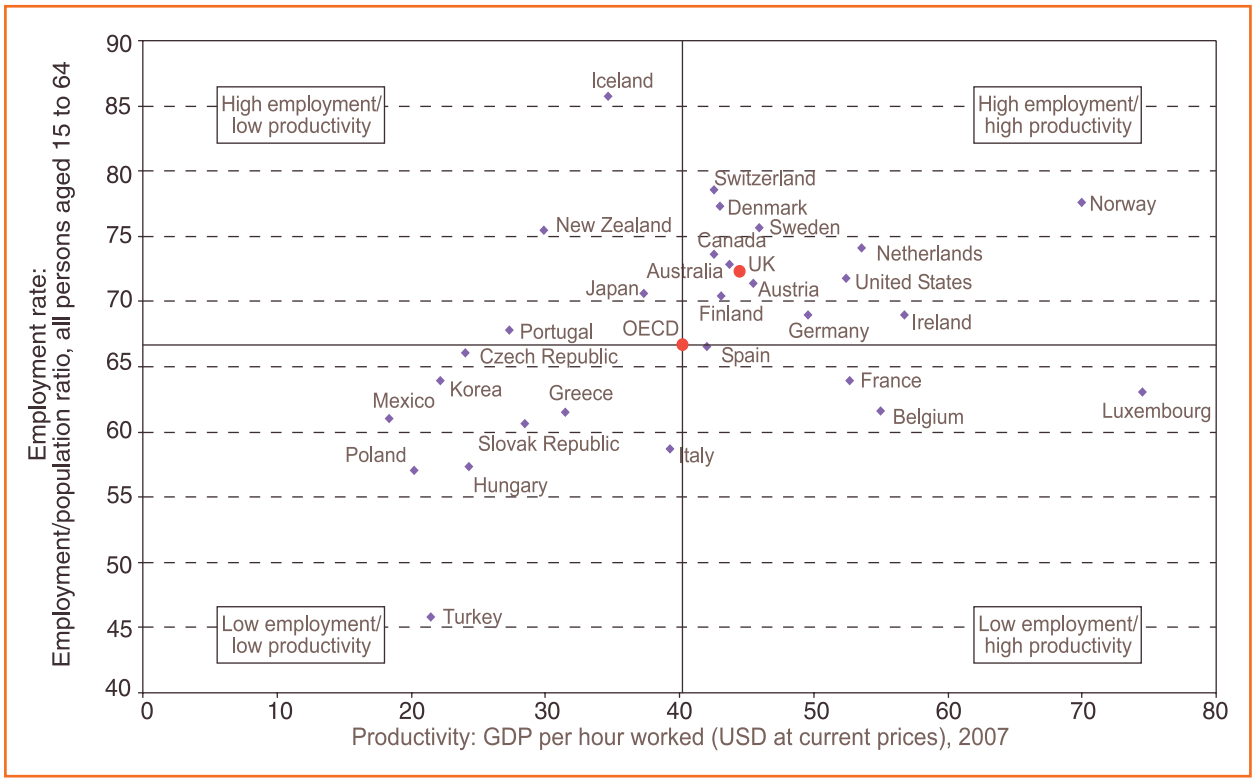
		UK			OECD average			Germany			France			US		
		2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008
GDP per capita	(US $, constant prices, constant PPPs, base year = 2000)	29359	30149	n/a	26787	27326	n/a	27435	28146	28551	26849	27312	27274	37569	37963	n/a
GDP growth	(% pa)	2.9	2.6	0.7	3.1	2.7	0.8	3.2	2.6	1.0	2.4	2.3	0.3	2.8	2.0	1.1
Employment rate	(% working age population, Q1)	71.5	71.1	71.6	66.2	66.6	66.7	66.4	68.4	70	63.2	63.8	64.8	71.9	72.1	71.6
Unemployment rate	(% working age population, Q1)	5.2	5.5	5.1	6.8	6.2	6.0	10.5	8.8	7.6	9.5	8.8	7.6	4.7	4.5	4.9
Productivity	(GDP per hour worked, UK=100)	100	100	n/a	92	92	n/a	116	113	n/a	114	114	n/a	115	114	n/a
Income distribution:																
Gini coefficient	(ratio, after taxes and transfers)	0.34	n/a	n/a	0.31	n/a	n/a	0.3	n/a	n/a	0.28	n/a	n/a	0.38	n/a	n/a
Sub regional variation in GDP per capita	(variation, dispersion of regional GDP at NUTS3 level)	27.9	n/a	n/a	n/a	n/a	n/a	29.2	n/a	n/a	23.4	n/a	n/a	n/a	n/a	n/a
Educational attainment	(% of the 25-64 year-old population by highest level of education attained)															
	Below Upper Secondary	30.7	31.5	n/a	31.8	30.2	n/a	16.8	15.6	n/a	32.6	31.3	n/a	12.2	12.1	n/a
	Upper Secondary	38.5	36.4	n/a	42.3	44.6	n/a	59.3	60.1	n/a	41.1	41.8	n/a	48.3	47.6	n/a
	Tertiary	30.0	31.8	n/a	27.8	27.4	n/a	23.9	24.3	n/a	26.2	26.8	n/a	39.5	40.3	n/a

Note(s): Gini coefficient 2006 is for 'mid-2000s'. The *Ambition 2020 Technical Report* gives UK qualification equivalents to these educational attainment levels.
Source(s): ONS, Eurostat, OECD Education at a Glance.
Datalink: https://almanac09.ukces.org.uk

2.3.2 Productivity

Economic performance is determined by (i) the *employment rate* (how many people are working) and (ii) *labour productivity* (how much each person in work produces). Although the UK has one of the highest employment rates in the OECD, it continues to lag a number of countries such as the USA, France and Germany on productivity by some distance. During the period of strong GDP growth between 2000 and 2007, the UK improved its relative standing on productivity against each of the G7; the UK's GDP per hour worked overtook that of Canada and Italy, it edged further above that of Japan, and it closed the gap on France, Germany and the USA.

Figure 2.2: Productivity and employment rates in OECD countries, 2007



Source(s): OECD, Employment Outlook 2008) and OECD Productivity Database, version of December 2007 (www.oecd.org/statistics/productivity).
Datalink: https://almanac09.ukces.org.uk/productivity/B1/B1.1_International_Productivity_Comparison.xls (productivity); https://almanac09.ukces.org.uk/employment/C1/C1.3_Employment_Rate_by_Country_Nation_Region_Gender_and_Ethnicity.xls (employment)

In 2008, the economic downturn caused UK productivity growth to grind to a halt; having grown by almost 2% pa during 2000-07, GDP per hour worked grew by just 0.25% in 2008 because output growth slowed more rapidly than hours were reduced and jobs were shed.

Marked disparities exist in the productivity rates of the different UK nations and regions.[15] In 2007, in only three of the English regions, namely London, the South East and the East of England, did GVA per worker exceed the UK average; this has been the case for over a decade. The variation in productivity rates across the nations and regions reflects industry specialisation, for example the concentration of high value-added financial and business services contributes to high productivity in London. It also reflects the pressure on costs (and therefore the value added per worker required for activities to be worth undertaking) in more urban regions.

On a number of measures of investment and innovation, key drivers of productivity, the UK continues to lag behind the performance of key competitors.[16] Business investment accounted for a smaller proportion of GDP in the UK in 2007 than in the US, France and Germany and the gap has widened since 2000. UK business expenditure on R&D (as a percentage of GDP) also remains lower than that of France, Germany and the US and has done so since the early 1990s.

The skills base of the UK economy is an important factor contributing to productivity.[17] The proportion of the working-age population who have achieved qualifications at degree level or above (NQF level 4 and over) has consistently risen since 1997. In contrast the proportion failing to achieve five or more good GCSEs has steadily declined. The proportions with highest qualifications at NQF Levels 2 and 3 have not changed much, because, although more individuals have acquired such qualifications, some have then moved on to acquire even higher-level qualifications. Consequently, the UK compares unfavourably against the OECD mean for low and intermediate skills whilst on high skills, the UK compares well against the OECD mean, but lags a few countries considerably.[18]

2.3.3 Labour market

Employment rate

The UK has one of the highest employment rates in the OECD. During the period of robust economic growth 2000-07, the UK employment rate remained consistently at 71%-72%, a similar level to that in the USA. During this period, in most other EU countries the employment rate was lower than in the UK; but in recent years Germany has made some progress closing the gap with the UK. Much, but not all, of the disparity in employment rates amongst EU nations is reflected in differences in unemployment. Differences in employment rates between the UK and nations outside the EU also reflect differences in activity rates.

15 See Tables 3.3 and 3.4 in the productivity chapter for further details and data.
16 See Sections 3.4.1 and 3.4.2 for further data and details on investment and innovation.
17 Qualifications data can be found in the skills chapter, Chapter 5.
18 For international qualifications data see Figures 5.5 and 5.6.

More recently, employment rates in the EU and the other G7 and OECD countries have fallen because the global downturn has cut employers' demand for workers. In the UK, the employment rate fell more sharply than the EU average.

Structure of employment

UK employment is now heavily concentrated in the service sector. Public services accounted for around 29% of employment in 2008; employment in the public services expanded markedly during the early 2000s when government spending was boosted, and the most rapid growth in public services has been in the NHS and in education. The other sectors that generated most jobs during the 2000s were: financial and business services, a large sector (16% of employment in 2008) that averaged only modest growth because new technologies and other factors have led to job losses in parts of the sector; and construction, a small sector (8%) that averaged rapid employment growth when construction activity flourished. Both business and consumer services related to leisure have enjoyed significant employment growth. In manufacturing (12% of employment), jobs have continued to be shed because those manufacturing activities that remain in the UK have relatively high productivity growth.[19]

Different sectors have different occupational structures and so changes in the sectoral structure of the economy have important implications for the occupational structure and so the demand for skills. The UK is characterised by a large and growing share of managerial and professional occupations, a growing share of personal service occupations, and diminishing shares of skilled trades and process, plant and machinery operatives.

Technological and other changes have also been altering the pattern of skills demands for occupations within sectors. Globalisation is putting a greater emphasis on flexibility, which requires a highly-skilled workforce, able to respond quickly to change and to deliver high value-added products and services. At the same time, there has been steady growth in employment in many parts of the service sector requiring relatively low-skilled workers as well as highly educated knowledge workers.

The impact of demographic change

Demographic change has also affected the size and structure of the labour force. The robust employment growth of the early 2000s was supported by both a significant increase of the size of the population of working-age and a gradual rise in the employment rate (i.e. the proportion in employment).

[19] See Table 4.8 and employment chapter for data.

The trends underlying the gradual rise in the employment rate have been increasing participation of women and older people in the labour force. This has been supported by changes in social attitudes and industrial structure. In contrast, the employment rate among men has not increased, and this reflects structural changes which have reduced the demand for workers in some sectors and occupations which have traditionally had a majority of male workers.

In recent years the growth in the total and working-age populations has accelerated, supported by increased inflows of net migration. On average, between 2000 and 2007 the population grew by 298,000 per annum, with net immigration accounting for 193,000 per annum; the working-age population increased by 252,000 per annum. This compares with growth in total population of 165,000 per annum 1990-2000, net immigration 75,000 per annum and working-age population 97,000 per annum.[20]

Official population projections published by ONS expect recent trends in demographic change to continue. That is, an increasing role in the workforce for women, immigrants and older workers is projected. Population growth is expected to be supported by strong net immigration, which is projected to peak over 2007-11 with inflows of 220,000 pa. These projections for migration, made prior to the global credit crunch, are subject to a great deal of uncertainty.

The growth in the working-age population is expected to accelerate, with stronger growth among the female population as the state pension age of women is increased from 60 in 2010 to 65 by 2020. Growth in the male working-age population is expected to slow markedly. The expansion of the prime age (25-49) population (which has the highest rates of participation in the labour force) is expected to slow after 2011 and the number of people aged 50 and over (with lower than average participation rates) will continue to increase dramatically. Projections of the size of the UK population in each age group can be made with reasonable confidence because the factor over which there is most uncertainty, namely the extent of international migration, has only a modest impact. It is likely that an increasing number of older women will choose to remain economically active, as younger cohorts of women who have been more active throughout their lifetime enter older age groups.

[20] See population section of *Almanac Online* for further data: https://almanac09.ukces.org.uk/context/A5

2.3.4 Inequality

Headline indicators of economic inequality show that, including the redistributive impact of taxes and benefits, income distribution in the UK is less equal than that in the OECD, although this has improved in recent years.[21] For example at 0.34 in 2006, the Gini coefficient[22] for the UK was higher than in France (0.28), Germany (0.30), and the OECD average (0.31), but lower than in the USA (0.38). At the end of the 1990s, sub-regional variation in GDP per capita in the UK became more dispersed than the euro-zone average and remained so until the mid-2000s.

With regard to regional disparities within the UK, there is a close link between employment, productivity and earnings in a region and the skills base in that region. The variation of regional prosperity in the UK remains high; much growth and prosperity is concentrated in London and the adjoining regions. London and the South East account for almost one-third of UK GVA and this share has grown steadily since the turn of the century.[23] Those regions with the highest proportion of high-skilled workers have relatively high productivity and earnings; those with high proportions of no or low-skilled workers have relatively low employment rates.[24] Again, London's position is rather different because of the scale of in-commuting by high-skilled workers.

Disparities are also evident by ethnic group, for example qualification rates of different groups vary widely within the UK. Overall those with low or no qualifications have poorer prospects for employment and earnings. A higher proportion of those from Asian or Asian British ethnic groups in particular have low or no qualifications. Those of Chinese ethnic background have the highest achievement in terms of acquisition of Level 4 qualifications or higher.[25]

21 See Table 6.1 in the inequality chapter.
22 The Gini coefficient is a measure of income distribution; it ranges from 0, indicating perfect equality, to 1, indicating perfect inequality. A full table of income inequality in OECD countries can be found on the *Almanac Online* website: https://almanac09.ukces.org.uk/inequality/E1/E1.1_International_Income_Distribution.xls
23 Regional GVA data can be found on the *Almanac Online* website: https://almanac09.ukces.org.uk/context/A2
24 Table 4.3 gives employment rate by region, Figure 5.14 gives the geographical distribution of skills.
25 Data on qualifications level by ethnicity can be found on *Almanac Online*: https://almanac09.ukces.org.uk/Skills/D1; https://almanac09.ukces.org.uk/Skills/D2

3 Productivity

3 Productivity

Productivity Chapter Summary

Productivity is one of the key outcomes of interest which contributes directly to economic performance. Raising productivity is key to improving prosperity.

In general terms productivity is defined as the ratio of output to input. Our main area of interest here is in labour productivity, and so the input of interest will be some measure of labour input. When measuring labour productivity, there are different measures of output and of labour input (or population) that can be used. GDP (or, for sectoral or regional indicators, GVA) per hour worked is the preferred measure because it takes account of differences in the average length of working week, part-time working, double job holding, and holidays, all of which affect the measure of GVA per worker. The data assembled in this chapter measure productivity as output (GDP or GVA) per hour worked where it is available, and output per worker where the per hour worked measure is not available[26].

The international evidence indicates that compared to the OECD average the UK made steady progress since 2000. In 2000 it was ranked 15th for productivity measured by GDP per hour worked, and by 2007 it had moved up to 11th. Nevertheless, the smallness of improvement against key comparator countries like the US, France and Germany, and the widening of the gap with a few other countries shows that much more improvement is required.

The evidence for the UK shows that England leads the way amongst the four UK nations. Looking at productivity over time, GVA per hour worked in Wales and Northern Ireland fell, relative to the UK average, between 2000 and 2007.

Within England, London has the highest level of productivity by some distance. In 2007 GDP per hour worked in London was 30% above the UK average. Behind London, the South East and East of England were the only other regions to have above average levels of productivity in 2007. In the remaining English regions, productivity fell between 2000 and 2007. Yorkshire and the Humber had the lowest level of productivity in 2007, and was only slightly ahead of the levels in Wales and Northern Ireland.

[26] GDP/GVA per worker is more robust than GDP/GVA per person/per person of working age as it makes the distinction between those in work and those not in work.

Across the whole economy, GVA per worker increased by 31% between 2002 and 2008. The largest increase over that period came in the combined sector of mining and quarrying and electricity, gas and water, where GVA per worker increased by 64%. Behind this sector, manufacturing (the second largest employer) and financial and business services (which accounts for the largest share of output in the UK) experienced the next largest increases in productivity. The sharpest slowdowns in productivity growth in 2008 came in construction and distribution, hotels and catering. This reflects the reliance of most activities in these sectors on demand for investment and durable goods. Productivity growth slowed in public services in 2008 as the government sought to cut back on expenditure (more so than employment) in a bid to improve its finances.

3.1 Introduction

3.1.1 The importance of productivity

Productivity is important because it is one of two drivers of the UK's prosperity, as recognised in *Ambition 2020* (see also Section 1.3). It matters because increased productivity translates into an increase in output (volume and/or quality) without any increase in input (labour and materials). As such, raising productivity is seen as the key to improving peoples' living standards. In addition to this link, productivity is also important as international evidence indicates that high productivity tends to be associated with high employment rates.

3.1.2 Defining and measuring productivity

There are several different definitions and meanings of productivity. In general terms productivity is defined as the ratio of output to input:

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}$$

As a result, increased productivity means more output per unit of input. Our main interest is in labour productivity, and so the input of interest will be some measure of labour input, e.g. number of workers; number of hours worked. However, in practice measuring productivity is more of a challenge.

When measuring labour productivity, there are typically three different measures of output that can be used:

- Gross output;
- Gross value added (GVA);
- Gross domestic product (GDP).

These measure slightly different things and so provide different measures of output. When the productivity measure being calculated relates only to primary inputs (labour and capital), then GVA should be used because it excludes intermediate consumption. GDP is defined only at national level (with no sectoral or regional disaggregation) and so is appropriate for whole economy comparisons. It differs from the sum of GVA across sectors only by the inclusion of taxes (less subsidies) on products (such as VAT and excise duties).

At the same time, there are several different measures of input (labour or population measures) that can be used:

- Hours worked;
- Workers;
- Jobs;
- Population or population of working age.

The choice of which measure to use depends on what question is being addressed and the availability of data. In addition, some measures are preferred on theoretical grounds.

GDP (or GVA) per hour worked is usually the preferred measure because it takes account (in the denominator) of differences in the average length of working week, part-time working, double job holding, and holidays, all of which are conflated within the measure of GVA per worker. Likewise, GDP/GVA per worker is more robust than GDP/GVA per person/per person of working age as it makes the distinction between those in work and those not in work. However, it can be difficult to get data for hours worked, and in that case GVA per worker or per job may be the best alternative[27].

[27] For more detail on defining and measuring productivity, see ONS (2007), *The ONS Productivity Handbook, A Statistical Overview and Guide*, Basingstoke (UK): Palgrave Macmillan, Chapter 1.

The data assembled in this chapter measure productivity as output (GDP or GVA) per hour worked where it is available, and output per worker where the per hour worked measure is not available[28]. The measure for output for international comparisons across countries is gross domestic product (GDP), while at regional and sectoral level gross value added (GVA) is used as GDP is not defined at these levels[29].

3.1.3 Drivers of productivity

The Treasury identifies five drivers that interact to underlie productivity (HM Treasury, 2000):

- Investment;
- Innovation;
- Skills;
- Enterprise;
- Competition.

These are the focus of the data and analysis in this chapter. Each of these is considered to be an *external driver*, with the exception of skills, which is also an *outcome* and underpins some of the other productivity drivers. The *economic cycle* is an additional influence on productivity. It is also important to recognise the role played by the internal workings of the firm (management and leadership; high performance working practices (HPWPs); and skills utilisation). The influences are not mutually exclusive, but we have not attempted to map out all of the inter-linkages here.

[28] GDP (or GVA) per hour worked is the preferred measure because it takes account of differences in the average length of working week, part-time working, double job holding, and holidays, all of which affect the measure of GVA per worker. Likewise, GDP/GVA per worker is more robust than GDP/GVA per person/per person of working age as it makes the distinction between those in work and those not in work. GDP/GVA per hour worked is the most robust measure.

[29] Gross Domestic Product (GDP) is a measure of the value of total economic activity and can be measured in three ways: 1) as the sum of all the Value Added by all activities that produce goods and services (output); 2) as the total of incomes earned from the production of goods and services (income); or 3) as the total of all expenditures made either in consuming finished goods and services or adding to wealth, less the cost of imports (expenditure). Gross Value Added (GVA) is the difference between the value of the output produced by a sector or region and its intermediate consumption. Intermediate consumption is the cost of raw materials and other inputs that are used up in the production process.

The concept of *competition* to which we refer is that in markets for goods and services (the 'product/service' market). (Although we recognise that competition also influences the labour market and the competition for resources within the firm.) Evidence shows that the more acute the competitive pressure, the higher is productivity growth. Increased competition in markets for goods and services:

- reduces market prices and puts pressure on firms to improve efficiency and decrease costs;
- raises the efficiency with which resources are allocated between firms (more productive firms grow and gain market share, less efficient firms lose market share and ultimately fail); and
- provides an incentive to *innovate* (another of the five influences on productivity).

In trying to get a measure of competition in markets, we have collected and presented data on: concentration of market share and the incidence of supernormal profits. The greater the degree of competition the lower each of these variables will be.

Enterprise is considered to be a process of dynamic competition, of the creation of new business opportunities either within existing firms or through the setting up of new firms. Greater entrepreneurial activity can increase productivity:

- through the introduction of new technologies or working practices that enable firms to compete more effectively;
- and so as a catalyst to competition, it therefore raises the efficiency with which resources are allocated between firms (by driving inefficient firms out of business).

The extent of entrepreneurial activity is influenced by a number of factors including business *innovation* and knowledge and *skills*. Entrepreneurial activity can be measured by variables such as the number of business start-ups and failures. Where there are increasing numbers of start ups, this can be seen as a healthy sign of competition, introducing new technologies or practices to the market and increasing the competitive pressure on other firms.

Innovation can contribute to higher productivity through:

- improved organisational efficiency (e.g. through new production processes, or workforce organisation);
- development of higher quality and better value goods and services.

Some aspects of innovative activity can be measured by variables such as knowledge transfer and exploitation, number of patent applications, and expenditure on R&D. More spending on R&D or higher levels of patenting activity would be consistent with greater innovative activity and hence higher levels of productivity. Organisational innovation (like *enterprise*) is inherently difficult to measure; it embodies attitudes and aptitudes to taking risks and exploiting new ideas.

Investment comprises investment in physical capital and also investment in intangible assets, such as software and intellectual property. Key influencing factors include: expected returns to investment; the perceived risk of investment; and agglomeration benefits of investment at a particular location. Investment in capital raises productivity as follows:

- it increases the amount of capital available per worker;
- it incorporates new technology.

Investment is typically measured as spending on physical assets, where, all other things being equal, increasing investment spending can be interpreted as higher levels of capital per worker, and/or better quality capital for workers. This can be expected to result in higher productivity.

As a key outcome of interest, *Skills* is covered in more detail in Chapter 5. As a key influence on productivity, skills support the raising of productivity directly, by increasing human capital, and indirectly, through spillover effects.

The key inter-linkages between skills and the other influences on productivity are:

- *Competition* puts pressure on firms to utilise resources in a more efficient manner; skills determine the effectiveness with which that is achieved.
- Higher skills encourage greater *innovation*; skills are critical to the development of new technologies and working practices.
- Higher skills encourage greater *enterprise*; managerial skills in particular are critical to the successful exploitation of new ideas.

It is also important to recognise the significant role played by the internal workings of the firm (management and leadership; high performance working practices (HPWPs); and skills utilisation). The UK Commission is planning new research on these issues and they play a prominent role in much current discussion about productivity issues.

Finally, alongside the five key influences identified by the Treasury, the *economic cycle* plays a role in determining productivity. This was discussed in Chapter 2, but it is worth noting that the 'downward' turning point of the cycle typically coincides with a marked slowdown of productivity growth, when output growth slows more rapidly than jobs are shed. To the extent that investment is cancelled or deferred, there is also an impact on long-term productivity growth. Against this, restructuring of the economy in recession may act to boost longer-term productive potential if the fittest and most efficient firms survive the tough times.

3.2 International comparison of productivity

The international evidence indicates that compared to the OECD average the UK continues to enjoy high levels of productivity. *GDP per hour* worked in the UK was around 8.75% higher than in the OECD as a whole in 2000, and remained so in 2007 (Table 3.1).

Nevertheless, some countries still manage to enjoy higher levels of productivity than the UK. Belgium, France, Germany, the Netherlands and the US are all countries which had higher levels of productivity (GDP per hour worked) than the UK in 2000, and continued to do so in 2007. For example productivity in the Netherlands and Belgium was 30-34% higher in 2000, while in France, Germany and the US it was around 20% higher. More recent evidence for GDP per hour worked suggests the UK has closed the gap with all of these countries, but it remains behind by 15-20%. Productivity in Japan continues to lag that in the UK, by around 16%.

Against Italy and Denmark, meanwhile, UK productivity has advanced ahead on the measure of GDP per hour worked. Productivity (GDP per hour worked) in Italy was 12% higher in 2000 but fell back over 2000-07 and has been 2-3% behind the UK level since 2005. Over the same period, Denmark lost its 8% advantage and by 2007 productivity in Denmark was just behind that of the UK. There are a few countries where the gap with the UK has widened. The gap in productivity levels between Ireland and the UK, for example, almost doubled over 2000-07, from 15% (in Ireland's favour) in 2000 to 28% in 2007 (GDP per hour worked).

Overall, the evidence suggests the UK has made productivity gains since 2000. In 2000 it was ranked 14th among OECD countries for productivity measured by GDP per hour worked, and by 2007 it had moved up to 11th. Nevertheless, the improvement against key comparator countries like the US, France and Germany has been small, and the gap with a few other countries has widened.

Table 3.1: International comparisons of GDP per hour worked (UK=100)

	2000	2000 ranking	2005	2005 ranking	2006	2006 ranking	2007	2007 ranking
Australia	99	16	98	13	98	13	98	13
Austria	111	10	106	9	105	9	106	9
Belgium	134	3	123	4	123	4	123	4
Canada	101	13	98	13	98	13	97	14
Czech Republic	47	24	53	26	55	25	57	25
Denmark	108	12	102	11	100	11	99	12
Finland	98	17	94	16	95	16	96	17
France	121	5	118	7	119	6	118	6
Germany	120	6	121	6	119	6	117	7
Greece	70	22	73	21	72	21	74	21
Hungary	47	24	54	24	54	26	54	26
Iceland	83	20	87	19	82	20	79	20
Ireland	115	8	123	4	125	3	128	3
Italy	112	9	98	13	97	15	97	14
Japan	84	19	84	20	84	19	84	19
Korea	46	27	50	27	51	27	54	26
Luxembourg	162	1	161	2	167	2	176	1
Mexico	42	28	41	29	42	29	42	29
Netherlands	131	4	125	3	123	4	122	5
New Zealand	73	21	67	22	67	22	67	22
Norway	149	2	164	1	170	1	163	2
Poland	42	28	45	28	45	28	46	28
Portugal	59	23	59	23	59	23	61	23
Slovak Republic	47	24	54	24	56	24	58	24
Spain	96	18	92	18	93	18	96	17
Sweden	109	11	104	10	105	9	103	10
Switzerland	100	14	93	17	95	15	97	14
Turkey	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
United Kingdom	100	14	100	12	100	11	100	11
United States*	118	7	116	8	115	8	114	8
OECD	92	n/a	92	n/a	92	n/a	92	n/a

Note(s): *Data for US come from ONS' International Comparisons of Productivity (data not available from OECD).
Source(s): OECD, National accounts, LFS.
Sourcelink: http://stats.oecd.org/index.aspx
Datalink: https://almanac09.ukces.org.uk/productivity/B1/B1.1_International_Productivity_Comparison.xls

When comparing the UK with these countries on the basis of GDP per worker, the same story emerges, but the differences are smaller, reflecting the fact that workers in the UK tend to work longer hours. The exception to this is the US, where the gap is bigger, reflecting the longer hours worked in the US.

Table 3.2: International comparisons of GDP per worker (UK=100)

	2000	2000 ranking	2005	2005 ranking	2006	2006 ranking	2007	2007 ranking
Australia	99	16	98	13	98	13	98	13
Austria	111	10	106	9	105	9	106	9
Belgium	134	3	123	4	123	4	123	4
Canada	101	13	98	13	98	13	97	14
Czech Republic	47	24	53	26	55	25	57	25
Denmark	108	12	102	11	100	11	99	12
Finland	98	17	94	16	95	16	96	17
France	121	5	118	7	119	6	118	6
Germany	120	6	121	6	119	6	117	7
Greece	70	22	73	21	72	21	74	21
Hungary	47	24	54	24	54	26	54	26
Iceland	83	20	87	19	82	20	79	20
Ireland	115	8	123	4	125	3	128	3
Italy	112	9	98	13	97	15	97	14
Japan	84	19	84	20	84	19	84	19
Korea	46	27	50	27	51	27	54	26
Luxembourg	162	1	161	2	167	2	176	1
Mexico	42	28	41	29	42	29	42	29
Netherlands	131	4	125	3	123	4	122	5
New Zealand	73	21	67	22	67	22	67	22
Norway	149	2	164	1	170	1	163	2
Poland	42	28	45	28	45	28	46	28
Portugal	59	23	59	23	59	23	61	23

Table 3.2 (continued): International comparisons of GDP per worker (UK=100)

	2000	2000 ranking	2005	2005 ranking	2006	2006 ranking	2007	2007 ranking
Slovak Republic	47	24	54	24	56	24	58	24
Spain	96	18	92	18	93	18	96	17
Sweden	109	11	104	10	105	9	103	10
Switzerland	100	14	93	17	95	15	97	14
Turkey	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
United Kingdom	100	14	100	12	100	11	100	11
United States*	118	7	116	8	115	8	114	8
OECD	92	n/a	92	n/a	92	n/a	92	n/a

Note(s): *Data for US come from ONS' International Comparisons of Productivity (data not available from OECD).
Source(s): OECD, National accounts, LFS.
Datalink: https://almanac09.ukces.org.uk/productivity/B1/B1.1_International_Productivity_Comparison.xls

When looking at countries that have enjoyed robust economic growth over 2000-07, there is no clear pattern in their productivity trends. For example countries such as Ireland, Spain, Poland and Iceland all enjoyed strong, above-average GDP growth over 2000-07, but only Ireland saw a significant improvement in productivity.

3.3 Productivity variation in the UK

3.3.1 Productivity by region

The evidence on productivity in the UK nations and regions is presented in Tables 3.3 and 3.4 below. On both measures of productivity, England leads the way amongst the four UK nations, and is the only one of the four nations to have productivity above the UK average. Looking at productivity over time, England's relative GVA per hour worked increased slightly between 2000 and 2007. Among the other UK nations, relative productivity in Scotland also changed little over 2000-07, increasing from 95% of the UK average in 2000 to 96% in 2007. In Wales and Northern Ireland, relative productivity fell between 2000 and 2007. Productivity in both was around 15% below the UK average in 2007.

Within England, London has the highest level of productivity by some distance. In 2007 GDP per hour worked in London was 30% above the UK average, up by around 5% on the level in 2000. Behind London, the South East and East of England were the only other regions to have above average levels of productivity: 5% and 1% above the UK average respectively in 2007. The level in the South East was unchanged on its 2000 level, while in the East of England productivity increased by over 4% between 2000 and 2007 to overtake the UK average. Labour productivity in the East Midlands was unchanged over 2000-07. In the remaining English regions, productivity fell between 2000 and 2007. In the case of the South West and the North West, the fall was slight; the falls were greatest in Yorkshire and the Humber and North East. Yorkshire and the Humber had the lowest level of GVA per hour worked in 2007, just 89% of the UK average, and only slightly more than the levels in Wales and Northern Ireland.

An analysis of regional performance by GVA per worker presents similar results, with differences across the regions accentuated because, on the whole, the number of annual hours worked per worker is higher in the high productivity regions.

This is particularly obvious in London, whose GVA per hour worked was 130% of the UK average in 2007, but whose GVA per worker was 152% of the UK average. By contrast, the North East's GVA per worker was 79% of the UK average, compared with 91% for GVA per hour worked. Just behind London in 2007 was, again, the South East and East of England, although both regions did see a small fall in relative GVA per worker between 2000 and 2007 which is not evident in the per hour worked measure. Of the other regions, only the West Midlands and Yorkshire and the Humber saw noticeable falls in relative productivity between 2000 and 2007, but in these cases the outcome was evident on both measures.

Table 3.3: GVA per hour worked by UK region (UK=100)

	2000	2005	2006	2007
UK	100	100	100	100
England	101	102	102	102
London	124	129	131	130
South East	105	105	106	105
East of England	97	99	99	101
South West	95	94	95	94
East Midlands	92	93	93	92
West Midlands	92	90	88	90
Yorkshire and the Humber	93	90	90	89
North West	93	91	91	92
North East	94	94	90	91
Scotland	95	97	97	96
Wales	91	87	84	85
Northern Ireland	86	81	83	84

Source(s): ONS.
Sourcelink: http://www.statistics.gov.uk/pdfdir/pro0709.pdf
Datalink: https://almanac09.ukces.org.uk/productivity/B1/B1.3_UK_Output_per_Worker_by_Region.xls

Table 3.4: GVA per worker by region (UK=100)

	2000	2005	2006	2007
UK	100	100	100	100
England	103	103	102	102
London	144	149	152	152
South East	116	113	114	113
East of England	107	104	103	103
South West	91	92	92	91
East Midlands	88	89	89	89
West Midlands	91	87	85	86
Yorkshire and the Humber	87	86	85	84
North West	87	87	87	88
North East	78	79	78	79
Scotland	93	96	96	96
Wales	76	75	75	75
Northern Ireland	81	81	81	82

Source(s): ONS.
Sourcelink: http://www.statistics.gov.uk/pdfdir/pro0709.pdf
Datalink: https://almanac09.ukces.org.uk/productivity/B1/B1.3_UK_Output_per_Worker_by_Region.xls

3.3.2 Productivity by sector

Table 3.5 shows the increase in GVA per worker across the whole economy from £34,600 to £45,300 in nominal terms between 2002 and 2008, an increase of 31%. Over the same period the GVA deflator increased by just over 17%, and so in inflation-adjusted terms the increase in GVA per worker was just under 14%.

Table 3.5: GVA per person employed in the UK by sector (000s)

	£000s						
	2002	2003	2004	2005	2006	2007	2008
Agriculture and fishing	24.5	26.2	28.7	18.9	19.3	23.0	26.3
Mining and quarry; utilities	120.3	132.3	144.4	155.7	181.2	162.5	197.5
Manufacturing	33.9	35.8	37.3	39.1	41.4	42.2	47.0
Construction	27.0	28.0	29.6	30.2	32.0	34.2	33.5
Distribution; hotels and restaurants	26.1	26.8	28.4	29.1	31.0	32.8	32.3
Transport and communications	37.8	39.7	40.6	40.6	42.4	45.3	45.6
Financial and business services	64.1	69.8	74.4	75.1	81.3	83.9	89.2
Public sector services	23.0	23.8	24.5	25.3	26.6	27.9	28.2
Other services	29.8	30.6	31.8	33.6	34.1	35.4	35.8
Total	34.6	36.3	37.9	38.8	41.5	43.6	45.3

Source(s): ONS Blue Book, LFS.
Sourcelink: http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=1143&Pos=1&ColRank=1&Rank=272
Datalink: https://almanac09.ukces.org.uk/productivity/B1/B1.4_UK_GVA_per_Person_by_Sector.xls

The largest increase over that period came in the combined sector mining and quarrying and electricity, gas and water, where GVA per worker increased by 64%, reflecting high profits in mineral extraction and supplying energy, and the highly capital-intensive nature of the sector. Behind this sector, manufacturing and financial and business services (which accounts for the largest share of output in the UK) experienced the largest increases in productivity, with GVA per worker increasing by 39% between 2002 and 2008 in each case. In the case of manufacturing this was driven by firms relocating high volume, low value-added production overseas and focusing on low volume high value-added production in response to increasing global competition, and strong rises in energy costs. In construction, GVA per worker increased by 24% between 2000 and 2008, mainly as a result of large increases in output. The largest sector by employment is public sector services (public administration, education and health). Value added, and hence productivity, in this sector is notoriously difficult to measure; on the current ONS estimates GVA per worker was around 23% higher in 2008.

After peaking at just under 7% in 2006, growth in GVA per worker slowed to 4% in 2008. The sharpest slowdowns came in construction and distribution, hotels and catering, with growth in each slowing from 6-7% in 2006 and 2007 to -2% in 2008. This reflects the reliance of most activities in these sectors on demand for investment and durable goods, demand for which fell sharply in line with weaker consumer and investment spending. Productivity growth in public services is also estimated to have slowed down in 2008.

In 2008, the highest level of productivity came in combined sector mining and quarrying and electricity, gas and water, reflecting sharp increases in profits in mineral extraction and supplying energy. Financial and business services were second, with an average GVA per worker of £89,200. Behind this sector, manufacturing and transport and communications averaged £45-47,000 (the UK average was £45,000). In public sector services, GVA per worker was £28,200 in 2008.

3.4 Evidence on key drivers of productivity

3.4.1 Investment

Investment is a key driver of productivity. Investment should, in theory, raise productivity by increasing the amount of capital available per worker; or through the adoption of new, better technology in the production/delivery process. The indicators we use here to measure investment are sector investment as a share of total investment, and gross fixed capital formation.

Table 3.6 which uses sector investment as a share of total investment shows that transport and communications, real estate and business services, other services, and distribution account for the largest shares of investment. Transport and communications accounted for the largest share in 2008 (15.4%). This is unchanged on its 2005 level, but it does represent a drop of 4.6 percentage points on its share of investment in 2000. The share accounted for by real estate and business services was largely unchanged between 2005 and 2008, but was 4 percentage points lower than in 2000. Manufacturing was responsible for 8.4% of sector investment in 2008, down by 1.4 percentage points on its 2005 share and over 6 percentage points on its 2000 share.

The public sector's share of investment has increased, reflecting the strong growth in public spending. Public administration and defence accounted for over 9% in 2008, a 4.25 percentage point increase on its share in 2000. The shares accounted for by education and health increased by 2.75 and 1 percentage points respectively over the same period.

Table 3.6: Sector investment as a share of total sector investment

	%				
	2005	2006	2007	2008	Change in share 2000-08 (pp)
Agriculture	2.0	1.9	1.9	2.0	0.5
Mining and quarrying	2.9	3.1	3.5	3.3	0.6
Manufacturing	9.8	9.2	8.9	8.4	-6.1
Electricity, gas and water supply	2.9	3.7	4.5	5.1	0.8
Construction	2.1	2.3	2.1	1.7	0.0
Distribution	13.0	12.2	12.4	10.9	1.1
Hotels and restaurants	4.1	4.1	4.2	4.2	0.8
Transport and communications	15.4	15.7	14.5	15.4	-4.6
Financial intermediation	5.7	5.5	5.5	5.5	-0.9
Real estate and business services	13.2	14.0	15.4	13.7	-4.0
Public administration and defence	8.3	7.9	7.9	9.2	4.3
Education	5.0	5.3	4.9	5.6	2.8
Health and social welfare	3.0	3.3	3.3	3.6	1.1
Other services	12.7	12.0	11.2	11.5	3.5
Total	100	100	100	100	-

Note(s): Percentages shares of total investment based on current price data.
Source(s): ONS Capital Stocks, Capital Consumption and Non-Financial Balance Sheets 2009
Sourcelink: http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=10730&Pos=&ColRank=1&Rank=272
Datalink: https://almanac09.ukces.org.uk/productivity/B2/B2.2_Investment_by_Sector.xls

Table 3.7 shows that total investment (gross fixed capital formation) grew by 4.25% pa over 2000-08 in real terms. The strongest real growth in investment over this period came in the public sector, with investment in public administration and defence growing by an average of 12.25% pa, and investment in education growing by 10% pa. Health, hotels and restaurants, and electricity, gas and water supply all saw investment grow by 6-7% pa in real terms over 2000-08. A key feature is the fall in investment in manufacturing. Investment in manufacturing fell by around 3.5% pa between 2000 and 2008.

The data in the table also show that, after racing to 11% in 2007, the growth in investment slowed to 4% in 2008. The rapid acceleration in 2007 was driven by faster growth in investment in mining and quarrying (from 11% to 23%), distribution (from -2% to 12%), and real estate and business services (from 12% to 24%). Behind these, there were also strong improvements in hotels and restaurants (from 4% to 12%) and financial intermediation (from 3% to 14%).

The slowdown in 2008 was underpinned by sharp turnarounds in real estate and business service, distribution, construction and mining and quarrying, all of which saw investment fall in 2008. There were also sharp slowdowns in financial intermediation, hotels and restaurants, and electricity, gas and water supply, although investment growth remained positive in these sectors in 2008.

Table 3.7: Gross fixed capital formation by sector (£m)

	£m				
	2005	2006	2007	2008	Average growth 2000-08 (% pa)
Agriculture	2,906	2,911	3,010	3,390	4.9
Mining and quarrying	4,232	4,712	5,810	5,677	4.3
Manufacturing	14,309	14,008	14,681	14,300	-3.6
Electricity, gas and water supply	4,172	5,632	7,620	9,021	6.7
Construction	3,000	3,491	3,529	3,032	4.3
Distribution	18,835	18,475	20,680	18,981	5.0
Hotels and restaurants	5,975	6,187	6,943	7,254	6.3
Transport and communications	22,366	23,809	24,497	27,447	1.4
Financial intermediation	8,267	8,482	9,641	10,261	5.4
Real estate; business services	19,170	21,519	26,616	24,966	2.8
Public administration and defence	12,076	11,884	13,024	15,847	12.2
Education	7,217	7,804	7,793	8,994	10.0
Health and social welfare	4,415	4,835	5,066	5,715	5.9
Other services	18,404	18,287	19,097	20,604	10.0
Total	145,344	152,036	168,007	175,489	4.3

Note(s): Figures are constant (2005) prices.
Source(s): ONS Capital Stocks, Capital Consumption and Non-Financial Balance Sheets 2009.
Sourcelink: http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=10730&Pos=&ColRank=1&Rank=272
Datalink: https://almanac09.ukces.org.uk/productivity/B2/B2.3_Capital_Formation_per_Employee_by_Sector.xls

Table 3.8 presents investment per worker and thereby takes account of recent employment trends. The table clearly demonstrates that the level of gross fixed capital formation per employee varies hugely by sector, for example from 101.9 in mining and quarrying to 1.6 in health and social welfare. There are two particularly capital intensive industries which are mining and quarrying and electricity, gas, and water supply.

Changes in investment across the sectors is visible:

- Investment in manufacturing declined over 2000-08, the reduction in employment over the same period means that investment per person employed stayed relatively constant in between 2000 and 2007, increasing by just 3% overall.

- Transport and communications has maintained high rates of investment per worker, with gross fixed capital formation per person employed ranging from around £14,100 to £16,100 in between 2000 and 2007. However, the level has fallen by around 2% overall in the same period.

- Some of the sharpest increases in investment per worker over 2000-07 came in the capital-intensive sectors: mining and quarrying, and electricity, gas and water supply.

- Outside these sectors, the largest increases came in the public sector (86% increase overall in public administration; 57% increase overall in education) and distribution. These were followed by financial intermediation, construction and hotels and restaurants, all of which saw investment per worker increase by 40-45% overall between 2000 and 2007.

Table 3.8: Gross fixed capital formation per person employed by sector (£000s)

	2000	2005	2006	2007	% change 2007 cf 2000
Agriculture	9.5	12.5	11.7	12.1	28
Mining and quarrying	56.2	76.9	82.7	101.9	81
Manufacturing	5.0	4.9	4.9	5.2	3
Electricity, gas and water supply	41.4	43.5	55.8	66.3	60
Construction	1.9	2.5	2.8	2.7	42
Distribution	2.9	4.1	4.2	4.7	62
Hotels and restaurants	2.8	3.4	3.5	3.9	40
Transport and communications	16.0	14.1	15.3	15.7	-2
Financial intermediation	6.3	7.9	8.1	9.1	44
Real estate; business services	5.2	4.3	4.7	5.7	9
Public administration and defence	4.7	8.4	8.1	8.8	86
Education	2.0	2.9	3.2	3.2	57
Health and social welfare	1.4	1.4	1.5	1.6	14
Other services	7.6	13.5	13.1	13.8	81

Note(s): Figures are in constant (2005) prices.
Source(s): ONS Capital Stocks, Capital Consumption and Non-Financial Balance Sheets 2009, LFS.
Sourcelink: http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=10730&Pos=&ColRank=1&Rank=272
Datalink: https://almanac09.ukces.org.uk/productivity/B2/B2.3_Capital_Formation_per_Employee_by_Sector.xls

Increased investment and increases in productivity frequently go hand in hand but not always; between 2000 and 2007 the strongest increases in investment per worker came in the capital-intensive sectors (as identified in Table 3.8): mining and quarrying, and electricity, gas and water supply, and these saw the strongest increase in productivity over 2002-08. However, at the other end of the scale public administration and defence, and education saw strong increases in investment per worker (Table 3.8) over 2000-07, but the overall increase in productivity in the public sector between 2002 and 2008 was at the lower end of the spectrum. This may also be related, however, to the difficulties of measuring output in these sectors.

3.4.2 Innovation

Innovation is a driver of productivity, measured here by business enterprise R&D expenditure as percentage of GDP (see Table 3.9).[30] The US devotes the highest share of GDP to business R&D expenditure: the share is typically in the range of 1.8-2%. Germany typically spends around 1.8% of GDP on R&D. Germany has seen sustained increases in the share of business R&D expenditure in GDP since 1996. In France around 1.3% of GDP is spent on R&D. This represents a very gradual decline from the 1.5% spent in the early 1990s. Meanwhile, the UK spent around 1.2% of GDP on R&D in 2000, but since then this has slipped to 1.0-1.1%.

As noted above the US, Germany and France typically spend more on R&D (as a share of GDP) than the UK and enjoy higher levels of productivity than the UK. However, there are some countries that spend a larger share of GDP on R&D and have lower productivity, such as Japan, Korea, Denmark and Canada. By contrast, there are one or two countries, such as Ireland, which spend a lot less on R&D (as a percentage of GDP) but enjoy higher levels of productivity. Italy spends roughly half of what the UK spends but has a higher level of GDP per worker, while GDP per hour worked is only just below the UK level.

Thus, whilst a priori we might expect the UK's comparatively lower levels of productivity are influenced in part by the relatively lower level of spending on R&D (as a percentage of GDP), the evidence would also suggest raising R&D spend alone is not enough. Care needs to be taken in directing where R&D spending goes and who undertakes it or benefits from it.

[30] Two different data sources are used in Table 3.9 and may not be directly comparable.

Table 3.9: Business enterprise R&D expenditure as percentage of GDP – international comparisons

			%		
	2000	2004	2005	2006	2007
France	1.34	1.36	1.30	1.32	1.31
Germany	1.73	1.74	1.72	1.77	1.77
UK	1.19	1.07	1.08	1.10	
US	2.05	1.79	1.83	1.89	1.93

Note(s): Comparisons with other countries not available.
Source(s): Department for Business, Innovation and Skills.
Sourcelink: http://www.dtistats.net/competitiveness5/
Datalink: https://almanac09.ukces.org.uk

Selected OECD Countries

			%	
	2000	2004	2005	2006
Australia	0.72	0.97	1.07	1.15
Austria		1.53	1.62	1.74
Canada	1.15	1.16	1.12	1.06
Czech Republic	0.73	0.79	0.91	1.02
Denmark		1.69	1.68	1.66
Germany	1.73	1.74	1.72	1.77
Greece	0.19	0.18	0.18	
Hungary	0.35	0.36	0.41	0.48
Iceland	1.50	1.36	1.43	
Ireland	0.80	0.81	0.82	
Italy	0.52	0.52	0.55	0.55
Japan	2.16	2.38	2.54	2.63
Korea	1.70	2.06	2.15	2.32
Luxembourg	1.53	1.43	1.35	
Netherlands	1.07	1.03	1.01	1.01
Norway	0.87	0.87	0.82	0.82

Table 3.9 (continued): Business enterprise R&D expenditure as percentage of GDP – international comparisons

Selected OECD Countries

%

	2000	2004	2005	2006
Poland	0.23	0.16	0.18	0.18
Portugal	0.21	0.28	0.31	
Slovak Republic	12.85	7.58	7.58	6.30
Spain	0.49	0.58	0.60	0.67
Turkey	0.16	0.13	0.20	0.21
United States	2.04	1.76	1.80	1.86

Note(s): Figures for several countries (including UK, Belgium, Finland, France, New Zealand and Sweden) were unavailable.
Source(s): OECD.
Sourcelink: http://stats.oecd.org/index.aspx
Datalink: https://almanac09.ukces.org.uk/productivity/B3/B3.1_Business_EnterpriseRandD.xls

3.4.3 Enterprise and competition

The more acute competitive pressures the higher productivity growth. The process of dynamic competition is referred to as *enterprise*. This includes the creation of new business opportunities within existing firms, or the setting up of new firms. Greater entrepreneurial activity can increase productivity. VAT-registrations are used here as a key measure of enterprise.

Looking first at VAT stocks in Table 3.10, real estate, renting and business activities have the highest number of VAT-registered firms in the UK, accounting for over 40% of the UK total. Construction accounts for roughly 13%, while distribution accounts for almost 17%.

Table 3.10: Stock of VAT registered firms by sector

	Levels and *percentage share of total stock*				
	2000	2005	2006	2007	Change in share 2000-07 (pp)
Agriculture	3,710	4,065	3,945	3,950	
	2.1	*2.2*	*2.2*	*1.9*	*-0.20*
Mining and quarrying	150	115	90	100	
	0.1	*0.1*	*0.0*	*0.0*	*0.00*
Manufacturing	12,285	9,515	9,110	10,050	
	6.9	*5.2*	*5.0*	*4.9*	*-2.00*
Electricity, gas and water	50	80	70	120	
	0.0	*0.0*	*0.0*	*0.1*	*0.00*
Construction	17,800	23,210	23,400	25,935	
	10.0	*12.7*	*12.9*	*12.6*	*2.60*
Distribution	34,625	35,490	33,895	34,060	
	19.5	*19.5*	*18.6*	*16.6*	*-2.90*
Hotels and restaurants	17,680	18,945	18,660	18,000	
	9.9	*10.4*	*10.3*	*8.8*	*-1.20*
Transport and communications	8,800	8,780	8,335	8,500	
	4.9	*4.8*	*4.6*	*4.1*	*-0.80*
Financial services	2,160	1,820	1,680	1,680	
	1.2	*1.0*	*0.9*	*0.8*	*-0.40*
Real estate; business activities	64,365	67,660	69,130	89,465	
	36.2	*37.1*	*38.0*	*43.5*	*7.30*
Public admin. and defence	15	5	5	5	
	0	*0*	*0*	*0*	*0.00*
Education	1,310	1,560	1,580	1,610	
	0.7	*0.9*	*0.9*	*0.8*	*0.00*
Health and social work	920	810	1,255	1,630	
	0.5	*0.4*	*0.7*	*0.8*	*0.30*
Other services	13,930	10,330	10,885	10,570	
	7.8	*5.7*	*6.0*	*5.1*	*-2.70*
Total	177,800	182,385	182,040	205,675	

Note(s): Levels are the start of Year VAT Stock.
Source(s): Department for Business, Innovation and Skills.
Sourcelink: http://stats.berr.gov.uk/ed/vat/
Datalink: https://almanac09.ukces.org.uk/productivity/B4/B4.2_VAT_Registrations_by_Sector.xls

Turning to flows, Table 3.11 shows both the construction and distribution sectors have seen a similar proportion of new VAT registrations to stock over time, at about 10%. The proportion of new registrations in relation to the VAT stock has declined in manufacturing since the mid-1990s. In 2007, VAT registrations accounted for less than 7% of the stock. Electricity, gas and water has a high rate of VAT registrations; however, there are few businesses within this highly-concentrated industry (1% of the total number of businesses in the UK), and so a small number of new firms represents a large proportion of the sector.

Table 3.11 indicates that the highest rates of new entry into a sector are to be found in electricity, gas and water supply; real estate and business services; hotels and restaurants; and construction. Electricity, gas and water supply has seen a sharp increase in the rate, from 13% in 2000 to 20% in 2007. Construction and real estate and business services have seen smaller increases in the region of 2 percentage points between 2000 and 2007. Meanwhile, the rate of VAT registrations as a percentage of stock fell in hotels and restaurants, from 15.2% in 2000 to 12.7% in 2007. The relatively high rate in real estate and business services is matched by high and greatly increased level of productivity in financial and business services, and supports the thesis that an increased or high level of entry of new firms into a market or sector increases the competitive pressure on firms and pushes them to increase productivity. At the same time, however, the rate of entry in manufacturing is generally low and falling. But productivity in manufacturing is in line with the UK average and increased by almost 40% over 2002-08. At the same time, construction enjoys a relatively modest to high rate of new entry, but productivity in the sector tends to be below the UK average and increased by less than the UK average over 2002-08. This suggests that industry structure (between firms and with customer/supplier industries) needs to be considered as well as the rate of entry.

Table 3.11: VAT registrations as percentage of stock by sector

			%		
	2000	2004	2005	2006	2007
Agriculture	2.3	2.6	2.6	2.5	2.5
Mining and quarrying	10.3	7.3	8.4	6.6	7.3
Manufacturing	7.5	6.3	6.1	5.9	6.6
Electricity, gas and water	13.0	17.9	14.4	12.1	20.0
Construction	9.4	10.7	10.6	10.3	11.1
Distribution	8.8	9.2	9.1	8.6	8.6
Hotels and restaurants	15.2	15.1	14.1	13.5	12.7
Transport and communications	11.7	11.2	10.8	10.1	10.1
Financial services	11.7	8.8	8.8	7.9	7.8
Real estate; business activities	13.7	12.6	12.0	11.8	14.8
Public admin. and defence	1.4	0.5	0.5	0.5	0.5
Education	13.9	12.7	11.9	11.4	11.0
Health and social work	5.9	4.9	5.1	7.8	9.8
Other services	10.3	7.5	7.2	7.6	7.3

Source(s): Department for Business, Innovation and Skills.
Sourcelink: http://stats.berr.gov.uk/ed/vat/
Datalink: https://almanac09.ukces.org.uk/productivity/B4/B4.2_VAT_Registrations_by_Sector.xls

In 2008, the net rate of return for firms in the UK manufacturing sector was just over 9% (Table 3.12), whereas services firms received a rate of return of over 15%. The (non-financial) services sector yields a higher rate of return on average than the manufacturing sector. The gap widened substantially in 1998, and has remained around 5.5-6.5 percentage points since, but it has been as high as 9 percentage points. Over this period, some parts of manufacturing have faced strong competition from low-cost countries and high and volatile input costs, which has undermined profitability (and prompted restructuring).

Table 3.12: Profitability of private companies in the UK

	Net rate of return (%)		
	2000	2005	2006
Manufacturing	10.6	9.9	10.6
Services	17.1	15.6	15.9
	Difference (pp)		
Gap	6.5	5.7	5.3

Note(s): Rates are profitability of private non-financial corporations in the UK.
Source(s): ONS Profitability of UK Companies.
Sourcelink: www.statistics.gov.uk/pdfdir/prof0709.pdf
Datalink: https://almanac09.ukces.org.uk/productivity/B4/B4.1_Profitability_of_non-Financial_Corporations.xls

4 Employment

4 Employment

Employment Chapter Summary

A successful economy has a high proportion of its working age population in work. The employment outcomes that we observe are the result of labour market processes that include both demand factors and supply factors. When demand and supply are not well matched, different types of mismatch occur, such as skills gaps or shortages, unemployment or inactivity.

Employer demand for jobs is shaped by demand for goods and services and by business strategies. The demand for goods and services is influenced by a number of external drivers including technological change and globalisation and specialisation. There are a number of long-term drivers of the labour force. These include demographic change, health, engagement in the labour market and barriers to participation.

Recent trends in the sectoral and occupational structure of the UK economy have further polarised labour market outcomes, such as wages and employment. This can affect particular socio-economic groups in varying ways.

The UK's employment rate is considerably higher than both the OECD and EU average. Much, but not all, of the disparity in employment rates amongst EU nations is reflected in differences in unemployment. The disparity in employment rates between the UK and nations outside the EU also reflects differences in activity rates.

England and Scotland have a higher employment rate than the UK average, whereas Wales and Northern Ireland have a lower employment rate than Scotland and most of the English regions. London is the exception with the lowest employment and activity rates in England and highest unemployment rate in the UK, although commuting means a higher proportion of employees work there than its population share.

Public administration, education and health is the largest sector (in terms of employment), followed by distribution, hotels and restaurants and banking, finance and insurance. The service sector comprises more than three-quarters of workers. Manufacturing comprises just over a tenth and construction just under a tenth. A small proportion of workers are employed in primary industries, electricity or water. Manufacturing has seen the steepest decline in the number of workers in recent years.

The fastest-growing group of workers between 2006 and 2008 was those aged between 60 and 64, followed by those aged 65 or over. These changes reflect rising activity rates and declining unemployment rates among older sections of the population. It also reflects an aging population. Workers between 16 and 24 saw the steepest decline due to a decline in the activity rate and an increase in the unemployment rate. The age group in the working age population with the lowest activity and employment rates is those between 16 and 24. This is also the group with the highest unemployment rate. The age group with the highest activity and employment rate is those aged between 35 and 49.

Whilst a higher proportion of males are employed compared to females in the UK (women have lower activity rates in the working age population), between 2006 and 2008 the number of women workers grew faster than the number of men. In most sectors men outnumber women substantially. The distinctive characteristic of sectors where women outnumber or equal men is that they have a relatively high proportion of part-time workers. In 2008, 86% of workers were employees, whereas 13% of workers were self-employed; 75% of workers were full-time, whereas 25% were part-time and 95% of workers were permanent workers whereas 5% of workers were on temporary contracts.

The White ethnic group has the highest activity and employment rates. The unemployment rate for the White ethnic group is nearly 5 percentage points lower than that of the next lowest ethnic group. The Black ethnic group has the highest unemployment rate. Much of the difference in activity rates between ethnic groups reflects important gender differences. The gap between the activity rates of White and Asian men is only around 4 percentage points, while the gap between White and Asian women is around 25 percentage points.

The region with the most workers in the service sector is London, 85.6% of whose workers work in services. The region with the fewest employees in the service sector is the East Midlands, which together with the West Midlands has the highest proportion of workers in Manufacturing. The region with the highest share of workers in public administration, education and health is Northern Ireland. Scotland, Northern Ireland and Wales have the most workers working in the primary sectors of agriculture and mining and quarrying; energy and water.

The sectors with the greatest proportion of workers with higher education qualifications were public administration, health and education and banking, finance and insurance etc. The sectors with the lowest proportion of workers with higher education qualifications were distribution, hotels and restaurants. The sector with the highest proportion of workers with no qualifications was agriculture.

Between 2002 and 2008, the fastest-growing occupation category was Personal Service Occupations. The fastest-declining occupation was process, plant and machine operatives.

The average UK hourly remuneration in 2008 was £13.90. Female workers were on average paid £12.10. The ratio of the average female worker's hourly wage to that of male workers was little changed from 2006. By occupation, managers (£29.74) received the highest hourly wages while administrative and secretarial workers (£7.81) received the lowest wage. By sector, the highest hourly wage was paid in the financial services sector (£21.61).

4.1 Introduction

A successful economy has a high proportion of its working age population in work. The effectiveness of those in work, the quality of the jobs and the incomes that are earned from work are measured in the *productivity* outcome discussed in Chapter 3. These are also reflected in some employment measures in this chapter, such as the breakdown of employment by occupation and qualification level.

The employment outcomes that we observe are the result of the labour market processes that include both demand factors (the jobs that employers wish to fill) and supply factors (the extent to which the labour force has the characteristics to undertake those jobs, or wishes to do so at the wage being offered).

When demand and supply are not well matched, different types of mismatch occur:

(i) From the perspective of the employer: skills *shortages* arise when employers find it difficult to fill their vacancies with appropriately skilled applicants; skills *gaps* arise where members of the existing workforce are seen to lack the skills necessary to meet business needs.

(ii) From the perspective of the potential worker, the mismatch takes the form of employment in a less than satisfactory job, or alternatives to employment, namely unemployment or inactivity.

This chapter primarily concentrates on mismatches from a worker perspective. Skills gaps and skills shortages are considered in Chapter 5.

Over the long term, employer demand for jobs is shaped by demand for goods and services and by the business strategies adopted by employers in meeting that demand. The demand for goods and services is influenced by a number of external drivers including technological change, globalisation and specialisation. Technological change drives the development of new products and services that satisfy, and often lead, consumer and business demand. Technological change and globalisation and specialisation determine the types of goods and services produced in the UK and so help determine the UK's industrial structure and influence the nature and quality of the jobs offered in terms of occupations, skills, employment type (e.g. part-time, full-time), etc. Global trade is a process through which the UK can shift its specialisation of production of goods and services, by import substitution and export growth, to generate higher quality jobs.[31]

In the short term the state of the economic cycle influences both the employers' offer and the extent of participation in the labour force. At times of higher than average output growth, a greater number of jobs will be on offer, and the likelihood is that in some sectors and local areas the labour market will be more competitive and so the jobs on offer more attractive (higher quality and/or wages). At times of low unemployment individuals that were previously inactive may be attracted to participate in the labour force. Various aspects of the Macroeconomic context were presented in Chapter 2.

There are a number of long-term drivers of the labour force. *Demographic change* will affect the size and structure of the labour force: the population is projected to age and net inward migration to remain high, if not as high as in the past decade. In the years to 2020, net immigration of foreign nationals to the UK is expected to account for the majority of the increases in the working-age population. Projected changes in population and activity rates confirm the increasingly important role that older people and women are expected to play in the labour market in the future. It is very likely that an increasing number of older women will choose to remain economically active, even beyond the state pension age (which is also planned to rise) as younger cohorts of women who have been more active throughout their lifetime enter older age groups.

Health is a driver of participation in the labour force, which is measured in the economic activity rate. The long-term sick and disabled, together with students, the early retired and those looking after family (including carers) are defined as economically inactive. Those with long-term health problems are more likely to remain inactive, and so improvements in the health of the population contribute to a higher activity rate. *Engagement in the labour market* is a driver of the labour force. The nature and duration of an individual's work experience contributes to their aptitude and suitability for work. Both unemployment and inactivity can disengage an individual from the labour market.

[31] The impact of globalisation on employment and output is discussed within the spotlight feature in this chapter.

There are other *barriers to participation* that prevent individuals from labour market participation. These include: demands on unpaid work time (e.g. lone parent); costs of access to work (e.g. transport, childcare); the benefit regime (i.e. the potential disincentive to work); and cultural attitudes to work and to learning (to achieve the required skills for work).[32]

The degree of access to and engagement in employment reflects differences of demography, culture and socio-economic advantage: younger people are more likely to be unemployed or inactive; men are more likely to be in work, women more likely to be inactive; in aggregate those from Black and Minority Ethnic (BME) groups are more likely to be inactive or unemployed – although there are marked differences amongst BME groups, with the Chinese and Indian groups tending to display the lowest unemployment and inactivity rates. People with higher qualifications are more likely to be in work and less likely to be inactive. The extent of some of these differences is explored later in the chapter.

It is difficult to quantify sustainability and progression of employment. For example, indicators such as duration of employment with the same employer cannot simply be considered an indicator of sustainable employment; employees successful in improving their job prospects and progression may have a tendency to initiate more job moves than those that are less successful. Instead we focus on measuring the quality of jobs and on how the interpretation of any measures of quality used might provide insights into issues of sustainability and progression, especially for disadvantaged groups including new migrants. The unemployment and employment rate can also be regarded as broad brush indicators of sustainability.

Recent trends in the sectoral and occupational structure of the UK economy have further polarised labour market outcomes, such as wages and employment. For example, there is evidence of a low skills equilibrium in some sectors and geographies as firms follow low value added product strategies.

This can affect particular socio-economic groups, including inward migrants taking up jobs that domestic workers are not prepared to do, resulting in an uneven distribution of the quality of jobs. The types of indicators that might be used to measure the quality of work include wages and job satisfaction. Although not a direct measure, the 'nature' of employment is a proxy for quality and can be measured for example in terms of:

- the (industry) sectoral structure of employment;
- the occupational structure of employment;
- the type of employment (part-time, full-time, self-employed).

[32] Data on these aspects are currently beyond the scope of the Almanac.

Finally, it is important that the LMI Evidence Base monitors inequalities and so variables related to employment and its drivers include dimensions to distinguish characteristics such as age, gender, ethnicity and *skills*. Other dimensions of interest in the measurement of employment are the distribution of domestic (UK) workers versus migrant workers and household type (e.g. lone-parent); however these are not included in the Almanac at present.

The remainder of the chapter presents UK and international evidence on employment. The choice of indicators presented relates to the employment outcomes, drivers, and issues noted in this section. As with other chapters, further data and more detailed indicators can be accessed from our project website at https://almanac09.ukces.org.uk

4.2 International evidence on employment

Table 4.1 sets out the employment rate in a variety of countries as well as for the EU as a whole.

The UK's employment rate is considerably higher than both the OECD and EU average. In particular, the UK rate is higher than those of the other large EU countries of France, Germany, Italy and Spain except in 2009Q1 when the impact of the recession brought the UK rate down to match that of Germany. Compared to the *annual* OECD average, the UK employment rate was higher in 2007 and 2008 (the annual figure for the UK was 71.5 in both years). The OECD figure for 2009 is a projection. For the moment it indicates a larger decline in the employment rate than in the UK, however, it remains to be seen what the outturn will be for the UK labour market in 2009 as a whole.

Four EU nations have higher rates than the UK: the rates in the Netherlands and Denmark are some 5 to 7 percentage points higher than that of the UK; the rates in Austria and Sweden are only slightly higher than that of the UK.

Outside the EU, the UK had a higher employment rate than Japan in all three years but a lower employment rate than Canada. The comparison with the US is more even with the UK rate exceeding the US only in 2009.

Much, but not all, of the disparity in employment rates amongst EU nations is reflected in differences in unemployment. However, the disparity in employment rates between the UK and nations outside the EU (see Table 4.2) also reflects differences in activity rates (most obviously in the case of Japan, which has a lower employment rate and a lower unemployment rate)[33].

[33] It would be useful to compare the employment rate in the UK with the OECD benchmark. However, such a rate cannot be found for the OCED total.

Table 4.1: Employment rate by country

	2007 Q1 %	2008 Q1 %	2009 Q1 %
Austria	70.3	71.0	70.8
Belgium	61.7	62.6	61.7
Bulgaria	59.7	62.6	62.6
Cyprus	69.8	70.2	69.5
Czech Republic	65.5	66.1	65.6
Denmark	76.7	77.0	76.2
Estonia	68.6	69.5	65.3
Finland	68.3	69.5	68.5
France	63.8	64.8	64.2
Germany	68.4	70.0	70.4
Greece	60.8	61.3	61.0
Hungary	56.9	56.1	55.1
Ireland	68.5	68.6	62.8
Italy	57.9	58.3	57.4
Latvia	66.4	69.6	64.3
Lithuania	63.9	63.9	61.0
Luxembourg	63.9	62.8	64.5
Malta	53.9	54.7	54.9
Netherlands	75.0	76.4	77.4
Poland	55.4	58.0	58.9
Portugal	67.4	68.1	67.0
Romania	57.2	57.7	57.4
Slovak Republic	60.1	61.3	61.0
Slovenia	66.0	67.1	66.7
Spain	65.1	65.1	60.4
Sweden	72.7	73.4	72.0
United Kingdom	71.1	71.6	70.4

Table 4.1 (continued): Employment rate by country

	2007 Q1 %	2008 Q1 %	2009 Q1 %
Total EU	64.6	65.5	64.6
Eurozone	64.9	65.7	64.7
Canada	72.1	72.6	70.7
Japan	69.7	70.0	69.8
United States	72.1	71.6	68.7
OECD	*68.1**	*68.1**	*65.8**

Note(s): All employment rates in this table are published by EUROSTAT and are based on the population aged 15 to 64. OECD figures are annual and come from the OECD *Economic Outlook 85* database (Published in June 2009).
Source(s): ONS, Eurostat.
Sourcelink: http://www.statistics.gov.uk/downloads/theme_labour/LMS_FR_HS/WebTable19.xls
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.3_Employment_Rate_by_Country_Nation_Region_Gender_and_Ethnicity.xls

Table 4.2 sets out the unemployment rate in a variety of countries as well as for the EU as a whole.

- The UK's unemployment rate was more than one percentage point below the EU unemployment rate in all three years. The UK rate was lower than those of the other large EU countries of France, Germany, Italy and Spain.

Table 4.2: Unemployment rate by country

	2007 Q1 %	2008 Q1 %	2009 Q1 %
Austria	4.4	4.0	4.3
Belgium	7.8	6.9	7.7
Bulgaria	7.6	6.1	6.0
Cyprus	4.2	3.7	4.4
Czech Republic	5.9	4.5	5.5
Denmark	4.0	3.2	4.8
Estonia	5.1	4.1	11.0
Finland	7.1	6.3	7.4
France	8.8	7.6	8.8

Table 4.2 (continued): Unemployment rate by country

	2007 Q1 %	2008 Q1 %	2009 Q1 %
Germany	8.8	7.6	7.3
Greece	8.5	7.7	8.7
Hungary	7.2	7.6	9.3
Ireland	4.5	4.7	10.2
Italy	6.0	6.6	7.4
Latvia	6.5	6.1	13.2
Lithuania	4.7	4.5	11.1
Luxembourg	4.4	4.4	5.8
Malta	6.7	5.9	6.6
Netherlands	3.5	2.8	2.9
Poland	10.8	7.6	7.7
Portugal	8.3	7.7	8.8
Romania	6.4	5.7	6.2
Slovak Republic	11.4	10.2	10.1
Slovenia	5.3	4.7	4.9
Spain	8.1	9.2	16.4
Sweden	6.5	5.9	7.6
United Kingdom	5.5	5.1	7.0
Total EU	7.4	6.7	8.3
Eurozone	7.7	7.2	8.8
Canada	6.1	5.9	7.6
Japan	4.0	3.8	4.4
United States	4.5	4.9	8.1
OECD	6.2	6.0	7.4

Note(s): The unemployment rate for the US and UK are based on population who are 16 or over, 15 or over for Canada and Japan, 16-74 for data published by Eurostat.
Source(s): ONS, Eurostat.
Sourcelink: http://www.statistics.gov.uk/downloads/theme_labour/LMS_FR_HS/WebTable19.xls
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.4_Unemployment_Rate_by_Country_Nation_Region_Gender_Ethnicity.xls

- In the EU, the unemployment rate was substantially lower than that of the UK in Austria, Cyprus, Denmark, Luxembourg and the Netherlands, all of whom had unemployment rates as much as 3 percentage points below the EU average. The low unemployment rates in Austria, Denmark and Netherlands are reflected in their high employment rates (see Table 4.1).

- Outside the EU, the UK had a lower unemployment rate than Canada but a higher rate than the US and Japan for all years except 2009 when the impact of the recession pushed the US unemployment rate above the UK unemployment rate. Overall, the unemployment rate in the UK is lower than that of the OECD average for all years.

4.3 UK evidence on employment

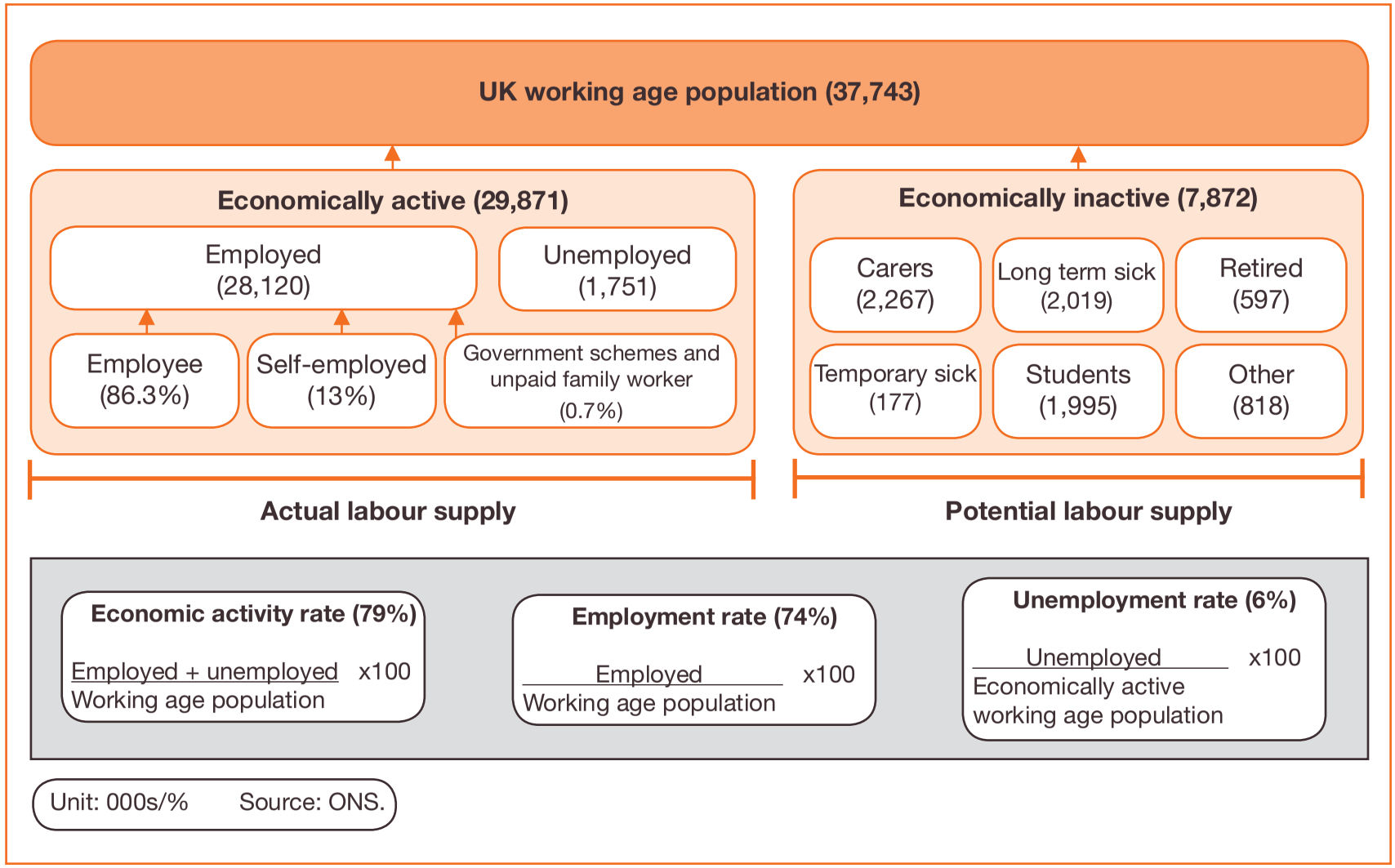
Figure 4.1 shows how employment, unemployment and economic activity fit together in this chapter. The economically active and the inactive represent the actual and potential labour supply in the economy. The economically inactive working age population include students, long and short-term sick, the retired and those who have to look after family members. The employed and unemployed make up the total economically active working age population. In particular, the employed include employees, those who are self-employed and those who are on government training schemes.

Figure 4.1 also shows how the economic activity rate, employment rate and unemployment rate are calculated. The denominator used for the first two is the number of working age population, whereas the unemployment rate represents the proportion of economically active working age population who are unemployed.

For illustrative purposes, some Labour Force Survey (LFS) headline indicators for 2008 are inserted into the figure which gives us the economic activity rate of around 79%, employment rate of around 74% and unemployment rate of around 6%.

Following the structure set up in Figure 4.1, we first consider the UK labour market as a whole and examine the evidence on the economically active (activity rates), employment rates, and unemployment rates. These can be broken down by geography and demographic variables such as gender, age, and ethnicity. We then shift focus to those in work and study the prevailing structure of employment – for example by region, sector, sector skills council, occupation and employment status. The demographics of employment (i.e. by age, gender, and ethnicity) highlight various inequalities evident and the alternate patterns of employment for different groups. Finally we explore measures of job quality and effectiveness.

Figure 4.1: Economic activity, inactivity and their components, 2008



4.3.1 Economic activity

Just over 20% of the working age population in the UK are currently economically inactive. The overall inactivity rate has remained broadly constant over the last ten years. However, this includes the effect of a growing proportion of young people in higher education; excluding students the inactivity rate declined in the decade prior to the recession.

Looking at the working age population as a whole, Tables 4.3 to 4.6 present economic activity rates, employment rates, and unemployment rates by region, age, gender, and ethnicity.

Table 4.3 sets out the activity rate, employment rate and unemployment rate for the UK and each of the UK nations, as well for the English Government Office Regions for 2006, 2007 and 2008.

Table 4.3 illustrates that among the UK nations, Scotland and England have had higher activity and employment rates than the UK average, whereas Wales and Northern Ireland had lower activity and employment rates. Northern Ireland also had lower activity and employment rates than all the English regions taken separately. Wales had a higher employment rate than London but otherwise also ranks lower than the English regions on both activity and employment rates.

Among the English regions, London has the lowest economic activity and employment rates. In contrast, the South East, South West and East of England have the highest activity and employment rates in the UK. The East Midlands and West Midlands also have high rates.

Since unemployment is the difference between those seeking work and those obtaining work, unemployment rates reflect differences in both activity rates and employment rates. Northern Ireland has the lowest unemployment rate of the four nations, followed by Wales and then England: Northern Ireland's low activity rate offsets its low employment rate.

Among the English regions, London and the North East have the highest unemployment rates, and here this is associated with low employment rates. In contrast, the South West, South East and East of England have the lowest unemployment rates of the English regions, high employment rates and high activity rates.

Table 4.3: Activity rate, employment rate and unemployment rate by region

	Activity rate (%)			Employment rate (%)			Unemployment rate (%)		
	2006	2007	2008	2006	2007	2008	2006	2007	2000
UK	78.5	78.4	78.6	74.1	74.3	74.0	5.5	5.3	5.9
England	78.7	78.6	78.9	74.3	74.4	74.2	5.5	5.4	6.0
London	75.1	75.0	75.7	69.3	69.8	70.4	7.8	6.9	7.1
South East	82.1	82.0	82.3	78.4	78.4	78.5	4.6	4.3	4.6
East of England	80.9	81.0	81.3	77.1	77.4	77.2	4.7	4.5	5.0
South West	81.0	81.5	81.8	77.9	78.2	78.3	3.9	4.1	4.2
West Midlands	77.3	77.1	77.3	76.3	75.9	75.9	5.7	6.1	7.2
East Midlands	80.6	80.0	80.8	72.9	72.4	71.7	5.3	5.1	6.0
Yorkshire and the Humber	78.2	77.6	78.1	73.6	73.2	73.0	5.8	5.6	6.5
North West	76.6	76.8	76.3	72.5	72.3	71.3	5.5	5.8	6.5
North East	76.1	76.4	76.7	70.8	71.6	70.8	7.0	6.3	7.7
Wales	75.2	75.5	75.7	71.1	71.1	70.7	5.4	5.8	6.6
Scotland	80.0	79.9	79.6	75.7	76.0	75.6	5.3	4.8	5.0
Northern Ireland	72.4	73.4	72.7	68.8	70.3	69.7	5.0	4.2	4.0

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.1_Activity_Rate_by_Nation_Region_Age_Gender_and_Ethnicity.xls

Turning to consider the likelihood of being economically active, in work, or unemployed, by various demographic groupings; Table 4.4 looks at these outcomes by various age groups in the UK population. As would be expected, the age group with the lowest activity and employment rates are those over the retirement age, who are not part of the working age population. However, the activity and employment rates for this age group is rising increasing by nearly 2 percentage points since 2005.

The age group in the working age population with the lowest activity and employment rates are those between 16 and 24. This is also the group with the highest unemployment rate, more than double the rate for the UK working age population. Thus, although the low employment rate is partly explained by the relatively high number of young people who are economically inactive (due to participation in education), the high level of unemployment among young people is also an important factor. For those people in this age group who are still students, their engagement in the labour market is likely to be increased in their post-education years.

The age group with the highest activity and employment rate is those aged between 35 and 49. This group has the second-lowest unemployment rate among the working age population. The lowest unemployment rate is among those aged over 50 but under retirement age. However, this group has a considerably lower activity rate which leads to a lower employment rate.

Finally, individuals aged between 25 and 34 have an activity rate almost as high as those aged between 35 and 49 but an employment rate which is nearly 3 percentage points lower. This is because this group has the second-highest unemployment rate of the age groups.

Table 4.4: Activity rate, employment rate and unemployment rate by age

	Activity rate (%)			Employment rate (%)			Unemployment rate (%)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
16-24	67.1	66.6	66.0	57.7	57.4	56.1	13.9	13.7	15.0
25-34	83.7	84.0	84.4	79.5	80.1	79.9	5.0	4.7	5.4
35-49	85.2	85.0	85.3	82.0	82.1	82.1	3.7	3.4	3.8
50-retirement	73.0	73.4	74.0	70.7	71.1	71.5	3.1	3.1	3.4
Over retirement	10.7	11.3	11.7	10.5	11.1	11.5	2.2	1.9	1.9

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.3_Employment_Rate_by_Country_Nation_Region_Gender_and_Ethnicity.xls

Table 4.5 sets out activity, employment and unemployment rates for 2006, 2007 and 2008 by gender and by age.

In all age groups in the working age population, women had lower activity rates than men. The gap is particularly wide between the ages of 25 and 50 where it was more than 10 percentage points. For people between the ages of 16 and 24 and between 50 and retirement, the gap is narrower, of the order of 6 percentage points and 4 percentage points respectively. Retired women, however, have higher activity rates than retired men.

Men also have higher employment rates then women although the gaps between men and women are in general narrower than for activity rates. This reflects the fact that women experience lower rates of unemployment than men in all age groups.

The gap between unemployment rates for men and women is widest for people between the ages of 16 and 24. Although both men and women have unemployment rates over 10%, the rate for men is more than 3 percentage points higher than that for women. The gap is considerably narrower for all other age groups where it is at most just over 1 percentage point.

Table 4.5: Activity rate, employment rate and unemployment rate by gender and age

	Activity rate (%)			Employment rate (%)			Unemployment rate (%)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
Male									
16-24	70.3	69.5	68.9	59.2	58.9	57.2	15.8	15.2	17
25-34	92.4	92.5	92.4	87.7	88.1	87.3	5.1	4.7	5.5
35-49	91.9	91.7	91.9	88.4	88.7	88.5	3.8	3.2	3.7
50-retirement	74.9	75	75.3	72.2	72.4	72.5	3.6	3.5	3.8
Over retirement	9.6	10.0	10.4	9.4	9.7	10.2	2.6	2.2	1.9
Female									
16-24	63.7	63.5	63	56.2	55.9	55	11.8	12	12.7
25-34	75.2	75.6	76.5	71.5	72.1	72.5	4.9	4.7	5.2
35-49	78.5	78.5	78.9	75.8	75.6	75.9	3.5	3.6	3.8
50-retirement	70.3	71.2	72.2	68.6	69.3	70.2	2.5	2.6	2.7
Over retirement	11.4	12.1	12.4	11.2	11.8	12.2	2.0	1.7	1.8

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.3_Employment_Rate_by_Country_Nation_Region_Gender_and_Ethnicity.xls

The final table presenting economic activity for various demographic groups is Table 4.6 which sets out activity rates, employment rates and unemployment rates by ethnicity and gender from 2006 to 2008.

The White ethnic group had the highest activity and employment rates. Activity rates for the White group are 4 percentage points higher than the next highest ethnic group, which is the Black group. Employment rates for the White population are 12 percentage points higher than the Black group.

The wider gap in employment rates between the White and Black ethnic groups than Activity rates is explained by the fact that unemployment rates for the White ethnic group are nearly 5 percentage points lower than those of the next lowest ethnic group, the Asian ethnic group and 8 percentage points lower than the Black ethnic group. The Black ethnic group has the highest unemployment rates.

Much of the difference in activity rates between ethnic groups reflects important gender differences. The gap between the activity rates of White and Asian men is only around 4 percentage points, while the gap between White and Asian women is around 25 percentage points. White women have much higher activity rates than women of other ethnic groups, the closest being Black women who still have activity rates 10 percentage points lower. While White men have higher activity rates than men of other ethnicities, the gap is much narrower.

Table 4.6: Activity rate, employment rate and unemployment rate by ethnicity and gender

	Activity rate (%)			Employment rate (%)			Unemployment rate (%)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
All									
White	79.7	79.7	80.0	75.8	75.9	75.8	4.8	4.6	5.1
Asian	64.9	64.7	65.5	58.0	58.3	58.9	10.6	9.8	9.9
Black	72.9	73.1	72.2	63.2	63.8	61.9	13.2	12.6	14.1
Mixed/Other	67.1	67.4	67.7	59.6	60.7	60.8	11.0	10.0	10.1
Male									
White	83.9	83.8	83.7	79.4	79.6	78.9	5.2	4.9	5.6
Asian	79.5	77.9	80.2	71.4	71.2	72.8	10.2	8.5	9.1
Black	80.0	78.8	78.7	67.6	67.6	66.3	15.5	14.1	15.7
Mixed/Other	75.8	74.7	75.1	67.3	67.8	67.4	11.2	9.3	10.2
Female									
White	75.2	75.3	76.0	71.9	71.9	72.3	4.3	4.3	4.6
Asian	48.9	50.3	49.6	43.3	44.2	43.9	11.4	12.1	11.4
Black	66.8	68.2	66.4	59.4	60.5	58.0	11.0	11.1	12.6
Mixed/Other	58.3	60.2	60.4	51.9	53.6	54.3	10.8	10.8	9.9

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.3_Employment_Rate_by_Country_Nation_Region_Gender_and_Ethnicity.xls

The gap in unemployment rates between White people and people of other ethnicities is a percentage point higher for women than for men. However, Black women have unemployment rates similar to those of Asian and Mixed/Other women whereas Black men have unemployment rates as much as 6 percentage points higher than the other non-White ethnic groups. This in part explains why the Black ethnic group has a higher unemployment rate than the other non-White ethnic groups.

The lower economic activity rate and higher unemployment rate in the Black ethnic group reflects the fact that the minority groups in the UK are faced with more restricted access to employment compared with the White ethnic group.

4.3.2 The structure of employment

What does the UK labour market look like? Where and what kinds of jobs are available? Which areas of employment are experiencing growth? The answer to these kinds of questions can be answered by considering the structure of employment. The structure of employment can be ascertained via looking at employment levels, shares, change, and growth by geography, sector, firm size, occupation, and employment status (e.g. part-time, self-employment, permanent etc.), Looking at the structure of employment by occupation and sector can also give us an insight into job quality, and the progression and sustainability of work.

Looking first at the geography of UK employment Table 4.7 sets out the number of workers working in the English regions and the UK nations for the years 2006 to 2008. It also gives the percentage of workers working in the UK who worked in each of those nations and regions in 2008, and growth rates.

84.1% of workers work in England, which is slightly higher than the English share of the working age population. Of the devolved nations Scotland has the greatest share of employment, having 8.7% of UK workers.

Among the English regions, London has the highest share of the UK workers (14.3%). Its share is greater than its share of the population (12.4%) even though it has a low employment rate. This reflects the substantial scale of commuting from other regions. Commuting into London also explains why the South East and East of England have high employment rates but relatively low shares of UK workers. The South West has the second highest employment rate in the UK, also a higher share of workers than the population; net commuting is less important here than in the regions nearer to London.

Table 4.7: Employment by region

	Level (000s)			Change (% whole period)	Share of total employment (%)	Share of total population (%)
	2006	2007	2008	2006-2008	2008	2008
UK	28330.0	28445.1	28453.9	0.4	100.0	100.0
England	23875.5	23925.9	23928.3	0.2	84.1	83.8
London	3867.1	3929.0	4054.9	4.9	14.3	12.4
South East	3863.3	3844.5	3899.0	0.9	13.7	13.7
East of England	2529.9	2532.7	2475.8	-2.1	8.7	9.3
South West	2441.6	2459.4	2476.1	1.4	8.7	8.5
West Midlands	2438.4	2468.4	2387.7	-2.1	8.4	8.8
East Midlands	2017.9	2039.5	1993.9	-1.2	7.0	7.2
Yorkshire and the Humber	2393.1	2358.2	2418.5	1.1	8.5	8.5
North West	3210.5	3191.2	3116.2	-2.9	11.0	11.2
North East	1113.7	1103.1	1106.4	-0.7	3.9	4.2
Wales	1289.0	1269.7	1311.1	1.7	4.6	4.9
Scotland	2433.8	2487.7	2462.0	1.2	8.7	8.4
Northern Ireland	731.7	761.8	752.4	2.8	2.6	2.9

Note(s): Further data notes on the LFS are given in Appendix 1.
Source(s): LFS/IER.
Sourcelink: http://www.esds.ac.uk/Government/lfs/
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.3_Employment_Rate_by_Country_Nation_Region_Gender_and_Ethnicity.xls

London has had the largest increase in the number of workers over the period 2006-2008, followed by Northern Ireland and then Wales. However, the latter two showed a slight decline in the number of workers in 2008. London is, of course, specialised in banking, finance and insurance, which was the second fastest-growing broad sector. The North West and the East of England saw the largest falls in the number of workers. Both are relatively specialised in manufacturing which has been the sector that has shed jobs most rapidly (see Figure 4.2, Tables 4.8 and 4.14).

Turning to the sectoral structure of UK employment, Table 4.8 shows the numbers of workers employed in various broad sectors of the UK economy for 2006, 2007 and 2008 and the change in the numbers for the whole period. It also shows the share that each had of the UK total in 2008.

The sector employing the largest number of workers in 2008 was public administration, education and health (28.7% of the total). Distribution, hotels and restaurants and banking, finance and insurance were the next largest employers. Combined, the service sectors comprised 77.2% of the number of workers. Manufacturing comprised 11.9% and construction 8.3% of workers. Fewer than 3% of workers were employed in primary industries, electricity or water.

The fastest growing sector between 2006 and 2008 was mining and quarry; energy and water, although it employs relatively few workers. The next fastest was banking, finance and insurance etc., followed by construction, other services and public administration, education and health.

Manufacturing was the sector that saw the steepest decline with the number of workers employed falling by more than 7% over three years. Transport and communications employment also fell, though less rapidly. As a result, manufacturing's share of workers declined by 1 percentage point between 2006 and 2008 whereas banking, finance and insurance etc. gained 0.6 percentage points. These shifts are consistent with structural changes over the longer term.

Table 4.8: Number of workers in the UK workplace, by broad sector

	Level (000s)			Change (% whole period)	Share of total (%)
	2006	2007	2008	2006-2008	2008
Agriculture and fishing	409.3	404.2	410.6	0.3	1.4
Mining and quarry; energy and water	288.7	328.0	343.8	19.1	1.2
Manufacturing	3668.8	3667.5	3410.8	-7.0	11.9
Construction	2330.5	2340.9	2364.7	1.5	8.3
Distribution, hotels and restaurants	5440.7	5372.1	5461.2	0.4	19.1
Transport and communications	1952.2	1918.3	1937.1	-0.8	6.8
Banking, finance and insurance etc	4508.2	4742.3	4683.9	3.9	16.4
Public admin, educ and health	8122.5	8064.3	8217.4	1.2	28.7
Other services	1762.6	1765.7	1783.6	1.2	6.2
Total	28483.4	28603.2	28613	0.5	100

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C3/C3.2_UK_Employment_by_Age_Sector_and_SSC.xls

Sector skills councils (SSCs) can also be used to demonstrate the sectoral distribution of UK employment.[34] 86.9% of employers in 2008 were covered by SSCs (Table 4.9). The majority of those who were not covered by any SSC were in the Business and Public Services group. The SSC with the largest share of UK workers in 2008 was Skillsmart, the SSC for the Retail sector, which covers 10.4% of workers. The next largest SSC is Construction Skills, the SSC for the Construction sector, which covers 9.8% of workers.

Using the Annual Business Inquiry (ABI) we can examine how the sectoral make-up of employment is distributed by firm size. The Annual Business Inquiry measures jobs rather than the numbers in employment as done with the Labour Force Survey. Further, unlike the LFS the ABI does not include the number of self-employed, which will be more or less important when measuring employment in certain sectors. Our coverage with the ABI in the Almanac is also Great Britain rather than UK. These differences between the two sources explain any differences in their data.

Table 4.10 sets out the 2007 number of jobs by firm size in Great Britain by broad sector and by Sector Skills Council from the ABI.

[34] Appendix 2 gives full details on the remit and function of SSCs as well as their definitions by SIC code.

Table 4.9: UK employment by SSC, 2008

	Total employment (000's)	SSC share in total (%)
Asset Skills	703.8	2.5
Automotive Skills	547.2	1.9
Cogent	520.5	1.8
Construction skills	2774.3	9.8
Creative and Cultural Skills	357.8	1.3
Energy & Utility Skills	368.1	1.3
E-skills UK	811.6	2.9
Financial Services	1231.1	4.3
Goskills	734.5	2.6
Government Skills	1550.3	5.4
Improve	387.7	1.4
Lantra	455.6	1.6
Lifelong Learning UK	1644.7	5.8
People 1st	1430.3	5.0
Proskills	513.6	1.8
SEMTA	1762.4	6.2
Skillfast-UK	186.4	0.7
Skills for care and development	1418.2	5.0
Skills for health	2074.1	7.3
Skills for justice	505.6	1.8
Skills for logistics	1559.1	5.5

Table 4.9 (continued): UK employment by SSC, 2008

	Total employment (000's)	SSC share in total (%)
SkillsActive	346.3	1.2
Skillset	528.5	1.9
Skillsmart Retail	2960.2	10.4
Summitskills	21.5	0.1
Non-SSC employers Primary	121.0	0.4
Non-SSC employers Wholesale/Retail	21.7	0.1
Non-SSC employers Business and Public services	2917.2	10.3

Note(s): The ABI employment data by SSC do not match the LFS data by SSC which is presented in this table due to the fact that the ABI data measures employment by jobs and LFS data measures employment by workers. The LFS dataset presented here does not provide sufficient detail to allow the allocation of SIC 2003 codes 45.31 and 45.33 to the SSC Summitskills; these activities are allocated to Construction Skills. This explains the small number of workers in Summitskills presented in the table.
Further data notes on the LFS and SSC definitions are given in Appendices 1 and 2.
Source(s): LFS/IER.
Sourcelink: http://www.esds.ac.uk/Government/lfs/
Data link: https://almanac09.ukces.org.uk/employment/C2/C2.2_UK_Employment_by_Sector_and_SSC.xls

The data in Table 4.10 shows that the majority of jobs are in medium and large firms. In 2007, 31% of jobs were in firms with more 200 workers, 24% in firms with between 50 and 199 workers, 24% in firms with between 11 and 49 workers and 21% in firms with fewer than 11 workers. These proportions are similar to those in 1998 although there has been a slight reduction (around 1 percentage point) in the proportion of jobs with firms with fewer than 11 workers and a slight increase in the number of jobs with firms with more than 200 workers and those with firms with between 50 and 199 workers.

In 2007, the sectors with the greatest proportion of jobs in small firms (with fewer than 11 workers) were construction (38%) and agriculture (36%). In contrast, electricity, gas and water and public administration had the smallest proportion of jobs in small firms (3% each) with education the next lowest at 4%.

The sectors with the greatest proportion of jobs in large firms (with more than 200 workers) were electricity, gas and water supply (67%), public administration (58%) and financial services (52%). The sectors with the smallest proportions were hotels and restaurants (7%) and agriculture (9%).

The sectors with the greatest proportion of jobs in medium-size firms (with between 11 and 200 in size) were education (66%), hotels and restaurants (63%) and agriculture (55%). The sectors with the fewest such mid-size firms were electricity, gas and water supply and financial services.

With respect to the sector skills councils, the SSCs with the greatest proportion of jobs with large firms (with more than 200 employees) were Skills for Justice, Skills for Health, Government Skills, Improve, Goskills and the Financial Services Skills Council, all of whom had more than 50% of their workers working in such firms. The SSCs with the greatest proportion of workers with small firms (with fewer than 11 employees) were Summitskills, Creative and Cultural Skills, Automotive Skills, Asset Skills, People 1st and Lantra, all of whom had more than 30% of their workers working in such firms.

Table 4.10: Jobs by firm size in GB by sector and SSC, 2007

	Employment (000s)	Firm size band 1-10 %	Firm size band 11-49 %	Firm size band 50-199 %	Firm size band 200+ %
Industry					
Agriculture; forestry and fishing	248.5	35.9	32.4	22.5	9.1
Mining and quarrying	57.4	9.2	18.5	25.6	46.7
Manufacturing	2820.9	13.4	20.9	27.6	38.1
Electricity, gas and water supply	115.5	3.4	9.8	20.0	66.8
Construction	1291.3	38.1	22.6	21.1	18.1
Wholesale and retail trade	4415.9	30.0	27.8	19.5	22.7
Hotels and restaurants	1783.9	29.3	43.6	19.7	7.4
Transport, storage and communication	1557.7	14.5	17.8	26.0	41.7
Financial services	1054.1	12.2	19.1	16.8	51.9
Real estate, renting and business activities	4704.4	29.8	18.8	21.1	30.2
Public administration	1485.2	3.4	14.0	24.5	58.1
Education	2447.8	4.2	25.5	40.5	29.7
Health and social work	3230.2	10.5	28.0	20.8	40.7
Community, social and personal services	1386.5	35.4	26.4	22.3	15.9
Total	26599.2	20.8	24.2	23.6	31.4
SSC					
Asset Skills	897.0	33.6	18.0	16.8	31.5
Automotive Skills	533.3	37.0	35.3	23.3	4.4
Cogent	427.7	10.7	21.4	28.1	39.8
Constructionskills	1353.0	37.1	23.0	21.3	18.6
Creative and Cultural Skills	227.6	38.6	22.4	22.6	16.4
Energy and Utility Skills	228.2	9.2	19.8	28.0	43.0
E-skills UK	745.6	28.3	16.5	19.4	35.8
Financial Services	1054.1	12.2	19.1	16.8	51.9
Goskills	431.3	11.8	14.7	21.5	52.1
Government Skills	1047.7	3.9	13.6	24.0	58.5

Table 4.10 (continued): Jobs by firm size in GB by sector and SSC, 2007

	Employment (000s)	Firm size band 1-10 %	Firm size band 11-49 %	Firm size band 50-199 %	Firm size band 200+ %
Government Skills	1047.7	3.9	13.6	24.0	58.5
Improve	413.2	6.9	13.1	23.7	56.3
Lantra	318.3	30.5	39.9	20.7	8.9
Lifelong Learning UK	1471.2	5.6	8.7	38.2	47.5
People 1st	1976.0	30.7	41.4	19.7	8.2
Proskills	465.0	18.9	26.0	33.0	22.2
SEMTA	1387.0	12.2	21.5	26.5	39.8
Skillfast-UK	210.3	29.2	27.7	28.4	14.6
Skills for care and development	1146.6	16.1	45.7	28.0	10.1
Skills for health	2045.7	6.9	17.6	17.1	58.5
Skills for justice	377.4	1.7	10.4	23.0	64.9
Skills for logistics	1806.7	22.1	26.6	26.3	25.0
SkillsActive	311.6	19.5	31.9	33.1	15.4
Skillset	295.9	21.0	16.6	19.8	42.5
Skillsmart Retail	2735.4	28.7	24.2	17.5	29.6
Summitskills	309.5	40.4	23.3	17.6	18.7
Primary/Wholesale/Retail	112.5	44.0	25.0	17.8	13.2
Business services/Public services	4271.3	23.7	27.6	27.1	21.6
Total	26599.2	20.8	24.2	23.6	31.4

Note(s): The ABI employment data by SSC do not match the LFS data by SSC which is presented in this table due to the fact that the ABI data measures employment by jobs and LFS data measures employment by workers. **Further data notes on the SSC definitions are given in Appendices 2.**
Source(s): ABI, ONS.
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C2/C2.7_GB_Jobs_by_Firm_Size_Sector_and_SSC.xls

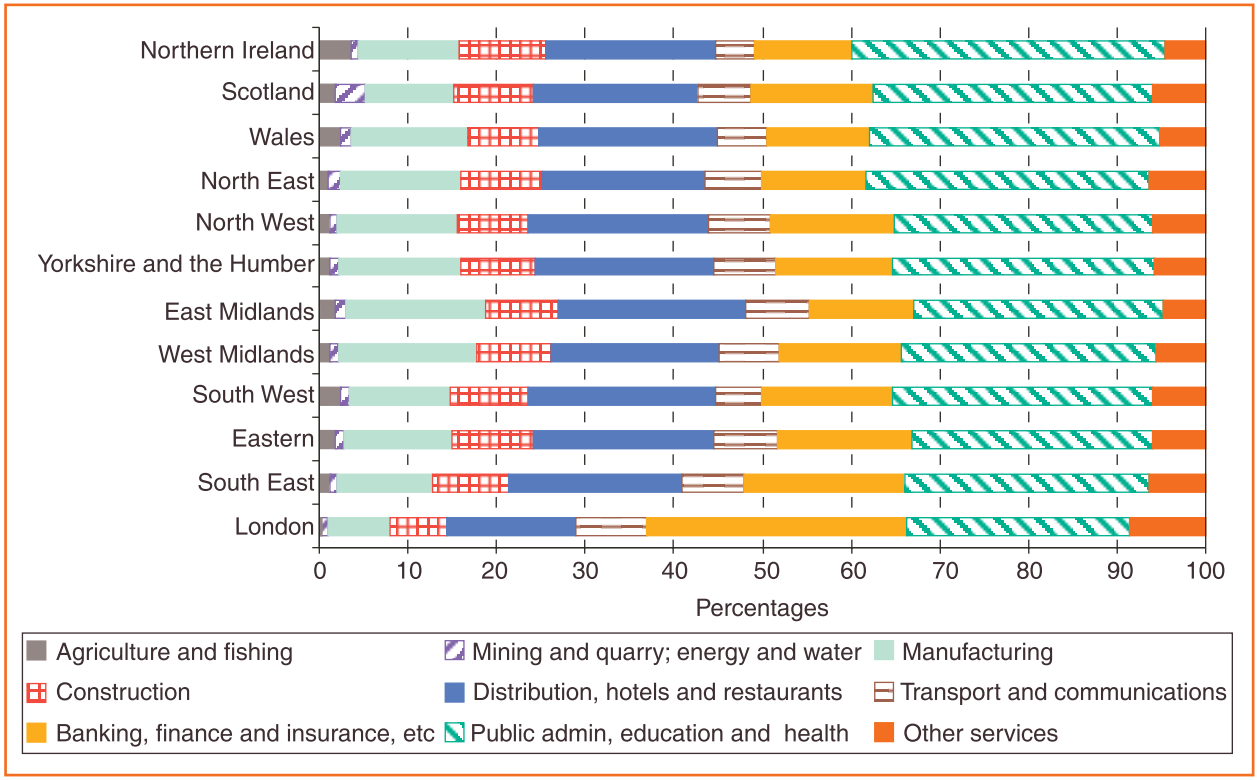
The earlier discussion considered both the geographical and sectoral variations in UK employment; however how these two dimensions interact is also of significance.

Figure 4.2 sets out the shares each sector has of the workers working in the region. As well as giving an overview of the type of work available in each geographical area, patterns of employment by industry sector can be used as a proxy for the *quality* of employment in that region.

London has the highest proportion of its workforce in the service sector at 85.6%, followed by the South East and the East of England. London has the highest share of workers in banking, finance and insurance etc. (29.3%), the UK's fastest-growing sector by workers between 2006 and 2008, of any region, more than 10 percentage points higher than the next highest region (the South East). Northern Ireland, in contrast, has the fewest workers in this sector at 11.1%. These financial and business service activities are regarded as higher-value added compared with the average of the manufacturing sector. Therefore employment in London can be thought of having a higher quality in terms of the economic value they generate.

The region with the fewest employees in the service sector is the East Midlands, which together with the West Midlands has the highest proportion of workers in manufacturing (15.6%). Yorkshire and the Humber, North West, North East and Wales also have more than 13% of workers working in the manufacturing industry.

Figure 4.2: Sector[35] share of employment by region, 2008



Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/employment/C2/C2.3_UK_Employment_by_Region_Sector_and_SSC.xls

Northern Ireland has the highest share of workers in public administration, education and health at 35.3% (the UK's largest sector by workers). Scotland, Wales and the North East all have more than 30% of their workers working in this sector.

Scotland, Northern Ireland and Wales have the most workers working in the primary sectors of agriculture and mining and quarrying; energy and water. The highest proportion of workers in the former sector worked in Northern Ireland (3.7%), while the most in the later worked in Scotland (3.4%).

Further insights into employment structure and job quality can be gained from examining the proportion of workers in each occupational group by sector. Figure 4.3 sets out the proportion of workers in each occupation in each sector in 2008.

[35] See Appendix 2 for the definition of broad sectors.

Between 2002 and 2008, the fastest-growing occupation category was personal service occupations, followed by professional occupations and then by managers and senior officials. Between those years, the proportion of individuals working in personal service occupations increased by nearly 1 percentage point from 7.3% to 8.2% (see also Figure 5.5, p.130).

The proportion of people working in professional occupations and as managers and senior officials both increased by over 1 percentage point to 13.1% and 15.5% respectively. In 2008, managers and senior officials was the largest occupation category, followed by associate professional and technical (which also increased its share by 1 percentage point over the period) and then professional occupations.

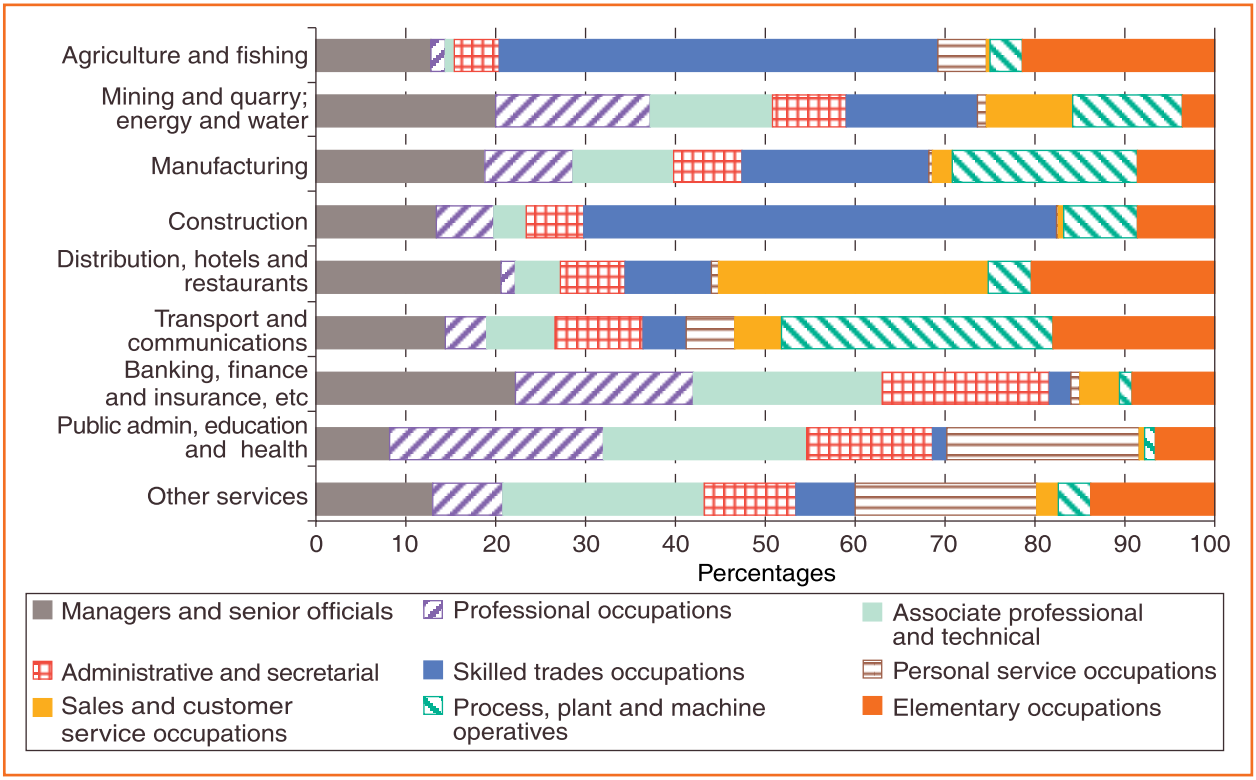
In contrast, process, plant and machine operatives were the fastest-declining occupation group accounting for 8.3% of workers in 2002 and just over 7% in 2008. Administrative and secretarial, skilled trade occupations and elementary occupations also saw declines in their absolute numbers as well as their share between 2002 and 2008.

Banking, finance and insurance had the largest proportion of managers and senior officials in 2008 (22%) followed by distribution, hotels and restaurants and mining and quarry; energy and water. Banking also had a high proportion of workers working in professional occupations, associate professional and technical and administrative and secretarial. It had a relatively low proportion of workers working as plant, process and machinery operatives. As the fastest-growing sector of the economy over the period, this in part explains the shift in the occupation structure of the economy.

Transport and communications has the highest proportion of plant, process and machinery operatives (30%) followed by manufacturing (20%). Since both sectors shed jobs over this period, this also helps to explain the reduction in the numbers in this occupation.

Using occupation by sector data gives us a proxy for sustainability and job progression; this is not otherwise easily measured using the labour force survey. At one point in time, employment in lower levels of occupations is likely to be less sustainable and workers who have lower levels of qualification are likely to face poorer prospects of progression. We return to the issue of job quality and progression at the end of the chapter (see Table 4.16 and Figure 4.4).

Figure 4.3: Sectoral share of workers by occupation, 2008



Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/employment/C2/C2.5_UK_Employment_by_Occupation_Sector_and_SSC.xls

The final indicators relating to the structure of employment we consider in this section are presented in Table 4.11. Table 4.11 sets out the number of workers in each sector by various employment status classifications (such as self-employed, part-time, and permanent workers) and the share they made up of each broad industry in 2008.

In 2008, 86% of workers were employees, with 13% of workers self-employed, similar to levels in 2002. In 2008, Agriculture had the highest share of self-employment with 52% of workers self-employed. Construction and other services also had large shares of self-employment (37% and 27% respectively). In contrast, 95% of workers in mining and quarry; energy and water and public administration, education and health were employees, making them the sectors with the lowest proportion of self-employment. Manufacturing also had a high proportion of employees (93%). Agriculture is also distinctive in that 4% of employees were unpaid family workers.

Table 4.11: Workers by Economic Activity Classifications by Sector, 2008

	All workers in employment (%)			All workers in employment (%)		Employee (%)	
	Employee	Self-Employment	Unpaid Family Workers	Full-time	Part-time	Permanent	Temporary
Agriculture and fishing	44.3	51.8	3.9	81.6	18.4	92.2	7.8
Mining and quarry; energy and water	95.0	5.0	0.0	91.0	9.0	96.4	3.6
Manufacturing	93.3	6.5	0.1	90.5	9.5	96.8	3.2
Construction	62.5	36.9	0.6	92.2	7.8	97.1	2.9
Distribution, hotels and restaurants	89.3	10.1	0.5	60.6	39.4	95.3	4.7
Transport and communications	86.7	13.1	0.2	86.8	13.2	96.9	3.1
Banking, finance and insurance etc	83.8	15.8	0.4	81.0	19.0	95.3	4.7
Public admin, educ and health	94.8	5.1	0.1	67.7	32.3	93.1	6.9
Other services	72.7	26.9	0.5	64.8	35.2	90.7	9.3
Total	86.5	13.2	0.4	74.8	25.2	94.8	5.2

Note(s): When looking at data by levels, the total (employees+self-employed+unpaid family workers) should in principle match the total (full-time+part-time). If this is not the case, then the differences are due to non- responses in the survey. The total (permanent+temporary) should also in principle match the total number of employees. Again, any differences would be due to non-responses in the survey. **Further data notes on the LFS are given in Appendix 1.**
Source(s): LFS/IER.
Sourcelink: http://www.esds.ac.uk/Government/lfs/
Datalink: https://almanac09.ukces.org.uk/employment/C2/C2.4_UK_Employment_by_Employment_Status_Sector_and_SSC.xls

In 2008, 75% of workers were full-time, whereas 25% were part-time. This is similar to the position in 2002. The sectors with the highest proportions of part-time workers were distribution, hotels and restaurants (39%), other services (35%) and public administration, education and health (32%). As discussed in the commentary to Table 4.12 these are all sectors in which women form a relatively high proportion of workers. The sectors with the most full-time workers were construction (92%), mining and quarry; energy and water (91%) and manufacturing (90%).

In 2008, 95% of employees were permanent whereas 5% of employees were temporary. This is a slight increase from 2002 when 94% of employees were permanent. In 2008, other services had the highest proportion of temporary employees (9%). Agriculture and public administration, education and health also had high proportions of temporary employees (7% and 6% respectively). Construction had the highest proportion of permanent employees (97%).

4.3.3 Employment demographics

This section now turns to look at UK employment by age, gender, and ethnic group.

Table 4.12 indicates the levels and change of the number of workers in different age groups between 2006 and 2008, as well as their share in the total number of UK workers in 2008.

Excluding under 16s, the fastest-growing group of workers over the three years was those aged between 60 and 64, followed by those aged 65 or over. In 2008, those groups made up 8% of the workers whereas in 2006 they made up just over 7%. These changes reflect rising activity rates and declining unemployment rates among older sections of the population (see Table 4.4). It also reflects the aging population.

The group of workers that saw the steepest decline over the three years was those aged between 16 and 24. In 2008, they made up 13.7% of workers. This change reflects a decline in the activity rate and an increase in the unemployment rate.

The second steepest decline was in workers aged between 35 and 44. The explanation for this decline is different to that for the younger workers. This group experienced rising activity rates, which offset a slight increase in unemployment and led to rising employment rates. However, the number of individuals in this section of the population has declined. This again reflects the aging population. Despite the shifts in the structure of the working population, individuals aged under 60 still made up over 90% of the number of workers in 2008.

Table 4.12: Employment by age

	Level (000s)			Change (% whole period)	Share of total (%)
	2006	2007	2008	2006-2008	2008
16 to 24	3985.1	4024.7	3910.9	-1.9	13.7
25 to 34	6129.1	6046.7	6141.9	0.2	21.5
35 to 44	7374.8	7392.6	7266.6	-1.5	25.4
45 to 59	8966.6	8938.9	8994.5	0.3	31.4
60 to 64	1399.0	1551.5	1612.3	15.2	5.6
65 and over	628.6	648.3	686.4	9.2	2.4
Total	28483.4	28603.2	28613.0	0.5	100.0

Note(s): Further data notes on the LFS are given in Appendix 1.
Source(s): LFS/IER.
Sourcelink: http://www.esds.ac.uk/Government/lfs/
Datalink: https://almanac09.ukces.org.uk/employment/C3/C3.2_UK_Employment_by_Age_Sector_and_SSC.xls

Looking at how the age structure of employment plays out by sector, Table 4.13 sets out the number of workers covered by each of the SSCs in 2008 by age. The shares each age group makes up of the SSC's workers and the share each SSC makes up of the UK's workers.

35% of UK workers are under 35. SkillsActive (the SSC for active leisure and working) has the most workers under 35 (59%), of whom more than half are under 25. Other SSCs with high proportions of young workers are People 1st (the SSC for the hospitality, leisure, travel and tourism sector) with 56% under 35 and 33% under 25, Skillsmart (48% under 35), Skillset (the SSC for Creative Media) with 45% under 35, and the Financial Services Skills Council (45% under 35).

In the UK, 65% of workers are over 35 years of age. GoSkills (the Sector Skills Council for Passenger Transport) has the oldest workers with 79% of workers over 35, of whom more than half are over 45. Other SSCs with older workers are Lifelong Learning UK (75% of workers over 35), Proskills UK (the SSC for the process and manufacturing sector) with 74% of workers over 35, Skills for Health (73%) and Government Skills (71%).

Turning to employment by gender, Table 4.14 sets out the number of workers of each gender in each sector in the UK for the years 2006, 2007 and 2008, as well as the growth in the number of workers between 2006 and 2008. The 2008 shares of each gender in each sector are also given.

54% of workers in the UK are male, 46% female. This is largely explained by the fact that women have lower activity rates than men in the working age population and hence lower employment rates (see Table 4.14). However, between 2006 and 2008 the number of women workers grew faster than the number of men.

In agriculture and fishing, mining and quarry; energy and water and manufacturing and transport and communications men outnumber women by a factor in the order of three to one. In the construction sector, the ratio is even more skewed towards men with around nine men to every woman. In banking, finance and insurance the numbers of men and women are closer although male workers outnumber female workers by over thirteen percentage points.

Table 4.13: Employment by SSC by age, 2008

	Total employment (000's)	SSC share in total (%)	Age share in each SSC (%)					
			16 to 24	25 to 34	35 to 44	45 to 59	60 to 64	65 and over
Asset Skills	703.8	2.5	9.9	20.7	25.6	32.2	6.6	5.0
Automotive Skills	547.2	1.9	16.3	22.1	25.1	27.7	5.9	3.0
Cogent	520.5	1.8	8.4	21.9	28.5	34.1	5.9	1.2
Construction skills	2774.3	9.8	13.8	21.6	26.0	29.5	6.9	2.3
Creative and Cultural Skills	357.8	1.3	13.1	27.4	23.6	25.8	4.5	5.6
Energy and Utility Skills	368.1	1.3	11.9	21.5	25.8	32.8	5.8	2.1
E-skills UK	811.6	2.9	9.1	30.5	30.1	27.4	2.2	0.6
Financial Services	1231.1	4.3	13.0	32.0	28.9	23.7	2.0	0.6
Goskills	734.5	2.6	6.6	17.7	27.5	38.0	7.3	2.9
Government Skills	1550.3	5.4	7.2	20.0	28.6	37.5	5.3	1.5
Improve	387.7	1.4	12.9	26.9	24.9	28.7	5.2	1.4
Lantra	455.6	1.6	12.4	16.2	21.2	32.1	9.0	9.2
Lifelong Learning UK	1644.7	5.8	5.7	19.2	24.1	41.4	7.1	2.5
People 1st	1430.3	5.0	33.2	22.5	19.0	19.6	3.7	2.0
Proskills	513.6	1.8	9.2	19.5	27.9	34.3	7.1	2.0
SEMTA	1762.4	6.2	9.6	20.9	25.7	35.1	6.9	1.8
Skillfast-UK	186.4	0.7	11.9	18.6	25.9	33.4	7.6	2.6
Skills for care and development	1418.2	5.0	10.8	20.3	24.7	36.0	5.9	2.3
Skills for health	2074.1	7.3	7.0	19.6	28.3	37.5	5.5	2.2

Table 4.13 (continued): Employment by SSC by age, 2008

	Total employment (000's)	SSC share in total (%)	Age share in each SSC (%)					
			16 to 24	25 to 34	35 to 44	45 to 59	60 to 64	65 and over
Skills for justice	505.6	1.8	7.5	25.4	29.3	32.1	4.5	1.3
Skills for logistics	1559.1	5.5	9.8	20.2	27.6	33.7	6.5	2.3
SkillsActive	346.3	1.2	29.8	24.2	17	22.4	3	3.7
Skillset	528.5	1.9	12.7	28.9	27	23.8	4.5	3.1
Skillsmart Retail	2960.2	10.4	30.5	17.6	20.1	24.3	5	2.6
Summitskills	21.5	0.1	12.2	20.3	30.2	27.2	8.7	1.4
Non-SSC employers Primary	121	0.4	14.1	23.6	26.1	29.4	5.1	1.7
Non-SSC employers Wholesale/ Retail	21.7	0.1	5.7	15	21.6	39.6	15.2	2.9
Non-SSC employers Business and Public services	2917.2	10.3	11.4	21.4	26	32.9	5.7	2.6

Note(s): The ABI employment data by SSC do not match the LFS data by SSC which is presented in this table due to the fact that the ABI data measures employment by jobs and LFS data measures employment by workers. The LFS dataset presented here does not provide sufficient detail to allow the allocation of SIC 2003 codes 45.31 and 45.33 to the SSC Summitskills; these activities are allocated to Construction Skills. This explains the small number of workers in Summitskills presented in the table. **Further data notes on the LFS and SSC definitions are given in Appendices 1 and 2.**

Source(s): LFS/IER.

Sourcelink: http://www.esds.ac.uk/Government/lfs/

Datalink: https://almanac09.ukces.org.uk/employment/C3/C3.2_UK_Employment_by_Age_Sector_and_SSC.xls

Table 4.14: Workers by sector by gender

	Level (000s)			Change (% whole period)	Share of total (%)
	2006	2007	2008	2006-2008	2008
Total					
Male	15385.3	15479.2	15416.6	0.2	53.9
Female	13098.1	13124.0	13196.4	0.8	46.1
Total	28483.4	28603.2	28613.0	0.5	100.0
A-B: Agriculture and fishing					
Male	314.8	297.3	301.6	-4.2	73.4
Female	94.5	107.0	109.0	15.4	26.6
Total	409.3	404.2	410.6	0.3	100.0
C, E: Mining and quarry; energy and water					
Male	221.1	249.9	262.5	18.7	76.4
Female	67.6	78.1	81.3	20.2	23.6
Total	288.7	328.0	343.8	19.1	100.0
D: Manufacturing					
Male	2746.6	2719.4	2525.3	-8.1	74.0
Female	922.2	948.1	885.5	-4.0	26.0
Total	3668.8	3667.5	3410.8	-7.0	100.0
F: Construction					
Male	2100.2	2115.7	2140.9	1.9	90.5
Female	230.3	225.2	223.8	-2.8	9.5
Total	2330.5	2340.9	2364.7	1.5	100.0
G-H: Distribution, hotels and restaurants					
Male	2692.6	2685.1	2730.8	1.4	50.0
Female	2748.1	2687.0	2730.4	-0.6	50.0
Total	5440.7	5372.1	5461.2	0.4	100.0
I: Transport and communications					
Male	1475.5	1459.7	1463.1	-0.8	75.5
Female	476.7	458.6	474.0	-0.6	24.5
Total	1952.2	1918.3	1937.1	-0.8	100.0

Table 4.14 (continued): Workers by sector by gender

	Level (000s)			Change (% whole period)	Share of total (%)
	2006	2007	2008	2006-2008	2008
J-K: Banking, finance and insurance etc					
Male	2543.9	2686.5	2660.4	4.6	56.8
Female	1964.3	2055.9	2023.6	3.0	43.2
Total	4508.2	4742.3	4683.9	3.9	100.0
L-N: Public admin, educ and health					
Male	2439.2	2415.6	2468.3	1.2	30.0
Female	5683.2	5648.7	5749.1	1.2	70.0
Total	8122.5	8064.3	8217.4	1.2	100.0
O-Q: Other services					
Male	851.4	850.2	863.9	1.5	48.4
Female	911.2	915.6	919.6	0.9	51.6
Total	1762.6	1765.7	1783.6	1.2	100.0

Note(s): Further data notes on the LFS are given in Appendix 1.
Source(s): LFS/IER.
Sourcelink: http://www.esds.ac.uk/Government/lfs/
Datalink: https://almanac09.ukces.org.uk/employment/C3/C3.1_UK_Employment_by_Gender_Sector_and_SSC.xls

In contrast, women outnumber men in public administration, education and health with women making up 70% of workers in this sector. Women also outnumber men in the other services sector (which includes various personal services) and the number of men and women are broadly equal in distribution, hotels and restaurants. A distinctive characteristic of all these sectors is that they have a relatively high proportion of part-time workers (in all cases over 30% of the workers are part-time). A greater proportion of women work part-time than do men.

The number of male workers grew fastest over the three years in mining and quarry; energy and water (which saw fast growth in both genders) and banking, finance and insurance etc. The number of male workers declined the fastest in manufacturing.

The number of female workers grew fastest over the three years in mining and quarry; energy and water and agriculture and fishing (where the number of female workers grew rapidly while the number of male workers declined).

The final demographic variable we consider in this section on the demographics of employment is ethnicity. Table 4.15 presents employment by ethnic group between 2006 and 2008, as well as the percentage change over this period and each group's share of total employment in 2008.

In 2008 91.1% of workers were classified as White. The Chinese ethnic group had the smallest share of workers (0.6%), followed by the Mixed ethnic group (0.6%).

However, the Chinese ethnic group had the fastest growth in workers between 2006 and 2008, growing 30% between those years. The Other ethnic group's worker numbers grew by 13% and the number of workers in the Asian group grew by 10%. This compares to a total growth in workers of 0.5% over 2006-2008. These increases reflected higher activity rates and falling unemployment rates.

All ethnic groups increased the number of workers between 2006 and 2008 except for the White ethnic group, which saw a decline of 0.3%.

Table 4.15: Employment by ethnic group

	Level (000s)			Change (% whole period)	Share of total (%)
	2006	2007	2008	2006-2008	2008
White	26155.7	26160.6	26065.1	-0.3	91.1
Mixed	178.2	187.5	185.1	3.8	0.6
Asian or Asian British	1114.0	1149.5	1229.3	10.4	4.3
Black or Black British	579.3	603.2	604.8	4.4	2.1
Chinese	101.8	121.3	132.6	30.2	0.5
Other	342.3	369.9	386.7	13.0	1.4
Total	28471.3	28591.9	28603.6	0.5	100.0

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C3/C3.3_UK_Employment_by_Ethnicity_Sector_and_SSC.xls

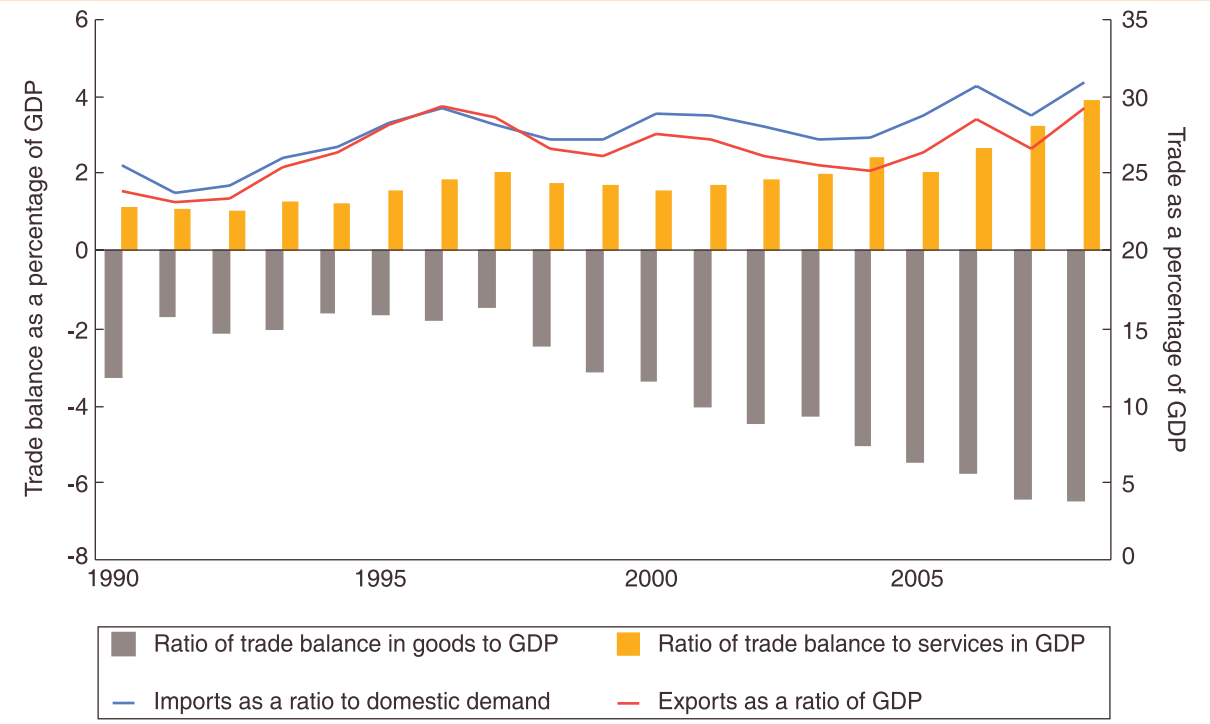
Spotlight Feature: The impact of globalisation on employment and output

UK trade (in terms of both exports and imports) has risen in relation to the size of the economy over several decades. Figure S4.1 shows how this trend continued in the past two decades (with the export share of GDP rising from 25% in 1990 to 30% in 2008). Larger trade flows have been associated with a shift in the UK's specialisation in the global economy.

The *deficit* on the balance of trade in *goods* has increased (in proportion to GDP) while the *surplus* on trade in *services* has increased. Even so, goods still accounted for some 60% of UK exports in 2008, but the composition of these goods has itself been changing. Exported goods have shifted towards higher value-added products in which a high-cost economy such as the UK can remain competitive. The composition of inputs to production has also shifted, so that the service content even of manufactured exports has increased. Nevertheless, the increasing trade deficit in goods reflects UK's reliance on commodity and oil imports.

While the long-term historical trend reflects the growing integration of the European economies (with substantial growth in trade in both directions of products within the same industry), the most striking feature of the last decade has been the emergence of major players in the developing world, notably China and India, with much lower wage costs. This has accelerated the restructuring of UK production away from lower value-added activities. If the recession of the early 1980s is anything to go by, the present recession is likely to see a step change within the long-term trend, in which productive capacity in some industries is lost and is not replaced when demand recovers.

Figure S4.1: UK trade pattern between 1990 and 2008

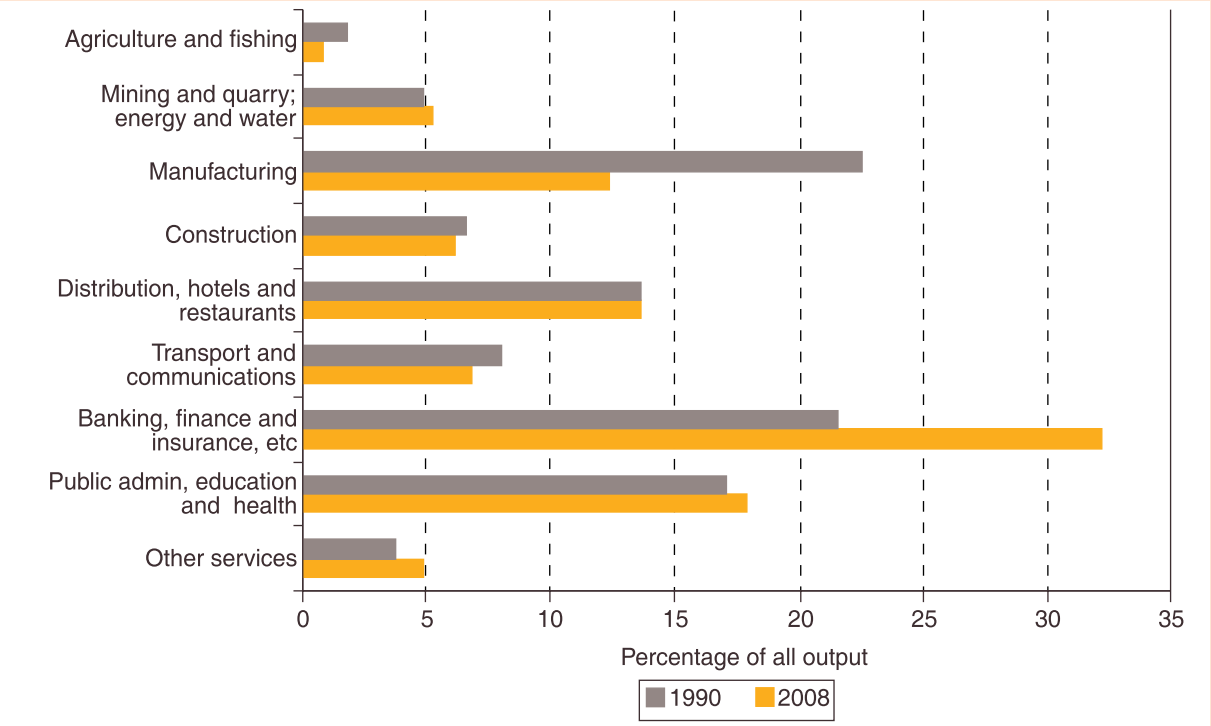


Source(s): ONS.
Datalink: https://almanac09.ukces.org.uk/context/A3/

These trends in global specialisation have been reflected in industry shares of output and employment in the UK.

Figure S4.2 shows the marked reduction in the share of output that was accounted for by manufacturing and the increase in the share accounted for by financial and business services. These reflect the influence of global specialisation on the composition of output. The economy has switched its focus on the production of high-value added services outputs. Construction has been adversely affected by the recession and this affected its contribution to the total output. At the same time, the share of output attributable to public services has increased.

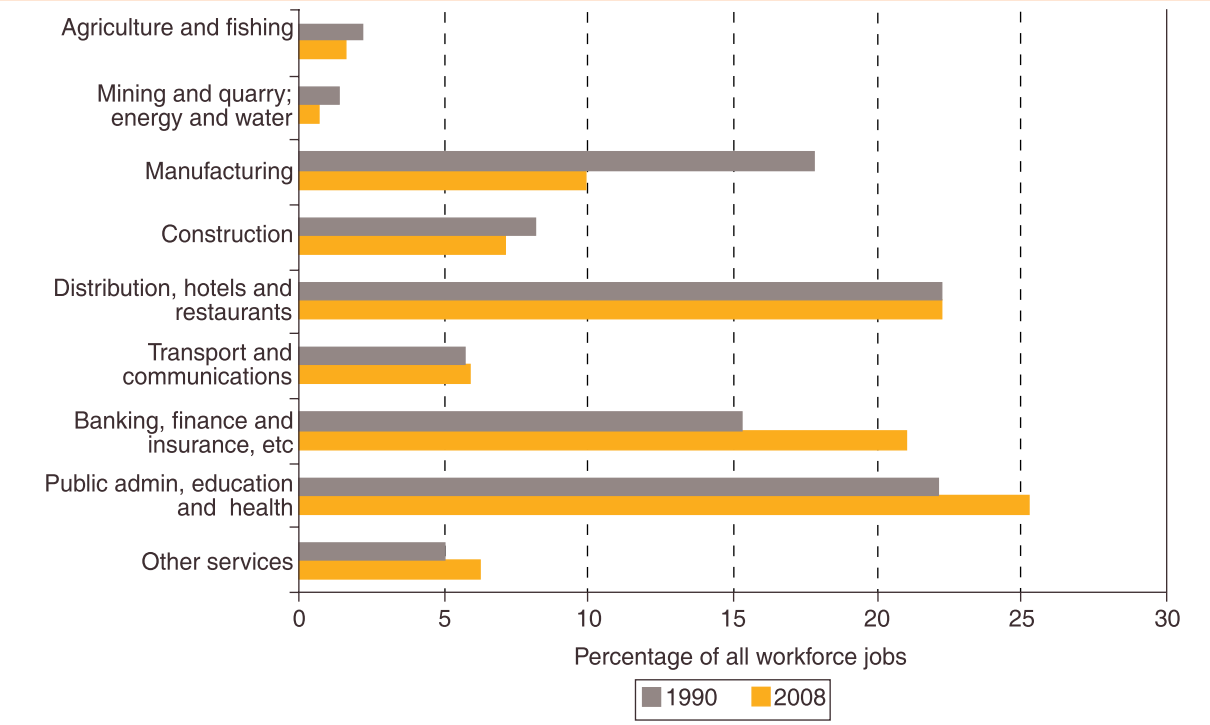
Figure S4.2: Output share by sector



Source(s): Blue Book, ONS.
Datalink: https://almanac09.ukces.org.uk/context/A2/A2.1_GVA_Shares_in_UK.xls

Figure S4.3 shows the marked reduction in manufacturing jobs and the increase in financial and business services. These reflect not only the influence of global specialisation on the composition of output, but also changes in productivity.

Figure S4.3: Employment share by sector



Source(s): ABI, ONS.
Datalink: https://almanac09.ukces.org.uk/employment/C2/C2.2_UK_Employment_by_Sector_and_SSC.xls

Technological opportunities for productivity growth are typically greater in manufacturing than in many service sectors, but the pressure on manufacturing firms to raise productivity is also partly due to the pressure of competition from imports and increased competition in third markets. The chart also shows the increase in the share of jobs in public services. This (and the increased share in output as well) reflects the acceleration in public spending under Labour administrations since 2000, but it also reflects the long-term tendency for advanced economies to spend more on education and health, which in the UK are dominated by public provision.

Moreover, the UK's large and growing share of managerial and professional occupations, the growing share of personal service occupations, and the diminishing shares of skilled trades, process, plant and machinery operatives and administrative and secretarial occupations (as discussed in the spotlight feature *Polarisation of the demand for skills*) reflect in part the sectoral shifts noted above (for example, fewer jobs in manufacturing and hence a lower demand for machine operatives) but they also reflect trends within each industry towards higher-level occupations.

References

BERR (2008), *Globalisation and the changing UK economy*, http://www.berr.gov.uk/files/file44332.pdf

4.3.4 Quality of work

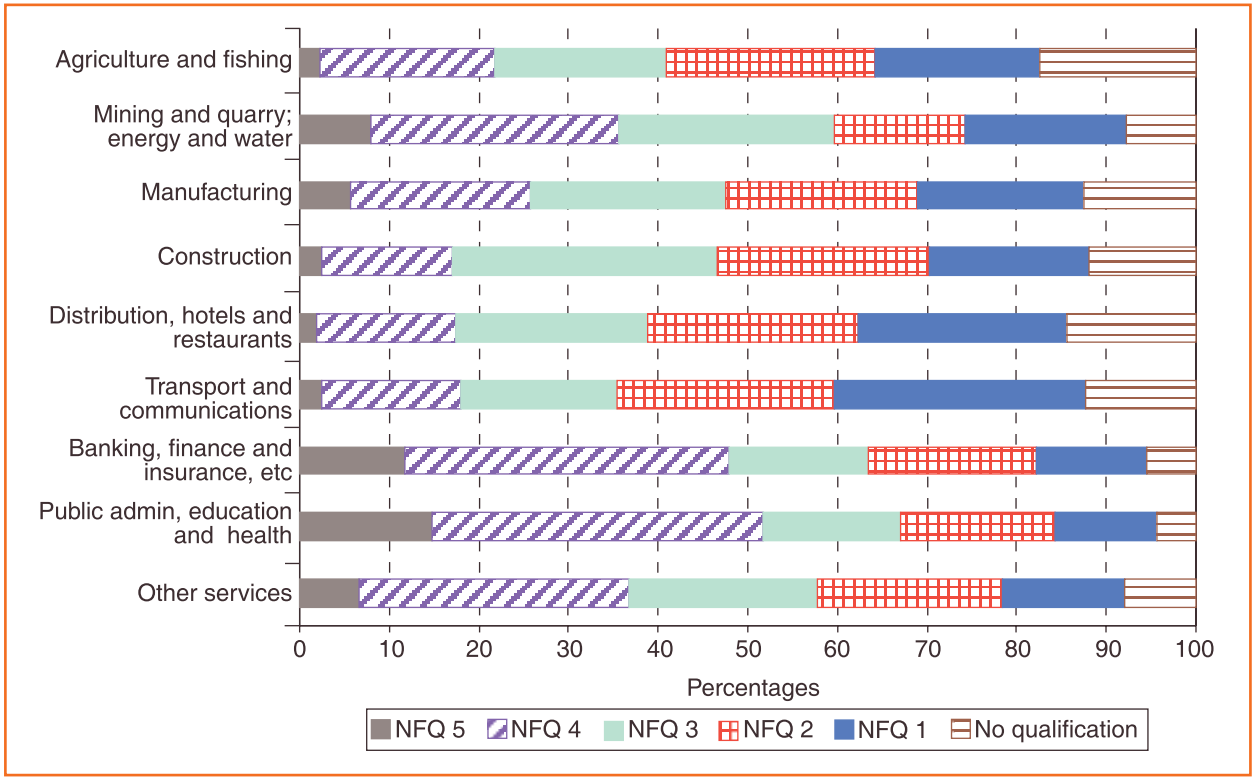
In this final section we begin to consider the quality of work for those in employment. Figure 4.4 sets out the proportion of workers working in each of the broad sectors by highest qualification they have achieved on the national qualifications framework in 2008. Employment by qualification obtained to some extent reflects the effectiveness of those in work, the quality of the jobs and the incomes that are earned from work, since we would expect those with higher qualifications to be more productive, to be able to choose higher-quality and higher-paid jobs.

In the economy as a whole, 35% of workers had higher education qualifications. The sectors with the greatest proportion of workers with higher education qualifications (NQF5 and NQF4)[36] were public administration, health and education (52%) and banking, finance and insurance etc. (48%). The sectors with the lowest proportion of workers with higher education qualifications were distribution, hotels and restaurants (17%), construction (17%), transport and communications (17%) and agriculture (22%).

In the economy as a whole, just less than 10% had no qualifications. The sector with the highest proportion of workers with no qualifications (17%) was agriculture. Distribution, hotels and restaurants, manufacturing, construction, transport and communications and other services all had more than 10% of their workers with no qualifications. The sectors with the fewest workers with no qualifications were public administration, education and health (4%) and banking, finance and insurance etc. (5%).

[36] For definition of qualification levels, please see Box 5.2 in Chapter 5.

Figure 4.4 Highest qualification obtained share by sector, 2008



Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D2/D2.1_UK_Workers_by_Qualification_Level.xls

Remuneration gives a further indication of job quality. Table 4.16 provides information on remuneration by gender, occupation and sector.

In 2008, the average UK hourly remuneration was £13.90; this represented an increase of 7% since 2006. Male workers were on average paid £15.26, £1.36 more than the average whereas female workers were on average paid £12.10, £1.80 less than the average. The ratio of the average female worker's hourly wage to that of male workers was little changed from 2006.

By occupation, managers (£29.74), skilled trades (£21.75) and personal service (£21.15) received the highest hourly wages, whereas administrative and secretarial (£7.81) and process, plant and machine (£10.25) received the lowest hourly wages.

By sector, the highest hourly wage was paid in the financial services sector (£21.61). As Figure 4.3 showed, this sector has a relatively high proportion of employees working as managers and senior officials and professional occupations and a relatively low proportion of workers working in occupations lower down the occupational scale.

Table 4.16: Remuneration by gender, by occupation and by broad sector

	(Average hourly remuneration, £)		
	2006	2007	2008
UK	13.0	13.4	13.9
Gender			
UK – Male	14.3	14.7	15.3
UK – Female	11.2	11.6	12.1
Occupation			
Managers	28.4	28.5	29.7
Professional	13.1	13.7	14.2
Associate professional and technical	10.5	10.9	11.3
Administrative and secretarial	7.3	7.6	7.8
Skilled trades	20.6	21.2	21.8
Personal service	20.0	20.5	21.2
Sales and customer service	14.1	14.6	15.2
Process, plant and machine operatives	9.5	9.9	10.3
Other (not classified)	10.5	10.8	11.2
Broad sector			
Agriculture: Forestry	8.5	8.2	8.6
Fishing	10.3	7.3	7.5
Mining and quarrying	17.6	9.6	9.9
Manufacturing	12.8	7.6	7.8
Electricity, gas and water supply	15.4	15.6	17.4
Construction	12.8	13.3	13.6
Wholesale and retail trade	10.2	10.6	11.0
Hotels and restaurants	7.7	8.1	8.4
Transport, storage and communication	12.3	12.7	13.3
Financial services	19.2	20.3	21.6
Real estate, renting and business activities	15.0	15.4	15.9
Public administration	13.4	13.9	14.5
Education	14.0	14.4	14.9
Health and social work	12.7	13.1	13.4
Community, social and personal services	12.4	12.3	12.6
Other (not classified)/Elementary (2002 onwards)	9.9	–	9.1

Note(s): There is no data for Other (not classified)//Elementary (2002 onwards) in 2007.
Source(s): ASHE, ONS.
Sourcelink: http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=13101
Datalink: https://almanac09.ukces.org.uk/employment/C4/C4.3_Average_Hourly_Pay_UK_by_Age_by_Occupation_by_Sector.xls

5 Skills

qualification
qualifications
skills
training
level
employment
employers
occupations
occupation
demand
chart
uk
jobs
gaps
market
labour
sector
education
proportion
supply
higher
different
well
skill
many
including
professional
employees
workforce
services
national
population
sectors
significant
levels
structure
highest
low

5 Skills

Skills Chapter Summary

Skills are regarded by many as one of the key contributors to economic and social success, at both an individual and macro level.

Skills can be measured in various different ways, including the formal qualifications that individuals hold, the occupation that they undertake, and other aspects of the knowledge, experience and generic and technical competences that they possess (only some of which may be deployed in any job they may currently hold).

Qualifications and occupation are the most widely used measures of skills. These suggest that the UK has a skilled workforce but not as skilled as some of its major competitors. According to international comparisons, the UK generally does relatively well at higher qualifications levels (university degree level and equivalents) but fares less well at intermediate level.

In terms of formal qualifications, the UK has seen an improvement in the levels of qualifications held by its workforce over the past few decades, with increasing numbers going into further and higher education and obtaining qualifications at National Qualification Framework (NQF)[37] levels 4 and above. In 2008, some 35% of the working-age population were qualified to NQF level 4 and above. This was up from 29% in 2002. At the other end of the scale, the share of those with no formal qualification had fallen over the same period from 11% to 9%.

Developments in occupation structure tell a similar story. Driven by changes in sectoral employment structure (notably the decline of primary and manufacturing sectors and the growth of both private and public sector employment in services), there has been a significant increase in the numbers and shares of employment in managerial, professional and technical jobs. In contrast, the numbers in many less skilled jobs have been falling. These structural developments have been reinforced by changing occupation structures within sectors. Driven by skill biased technological and organisation changes, these have also tended to favour the higher level occupations. By 2008, managerial and professional occupations accounted for some 43% of total employment compared to 39% in 2002. In contrast, the employment shares of the least skilled occupational groups (plant and machine operatives and elementary occupations) fell from 21% to 19% over the same period.

[37] See Box 5.2.

A number of commentators have highlighted trends towards a polarisation in the demand for skills, with a hollowing out of the number of jobs for intermediate level skills (especially those typically requiring more vocational education and training). There has also been significant increase in the numbers of jobs for relatively low skilled service sector workers such as sales and personal service occupations.

Evidence of the overall returns to investment in education and skills tends to suggest that over the past decade as a whole have been maintained in the face of large increases in supply from the domestic population as well as significant inward migration.

5.1 Introduction

5.1.1 The importance of skills

Skills play a key role in economic and social activity, for both individuals and employers, helping to secure and retain employment in higher-quality jobs. Investment in skills can help to increase both the employment rate and pay/productivity. This has benefits for both employers (providing a larger pool of skilled and flexible labour to choose from) and employees (increasing the range and extent of their employment opportunities and the rewards they receive for taking part). For more detailed discussion of the role of skills in raising employment, productivity and international competitiveness, see *Ambition 2020*[38].

5.1.2 Defining and measuring skills

There are many different definitions and meanings of the term 'skills' (see Box 5.1). It is argued that an individual's skills comprise:

- qualifications and knowledge acquired through formal education;
- competencies and expertise acquired, for example, through training and experience on the job; and
- innate ability.

[38] April 2009, *Ambition 2020: World class skills and jobs for the UK*, UK Commission for Employment and Skills.

Skill is usually measured by:

- how competence is used (e.g. occupation);
- achievement of competence (e.g. as certified by a qualification); or
- level of competence (e.g. relative ability and levels of execution).

The focus here is on the first two measures, although it should be recognised that others are also important.

Box 5.1: What do we mean by skills?

Skills are capabilities and expertise in a particular occupation or activity. There are a large number of different types of skills and they can be split into a number of different categories. Basic skills such as literacy and numeracy as well as some other generic skills, such as team working and communication, are applicable in most jobs. Specific skills, such as the ability to operate a machine, are less transferable between occupations. Most occupations use a mix of different types of skills and within each skill there are different levels of ability required; some people will be more competent than others.

There is no perfect measure of skills, and a range of measures can be used. The most common measures of skills are qualifications, although of course it is possible to have skills without having qualifications. On-the-job training in the workplace is also an important source of skills development, but often not formally recognised. The occupation that people work in is also a commonly used proxy measure.

It is important to look at these wider ranges of skills. However, the ready availability of qualifications data and the comparability of different qualification types means that they are the most regularly used measure.

For individuals, qualifications are portable in the labour market, allowing them to demonstrate that they have acquired skills. For employers, they provide valuable evidence when recruiting new workers and also motivate employees to complete their training. Qualifications form a major part of employer recruitment strategies, especially screening candidates prior to interview. According to a survey, the contents of the application form or CV, including qualifications gained, are the most frequently used selection method (66%) by employers[a]. As a result, the majority of individuals prefer studying towards a qualification[b] and over one-half of employers say they would like to support their employees to gain qualifications through staff training[c].

Qualifications can be further grouped into five different levels: Level 2 equates to five good GCSEs or their vocational equivalents, Level 3 to two or more A-levels and Level 4 and above to degree level qualifications and higher. This classification is discussed in more detail in Box 5.2.

In addition to qualifications, levels of literacy and numeracy are also used as measures of skills. These tend to be based on surveys or on the proportion of the workforce with English or maths qualifications.

[a] *Recruitment, Retention and Turnover Survey*, CIPD, 2006.
[b] *National Audit Learning Survey*, 2002.
[c] *The Market for Qualifications in the UK*, PWC, 2005.
Source(s): Adapted from *Leitch Interim Report*, Box 1.2 and *Leitch Final Report*, Box 1 and Box 1.1.

Box 5.2: Qualifications by level

The analysis in this report classifies qualifications into the five levels set out below.

Level 1: GCSEs, O-Levels or equivalent at grades D-G; National Vocational Qualification (NVQ) Level 1; Business Training and Education Council (BTEC) first or general certificate; General National Vocational Qualification (GNVQ) foundation level; Royal Society of Arts (RSA); and SCOTVEC modules.

Level 2: Five or more GCSEs, O-Levels or equivalent at grades A*-C; NVQ Level 2; BTEC first or general diploma; GNVQ intermediate level; City and Guilds Craft; RSA diploma; and BTEC, SCOTVEC first or general diploma.

Level 3: Two or more A-Levels or equivalent; NVQ Level 3; BTEC National; Ordinary National Diploma (OND); Ordinary National Certificate (ONC); City and Guilds Advanced Craft; and three or more Scottish highers.

Level 4: First or other degree; NVQ Level 4; Higher National Diploma (HND); Higher National Certificate (HNC); and higher education diploma; nursing; teaching (including further education, secondary, primary and others).

Level 5: Higher degree; Doctor of Philosophy (Ph.D.); and NVQ Level 5.

These levels can be further classified into low skills (no qualifications and Level 1); intermediate skills (Level 2 and 3) and high skills (Level 4 and above). This 'common currency' allows comparisons across sub-groups of the population, time and, to a certain extent, between countries. There is some debate at an international level: Level 2 can be classified as either low or intermediate level.

Note that the current National Qualifications Framework classifies qualifications in a different manner; qualifications are classified to nine levels (Entry level to level 8)[1].

Note(s): [1] See http://www.ofqual.gov.uk/52.aspx
Source(s): Adapted from Leitch Interim Report, Box 2.1.

5.1.3 Understanding the link between skills and the needs of the economy

The links between skills and the rest of the economy are many and complex, as evidenced in the discussion of the Policy Framework in Figure 2.1. There are various aspects which interplay in shaping the skill structure of the workforce, namely:

- employer demand for skills is shaped by the general economic activity levels, changing *demand for goods and services* and by the *business strategies* adopted by employers in meeting that demand. The *demand for goods and services* is itself influenced by a number of external drivers, as set out in earlier chapters. These include *technological change* and *globalisation and specialisation*. *Technological change* drives the development of new products and services that satisfy, and often lead, consumer and business demand. *Technological change* and *globalisation and specialisation* determine the types of goods and services produced in the UK and so help determine the UK's industrial structure and influence the nature and quality of the jobs offered in terms of occupations, skills, type (e.g. part-time, full-time), etc. It also depends on employers' internal business strategies (including use and deployment of managerial skills) and their perceptions of returns to skills. The UK Commission has emphasised that a major challenge for the future UK economy is to raise the demand for skills by moving up the value chain and encouraging more businesses to adopt high value added, skill intensive patterns of behaviour.

- the supply of skills is driven by a combination of factors that influence the size of the potential workforce: *demographic change* (including migration), patterns of participation in the labour market, participation in education and training, and investment in human capital (i.e. the demand for learning). The latter are dependent on decisions made by individuals, learning providers, government and employers as well as on the returns to education and training for both individuals and employers which will affect the scale and pattern of investment in human capital. The former issues have been discussed in Chapter 2 above.

The balance between these two can lead to matches and mismatches (imbalances) between supply and demand, including various measures of 'shortage' and 'surplus' and the returns to education and training. These can take various forms:

- skill shortages and/or gaps, when there is 'excess' demand for skills[39]:
  - Skills shortages arise when employers find it difficult to fill their vacancies with appropriately skilled applicants. There are relatively few skills shortages in the UK but it is important to measure them by sector and occupation to identify those activities in which they do have a significant impact;
  - Skills gaps arise where members of the existing workforce are seen to lack the skills necessary to meet business needs. Skills gaps are far greater in number than skills shortages; it is also important to measure skills gaps by sector and occupation;
- unemployment, inactivity, 'over-qualification' or 'under-employment' where there is insufficient demand.

Such imbalances may lead to various market and other responses, including adjustments to labour supply (including inward migration, where foreign workers take up jobs that the domestic workforce is unable or unwilling to undertake) and changes in pay. Other aspects and related issues include:

- the changing nature of jobs, including high/low skill polarisation;
- issues of sustainability and progression;
- particular problems faced by disadvantaged groups;
- changes in relative pay;
- vacancies;
- unemployment;
- over qualification and under-employment;
- under qualification (including skills gaps reported by employers).

[39] Although it should be noted that defining skill shortages is far from straightforward. The Migration Advisory Committee (MAC) (2008) in an extensive review highlights that the only consensus on these matters is that there is no single measure (either conceptually or practically) that suits all needs.

5.1.4 Content of this section

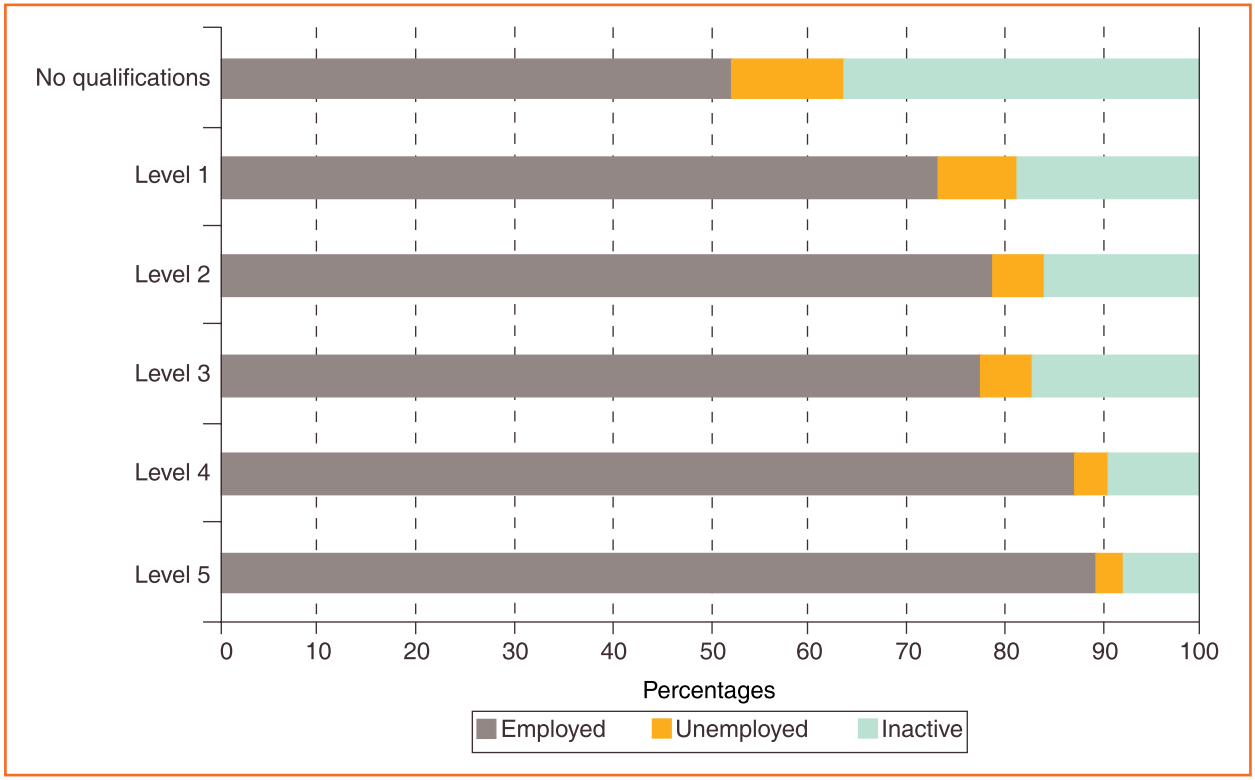
The focus here is on:

- why skills matter: the link between skills and performance in the labour market;
- levels of skills held by the working age population and how this varies according to a number of factors;
- international comparisons of skills;
- evidence of skills mis-match; and
- evidence on skills acquisition, mainly in the area of training activity.

5.2 Why skills matter: skills and performance in the labour market

Skills matter to individuals, having considerable impact on whether they are in or out of work and the wages received. There is a very strong and positive correlation between possession of formal qualifications and employment and labour market participation rates. Figure 5.1 also highlights the negative correlation with unemployment and economic inactivity.

Figure 5.1: Economic activity by highest qualification, 2008



Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D5/D5.%201_Economic_Activity_by_Qualification_Level.xls

Once in work, qualifications also impact upon pay rates. As Table 5.1 demonstrates those with qualifications above level five (i.e. a higher degree) get paid 64% more than the UK average. In contrast those with no qualifications tend to earn 38% less than the UK average. This trend for higher pay rates for higher qualification levels has remained consistent over time.

Table 5.1: Gross weekly pay by qualification, UK, 2002-2008

	£ GBP			
	2002	2005	2008	2008 (100 = UK)
Level 5	608.5	653.68	702.46	164.11
Level 4	475.37	508.46	559.76	130.78
Level 3	334.39	360.93	390.7	91.28
Level 2	287.39	315.69	341.01	79.67
Level 1	267.73	293.66	328.16	76.67
No qualifications	209.89	303.77	265.37	62.0
UK Average	345.82	387.09	428.03	100

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/Skills/D5/D5.4_Weekly_Pay_by_Qualification_Level_(Region_and_Nation).xls

5.3 UK evidence on skills

5.3.1 Profile of skills supply in the UK

When considering the UK's current skill profile, our main emphasis is on formal qualifications. Figures 5.2 and 5.3 focus on the UK population's stock of skills as measured in that way.[40]

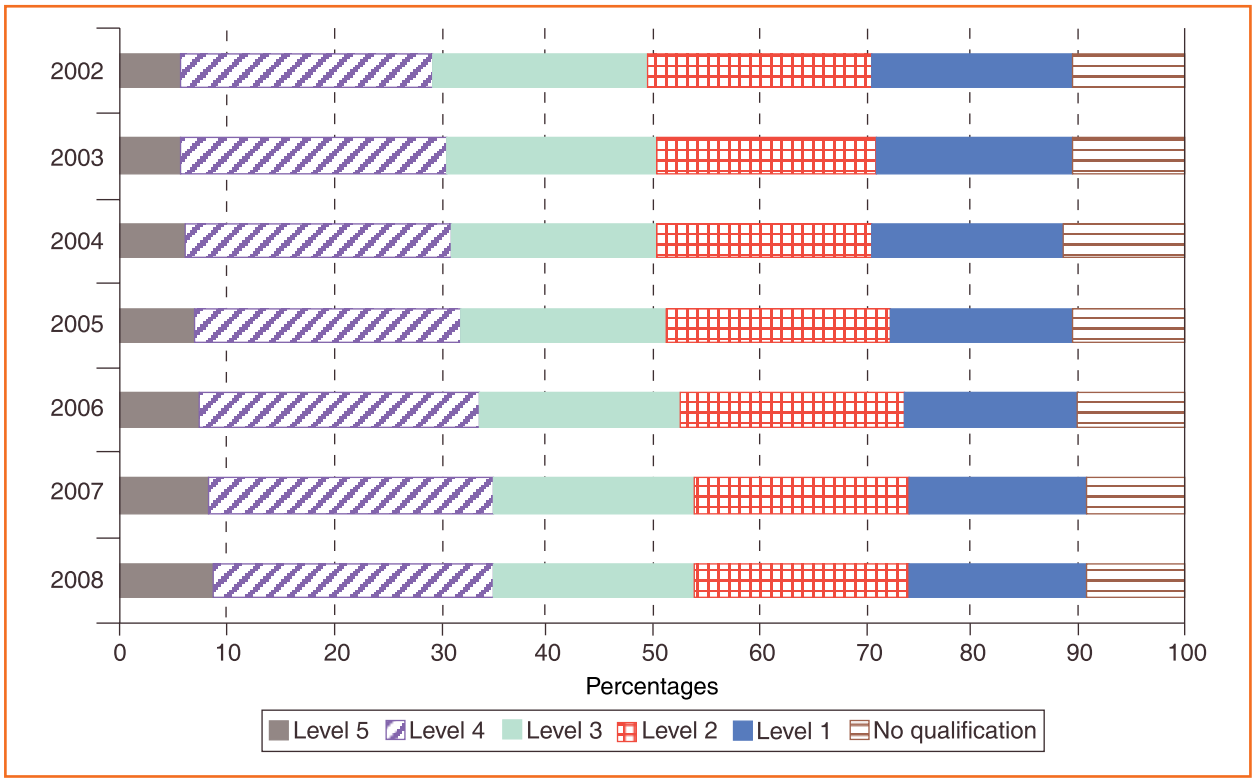
The UK population's stock of skills, as measured by highest qualification held, has shown steady improvement in recent years (see Figure 5.2). The proportion of the working-age population who have achieved qualifications at degree level or above (NQF level 4 and over) has risen steadily over the past few years (continuing a much longer term trend), such that:

- in 2008 around 35% of the working-age population was qualified to Level 4 or above; this compared to well below 29% in 2002;
- at the other end of the qualifications scale, the proportion whose highest qualification is below NQF level 2 has steadily declined: the proportion with no qualifications at all was around 9% in 2008, down from 11% in 2002.

[40] Note that data have not been gathered on basic skills in the workbooks, nor on generic skills, as these are not available in such a comprehensive manner as information on qualifications and occupations. For example, it has not been possible to obtain any more recent data on levels of literacy and numeracy than those that were available in the Leitch Interim Report.

The proportions with highest qualifications at NQF Levels 2 and 3 have not changed significantly, because, although large numbers of individuals have acquired such qualifications, many of these then move on to acquire even higher-level qualifications.

Figure 5.2: Qualifications held by the working age population, 2002-2008

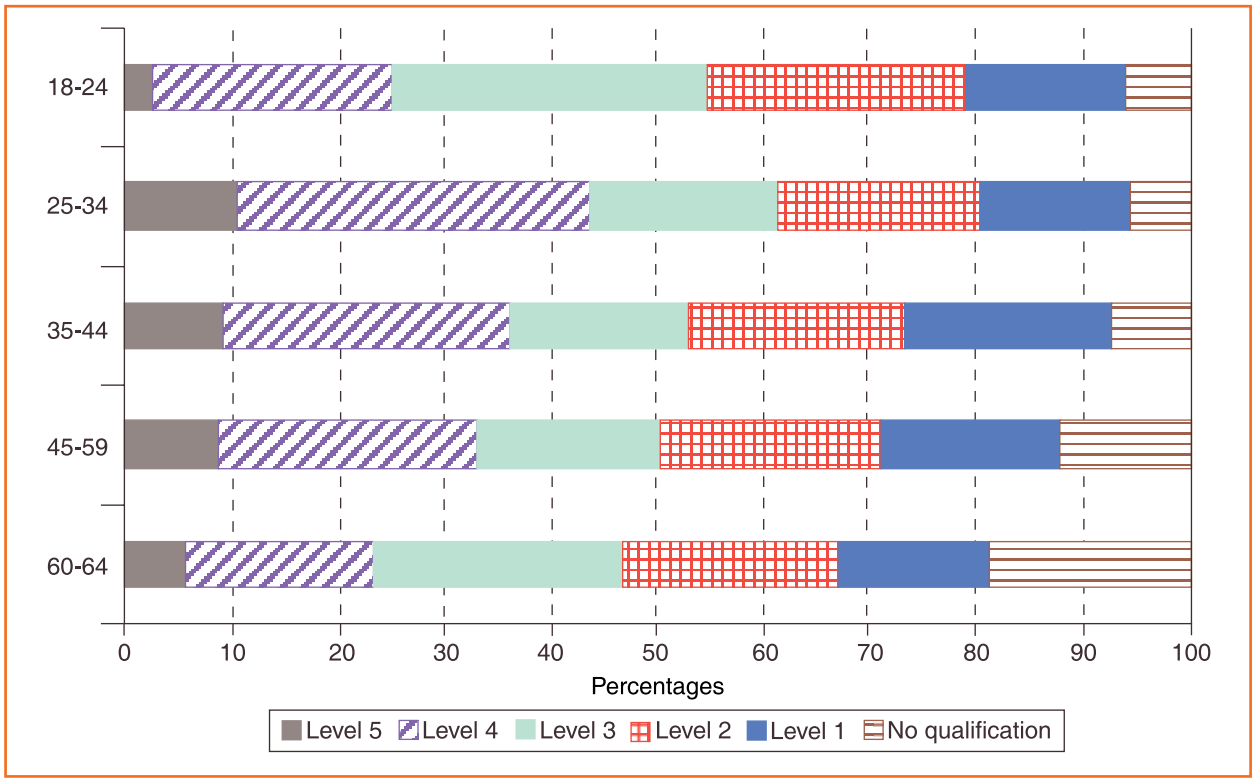


Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D1/D1.1_UK_Working_Age_population_by_qualification_level.xls

A significant part of this change is attributable to young people entering the working-age population with much better qualifications than older workers reaching retirement age. The improvement in the qualifications held by those already in the labour force is much less significant.

The differential between qualification attainment levels by different age groups can be seen in Figure 5.3 below. In 2008, less than a tenth of those aged 18–24 had no formal qualifications compared with around a fifth of those aged 45-64. Of course, many older workers have acquired skills through experience and informal on-the-job training undertaken while at work. Although such skills may not be formally accredited they are of considerable value, both to the individuals concerned and to their employers and often need to be replaced as such workers retire.

Figure 5.3: Age and distribution of qualifications, 2008

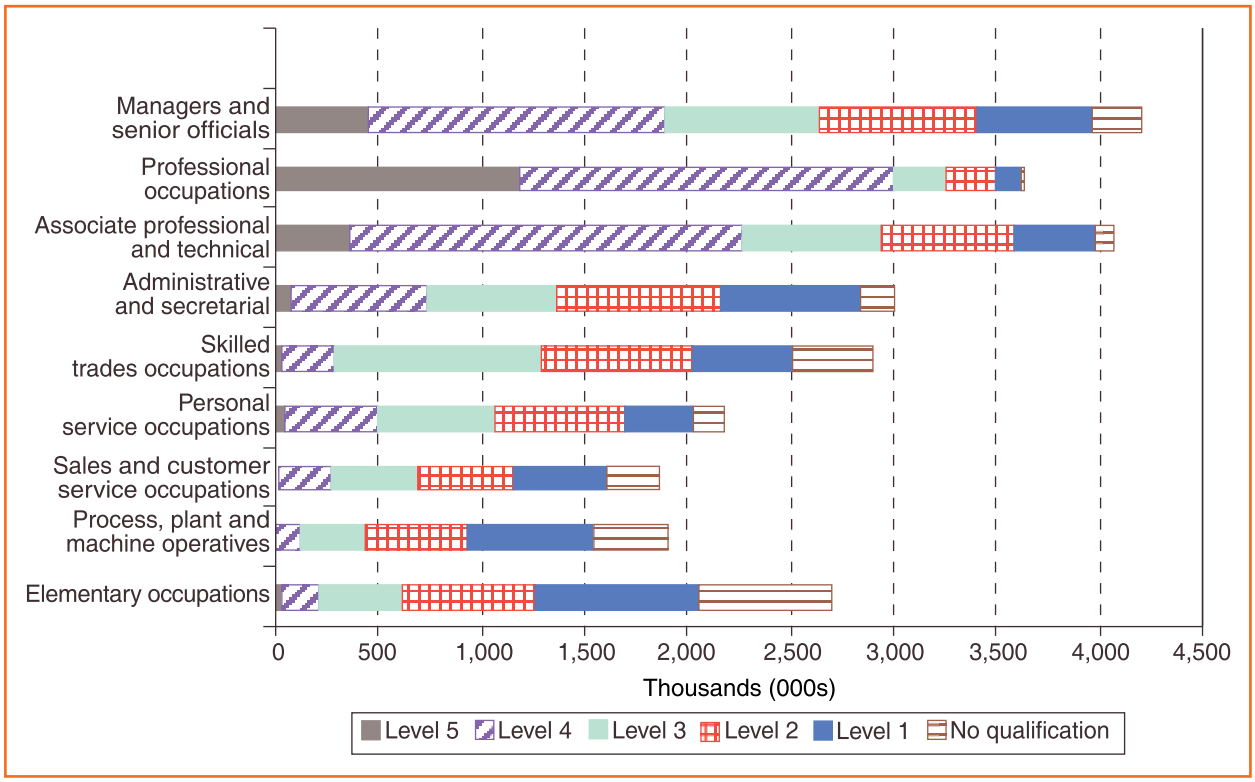


Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D1/D1.3_UK_Working_Age_Population_by_Qualification_Level_by_Age.xls

Qualifications held vary according to other workplace characteristics.

Looking first at occupations, some occupations have much higher concentrations of higher-level qualifications, with (on average) the higher the occupational level the higher the qualification level (Figure 5.4). Thus, while half of those employed in elementary occupations and in process, plant and machine-operative occupations hold no or low-level qualifications, in managerial occupations this figure is less than 20% and only 4% of those in professional occupations hold low or no qualifications.

Figure 5.4: Employment by highest qualification and occupation, 2008



Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D5/D5.3_UK_Employment_by_Qualification_(Sector_and_SSC).xls

Turning to industry sector, it is clear that (i) some sectors have a more qualified workforce than others, but also (ii) that the differences in patterns of qualifications within sectors largely reflect their occupational employment structures. These developments have significant implications for the demand for skills. The different sectors have very different occupational structures as shown in Table 5.2. This highlights the high concentration of sales occupations in distribution, hotels and restaurants, of personal service occupations in health and social work and of skilled craft occupations in manufacturing and construction.

And the impact for qualifications in each of these sectors is such that:

- The distribution, hotels and restaurants sector contains the largest group of workers with no or low qualifications, largely due to its large scale;
- Transport and communications has the greatest proportion with no, or low (below Level 2) qualifications (40%, see Table 5.3);
- Public administration, education and health and banking, finance and insurance are the sectors with the highest shares of those with higher level qualification (NQF 4+).

Table 5.2: Employment by occupation and sector, 2008

	Managers and senior officials	Professional occupations	Associate professional and technical	Administrative and secretarial	Skilled trades	Personal service	Sales and customer service	Process, plant and machine operatives	Elementary	Total employment
	%	%	%	%	%	%	%	%	%	
Agriculture and fishing	12.80	1.60	1.00	5.00	48.90	5.40	0.40	3.60	21.40	410.6
Mining and quarry; energy and water	20.10	17.20	13.50	8.20	14.60	1.10	9.60	12.20	3.60	342.4
Manufacturing	18.90	9.70	11.10	7.80	20.70	0.40	2.30	20.50	8.70	3409.2
Construction	13.30	6.40	3.70	6.30	52.60	0.10	0.60	8.30	8.60	2364.3
Distribution, hotels and restaurants	20.50	1.60	5.00	7.30	9.50	0.80	30.00	4.80	20.40	5459.6
Transport and communications	14.50	4.40	7.70	9.80	4.90	5.40	5.20	30.10	18.10	1936.9
Banking, finance and insurance etc	22.20	19.90	21.00	18.50	2.50	1.00	4.30	1.40	9.30	4680.3
Public admin, educ and health	8.30	23.80	22.50	14.20	1.50	21.40	0.70	1.10	6.70	8210.4
Other services	13.00	7.80	22.50	10.10	6.70	20.10	2.50	3.50	13.90	1782.4

Source(s): LFS.
Datalink: https://almanac09.ukces.org.uk/employment/C2/C2.5_UK_Employment_by_Occupation_Sector_and_SSC.xls

Table 5.3: Employment share by highest qualification and sector, 2008

	Level 5	Level 4	Level 3	Level 2	Level 1	No quals	All levels
	%	%	%	%	%	%	%
Agriculture and fishing	2	19	19	23	18	17	100
Mining and quarry; energy and water	8	28	24	15	18	8	100
Manufacturing	6	20	22	21	19	13	100
Construction	3	15	30	24	18	12	100
Distribution, hotels and restaurants	2	15	21	24	23	14	100
Transport and communications	2	16	18	24	28	12	100
Banking, finance and insurance etc	12	36	15	19	12	5	100
Public admin, educ and health	15	37	15	17	11	4	100
Other services	7	30	21	21	14	8	100

Source(s): LFS.
Datalink: https://almanac09.ukces.org.uk/Skills/D5/D5.3_UK_Employment_by_Qualification_(Sector_and_SSC).xls

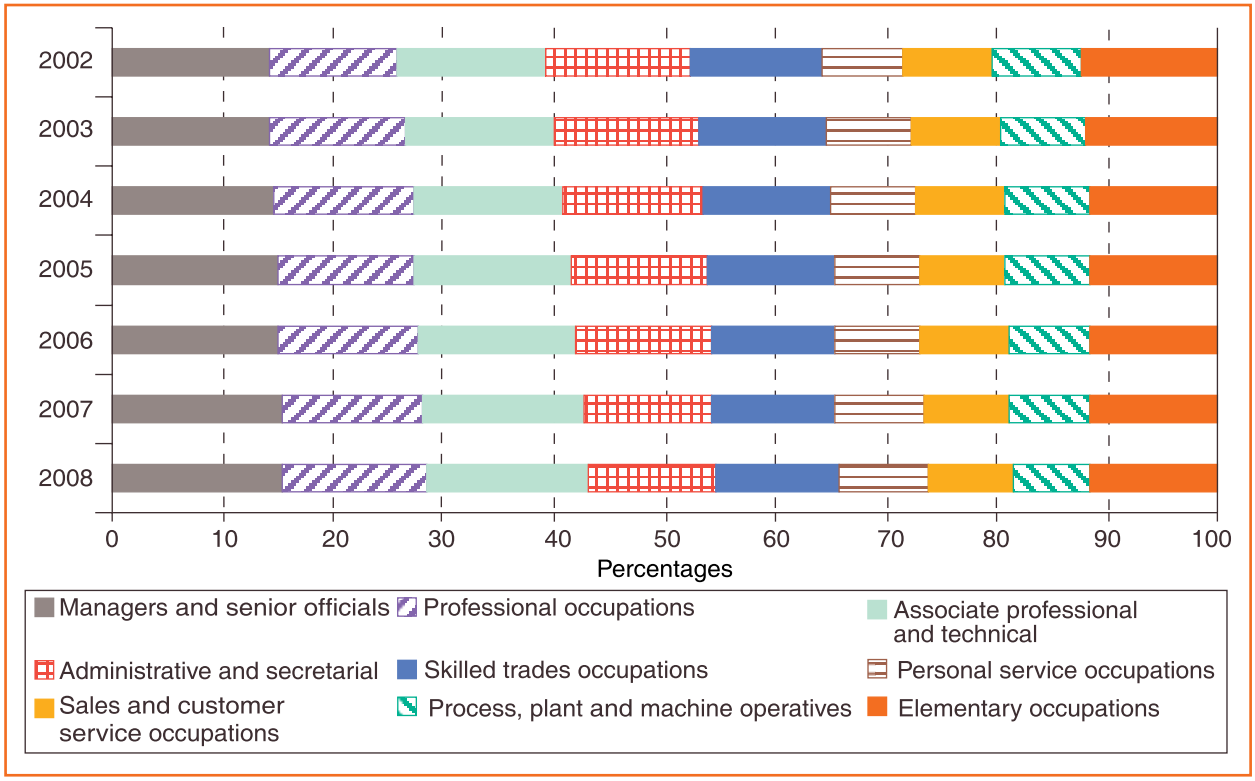
This matters because there has been a clear shift in the industrial and occupational structure of the UK workforce, which has a clear impact on skills requirements.

UK employment is now heavily concentrated in services. Categories such as wholesale and retail distribution, closely followed by real estate, renting and business activities, and health and social work, each now account for similar or higher shares of total employment as the whole of manufacturing. Education, public administration and, if recent trends continue, hotels and restaurants, and miscellaneous services, are not far behind. In contrast, manufacturing, primary industries, such as agriculture and mining, construction, and some service activities such as transport, have experienced employment decline and now only account for a modest share of total employment.

This has led to changes in the occupational structure as, driven by changes in sectoral employment structure (notably the decline of primary and manufacturing sectors and the growth of both private and public sector employment in services), there has been a significant increase in the numbers and shares of employment in managerial, professional and technical jobs. In contrast, the numbers in many less skilled jobs have been falling.

These structural developments have been reinforced by changing occupation structures within sectors. Driven by skill biased technological and organisation changes, these have also tended to favour the higher level occupations. By 2008, managerial and professional occupations accounted for some 43% of total employment, compared to 39% in 2002. In contrast, the employment shares of the least skilled occupational groups (plant and machine operatives and elementary occupations) fell from 21% to 19% over the same period.

Figure 5.5: Occupational structure of employment, 2002-2008



Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/employment/C2/C2.5_UK_Employment_by_Occupation_Sector_and_SSC.xls

Spotlight: Polarisation of the demand for skills

Much emphasis has been placed by governments around the world on the rising demand for higher-level skills. Many have focussed their policies on trying to take advantage of these trends by focusing on leading the way by promoting investment in human capital.

A number of academic commentators have raised a note of caution, emphasising that the demand for skills may not be quite so simple. For example, Autor, *et al.* (2003) and (2006) have argued that information and communication technology has increased the demand for both cognitive and interpersonal skills used in higher-level occupations (typically requiring higher levels of education). These include professionals, associate professional (technician) and managers. In contrast, ICT in the form of robotics and automation has reduced the demand for many clerical and routine manual skills. In many routine and repetitive tasks computers have been able to substitute for the human brain and hand. These changes have resulted in the loss of many clerical and production jobs, which is often referred to as 'skill biased technological change'.

Concurrently, there has been a rise in the demand for people to do many 'low-skilled' service jobs, such as some aspects of health care, security, cleaning, food preparation and serving in restaurants and bars. Computerisation has had much less impact on the demand for non-routine manual skills ('manual tasks'), where it is less straightforward to 'programme' a machine to do the work. This reflects problems in automating certain aspects of the interpersonal and environmental tasks demanded in these jobs.

Goos and Manning (2003) have described this as the 'polarisation of work'. They argue that it has resulted in the hollowing out of the job distribution in the UK, and in many other developed countries. While there has been considerable debate about this phenomenon, it is clear that not all areas of employment growth are high skill.

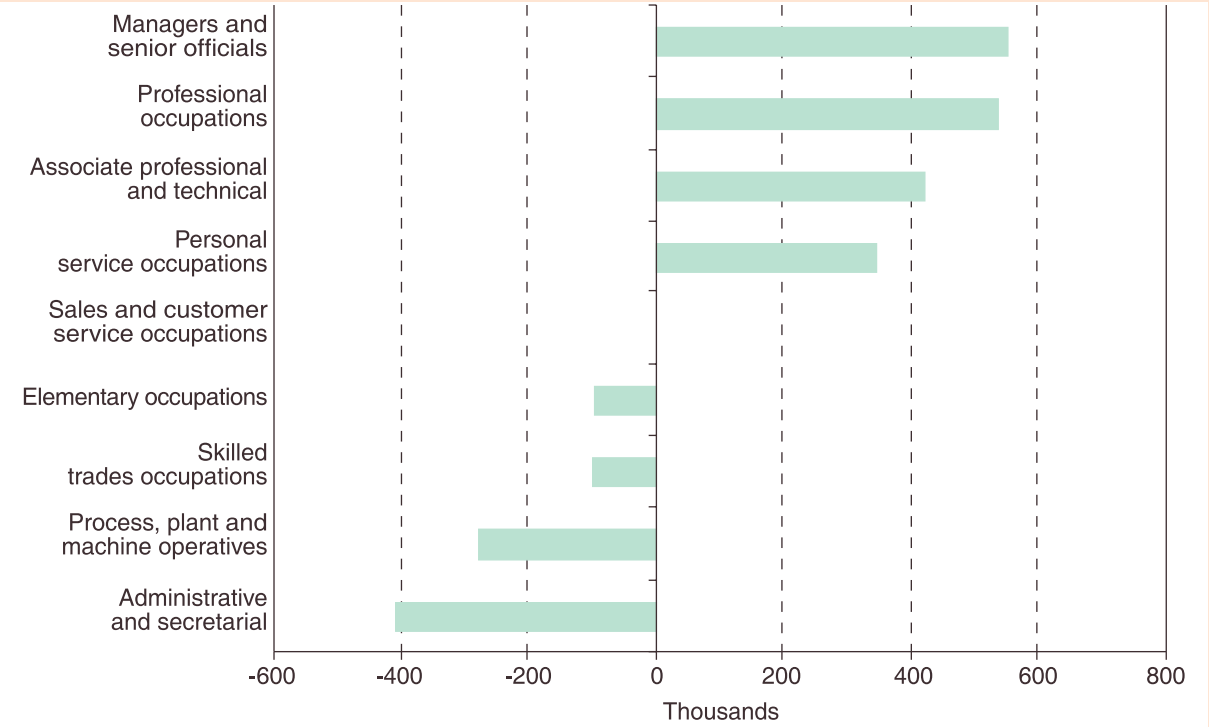
Autor (2007) argues that the key feature is that labour-intensive sectors, where there is low productivity growth, have tended to grow faster as a share of GDP in recent years than sectors experiencing more rapid productivity growth. The consequence is that employment in sectors such as education, health and social care, as well as restaurants and catering have grown at a faster rate than areas such as manufacturing.

The overall changes in the occupational structure of employment over the past decade or so confirm that the skill intensity of much work (as defined above) is increasing. As Figure S5.1 illustrates, the employment shares of managers, professional and associate professional have been rising steadily. At the same time the numbers employed in many skilled craft type jobs have shown sharp declines. But, employment levels are also increasing for many lower skilled occupations, especially those involved in personal service work. These are often in areas where it is possible to automate production. These patterns are projected to continue in the most recent Working Futures projections (Wilson *et al.*, 2009).

It is important not to exaggerate these trends. Elementary occupations at the very bottom of the spectrum have seen some of the largest employment declines. There are also still a large number of jobs at middle level (typically requiring National Qualifications Framework (NQF) qualifications at Level 3), with strong replacement requirements likely as the present workforce ages. However, it is clear that, as Keep and Mayhew (2005) have argued, the data on employment trends do not support a simple story of an end to low skill work.

Geography is another important dimension of the polarisation of skill demands. There is a significant North – South divide, especially within England. London and the South East continue to exhibit much higher proportions of employment in higher level occupations compared to the Northern and Midlands regions. There are significant differences in sectoral structure across the countries that make up the UK and within the English regions and these have a significant impact on the demand for skills. The differences are even more significant across local areas within regions. They also have a strong geographical element, including the significance of different political structures in Northern Ireland, Scotland, and Wales.

Figure S5.1: Occupational change in the UK by Standard Occupational Classification major group, 2002-2008



Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/employment/C2/C2.5_UK_Employment_by_Occupation_Sector_and_SSC.xls

Another important aspect of polarisation is the shift toward less permanent forms of working, including temporary contracts, self-employment, and part-time working. Such trends can exacerbate problems of social exclusion which remains one of the key threats facing the economy and labour market.

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Wilson, R.A., Homenidou, K. and Gambin, L. (2009) *Working Futures 2007-2017*. UKCES: Wath on Dearne. (See Executive Summary and the full report at: http://www.ukces.org.uk/working-futures-2007-2017-executive-summary-2).

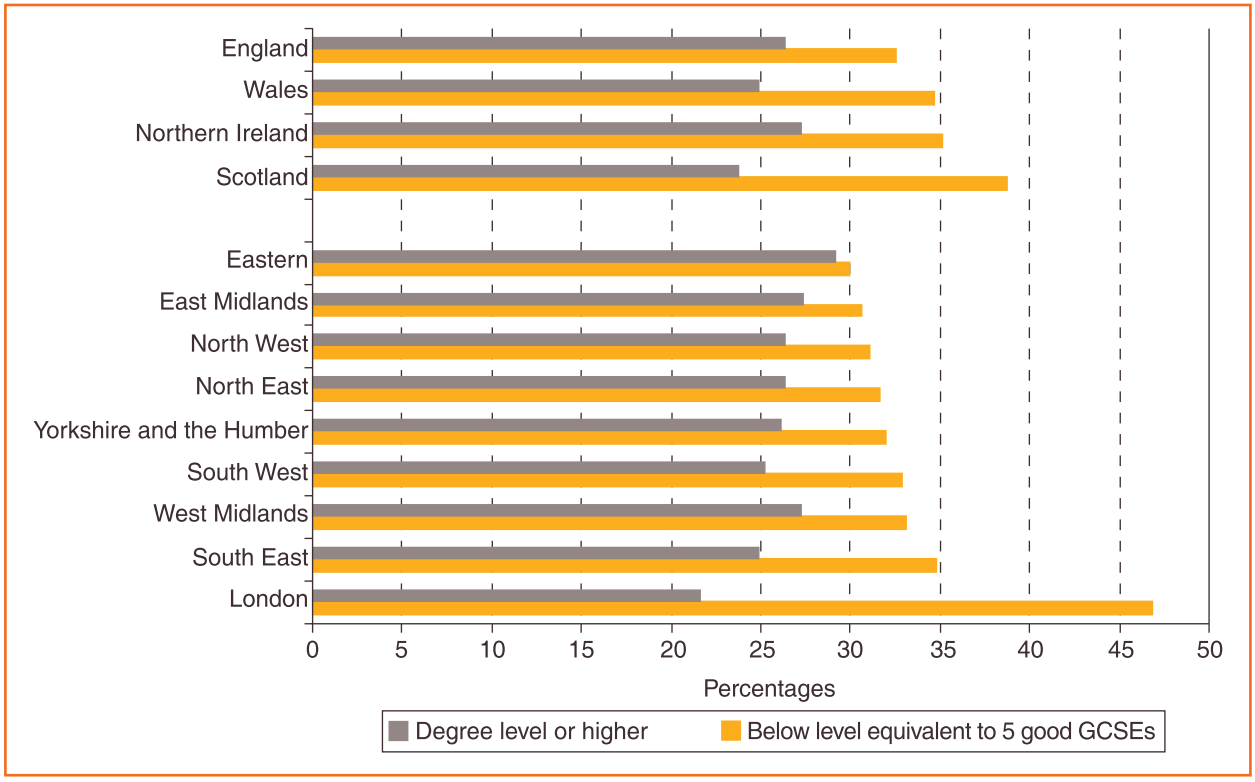
5.4 The geographical distribution of skills

Neither the demand for nor the supply of skills are evenly distributed across the UK. The demand for skills depends in large part on the sectoral mix of employment. The supply of skills also reflects this to some degree, but also the educational systems in different parts of the UK.

Most of the patterns relating to the geographical distribution of skills are long standing and persistent. Figure 5.6 shows that measuring skills by the qualifications of those in employment (a consequence of both demand and supply influences), Scotland is the best qualified of the four home countries. Scotland has a higher proportion in employment with at least a qualification to NQF level 4, and a smaller proportion qualified below NQF Level 2. The working-age populations of Wales and Northern Ireland in employment however are generally less well qualified.

Amongst the English regions London stands out as having the highest proportion qualified to first degree level or above, but it also has a relatively high proportion with low or no qualifications. This reflects its sectoral structure, especially the concentration of jobs in business and finance and tourist related activities. There is also something of a North-South divide between English regions, with higher proportions well qualified in the south and smaller proportions with no or low qualifications.

Figure 5.6: Skills profile of workers across the UK, 2008



Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D2/D2.2_UK_Workers_by_Qualification_Level_by_Region.xls

It should be noted however that even within these geographical areas there are often big disparities. In London, for example, the financial and business services sector demand highly qualified people (many of whom commute in from the city region). In contrast, there are many local areas in which both employment and the workforce and inactive population have very poor qualifications.

5.5 International evidence on skills

5.5.1 International comparison of outcomes

This and the next section focus on evidence about the changing patterns of demand for and supply of skills. This begins with an overview of the international evidence, to set the position in the UK into a broader international context.

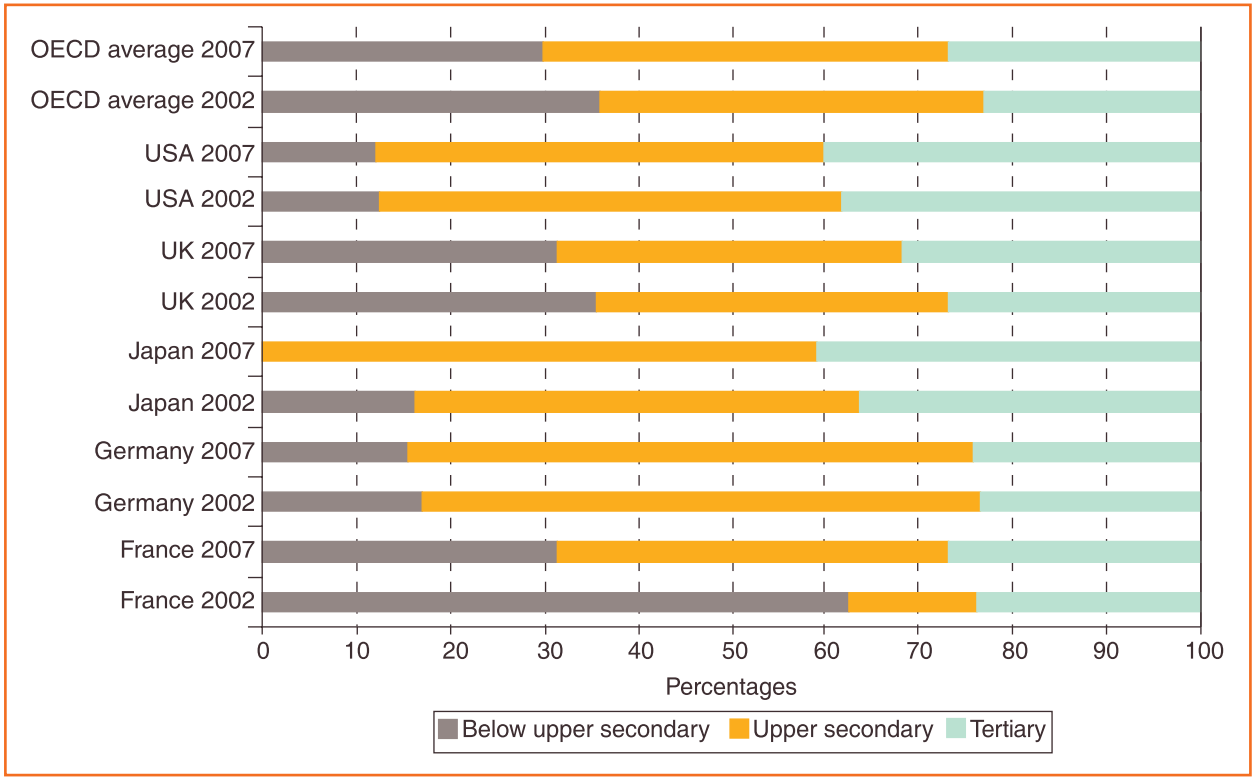
A comparison of qualification profiles highlights how the UK sits in the international ranking in terms of formal qualifications attainment. OECD data enables a comparison of qualification profiles across countries on a reasonably comparable basis. Figures 5.7 and 5.8 show the detailed profiles for 2002 and 2007 (the latest information currently available).[41]

The proportion of adults in the UK with only low formal qualifications (without basic school leaving qualifications) remains high: around double the rate in Canada and Germany. In 2007 over 30% of people of working age in the UK did not hold upper secondary qualifications although a similar proportion did have tertiary qualifications. However, these figures compared to 36% and 27% in 2002, show that the situation has improved rapidly

While France and Ireland had a similar proportion of the adult population with low qualifications, in the USA, Japan and Germany and many other developed economies the proportions were much less in 2007. With regard to the proportion with higher level (tertiary) qualifications, the UK fares rather better but is still well below Canada and the USA.[42] The UK continues to have a higher proportion of adults with high qualifications compared to France and Germany. At this level, the UK compares well against the OECD mean, but lags a few countries considerably.

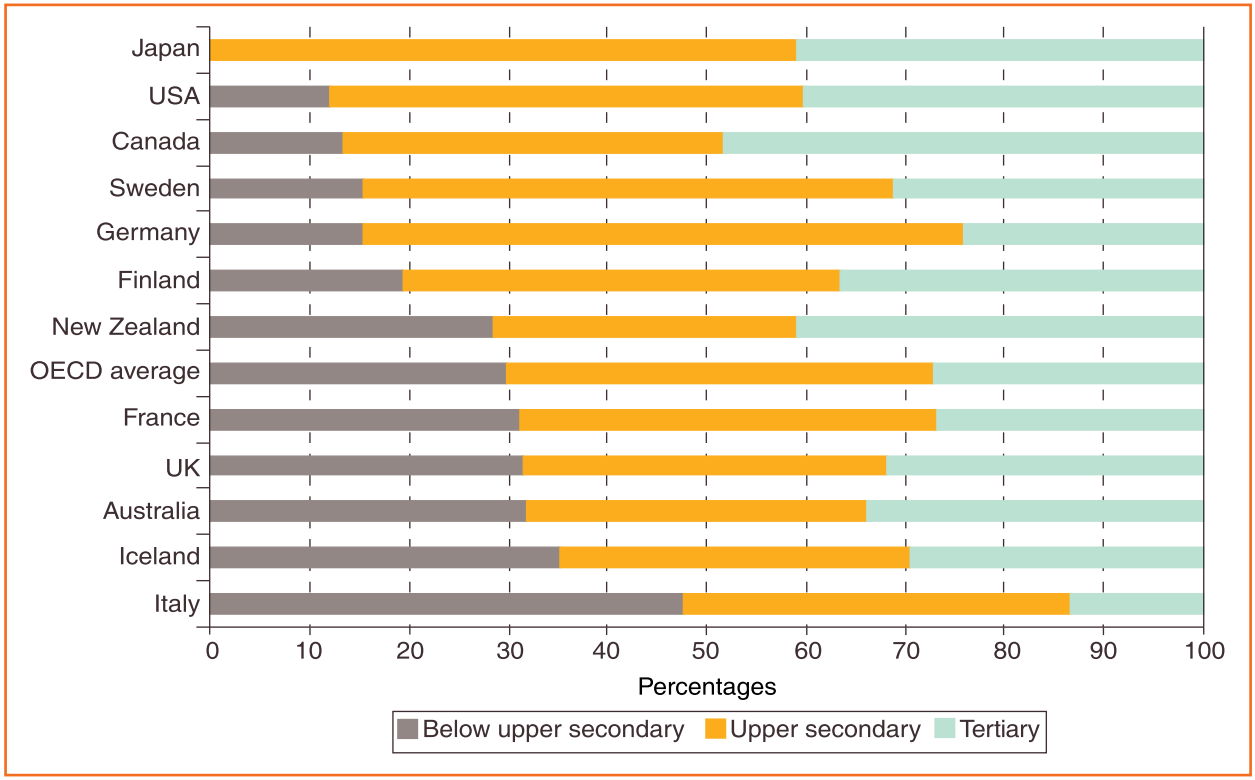
41 *Education at a Glance 2005* (OECD 2005); *Education at a Glance 2009* (OECD 2009).
42 *Education at a Glance 2009* (OECD 2009).

Figure 5.7: Changes in international comparisons of qualification profiles



Source(s): OECD Education at a Glance.
Datalink: https://almanac09.ukces.org.uk/Skills/D1/D1.1_UK_Working_Age_Population_by_Qualification_Level.xls

Figure 5.8: International comparisons of qualification profiles, 2007



Source(s): OECD Education at a Glance, 2009.
Sourcelink: http://dx.doi.org/10.1787/664024334566.
Datalink: https://almanac09.ukces.org.uk/Skills/D1/D1.1_UK_Working_Age_Population_by_Qualification_Level.xls

5.6 Further skills measures

5.6.1 Skills mismatches, imbalances and deficiencies

This section considers the extent to which there are skills gaps and deficiencies in the UK labour market. Deficiencies in the UK's skills profile can be considered on the basis of international comparisons of qualifications profiles. This has already been summarised earlier.

The focus here is on employers' perceptions of skill shortages in the external labour market and internal skill gaps within their current workforce. Box 5.3 sets out the main ways in which these later have been characterised and measured, based on the practice in England.

Separate skills surveys of employers have been undertaken in each of the constituent countries within the UK. The most recent is the 2009 National Employer Skills Survey in England, the results of which are to be be published by the UK Commission in early 2010 and so have not been included in this year's Almanac. Within Scotland and Northern Ireland the last employer skills surveys were undertaken in 2008, and in Wales it was 2005.[43, 44]

Box 5.3: Measurement of skills deficiencies

The main measures used to assess reported skills deficiencies in the National Employer Skills Surveys (NESS) are *skill-shortage vacancies* (SSVs) and *skills gaps*.

SSVs are vacancies that are hard to fill for skills-related reasons, such as a lack of experience or lack of qualifications held by the available pool of labour.

Skills gaps relate to a lack of proficiency in the existing workforce.

The Leitch Review emphasised that such reports of skills deficiencies should not be regarded as indicators of employer demand for skills per se. These measures are products of the way employers recruit and use skills in the workplace, and do not show the full extent of demand for skills.

In addition to perceived skill gaps some employers may also suffer from "latent skill gaps" (Bosworth *et al.* (2004)). Such gaps exist where employers do not realise the skills they need to sustain their businesses in the long term.

Source(s) : Adapted from the Leith Review, Interim Report.

[43] Significant progress has been made over the last few years in the conduct of employer surveys, with increasing co-ordination of surveys within nations and reduction of duplication of effort across agencies in the conduct of surveys. There has also been progress in the harmonisation of questions and method across the nations in the employer skills surveys, although this has not been matched by harmonisation of the surveys as a whole, including timing, making it difficult to provide UK assessments or benchmarking within the UK.

[44] Although we reference the 2008 Northern Ireland Skills Monitoring Survey in this section, the data is not included in the 2009 workbooks as the survey had only just been published prior going to print.

Looking at estimated levels of skill shortages and skill gaps:

- The 2007 National Employer Skills Survey for England (Learning and Skills Council, 2008) indicated that there were around 130,000 skill-shortage vacancies (SSVs) in England as a whole. This represents around 5% of English employers reporting SSVs. Similarly, 5% of Scottish establishments reported SSVs in 2008 (Futureskills Scotland, 2009). The proportion of establishments reporting such SSVs within Northern Ireland in 2008 and Wales in 2005 was lower, representing 3% and 4% of establishments respectively (DELNI, 2009; Futureskills Wales, 2006).

- Skills gaps have also been reported in all four UK countries. Employers in England reported in 2007 that around 1.4 million employees were not fully proficient (some 6% of total employment). Skills gaps as a percentage of employment in Scotland and Northern Ireland were slightly higher: both at 8% in 2008 (Futureskills Scotland, 2009; DELNI, 2009). All of the National Employer Skills Surveys (England) suggest that internal skills gaps are more significant, in terms both of numbers of employers and numbers of individuals affected than external recruitment problems as reflected in SSVs.

Problems with regard to skills mismatch (in the form of skills gaps and SSVs) vary by occupation. There is a distinction to be drawn between the absolute numbers of jobs affected by skills deficiencies and their density: the former may be large but because the occupation may also be large the relative density may be less. Looking at each skill gaps and shortages within England (Figures 5.9 and 5.10) we can see that:

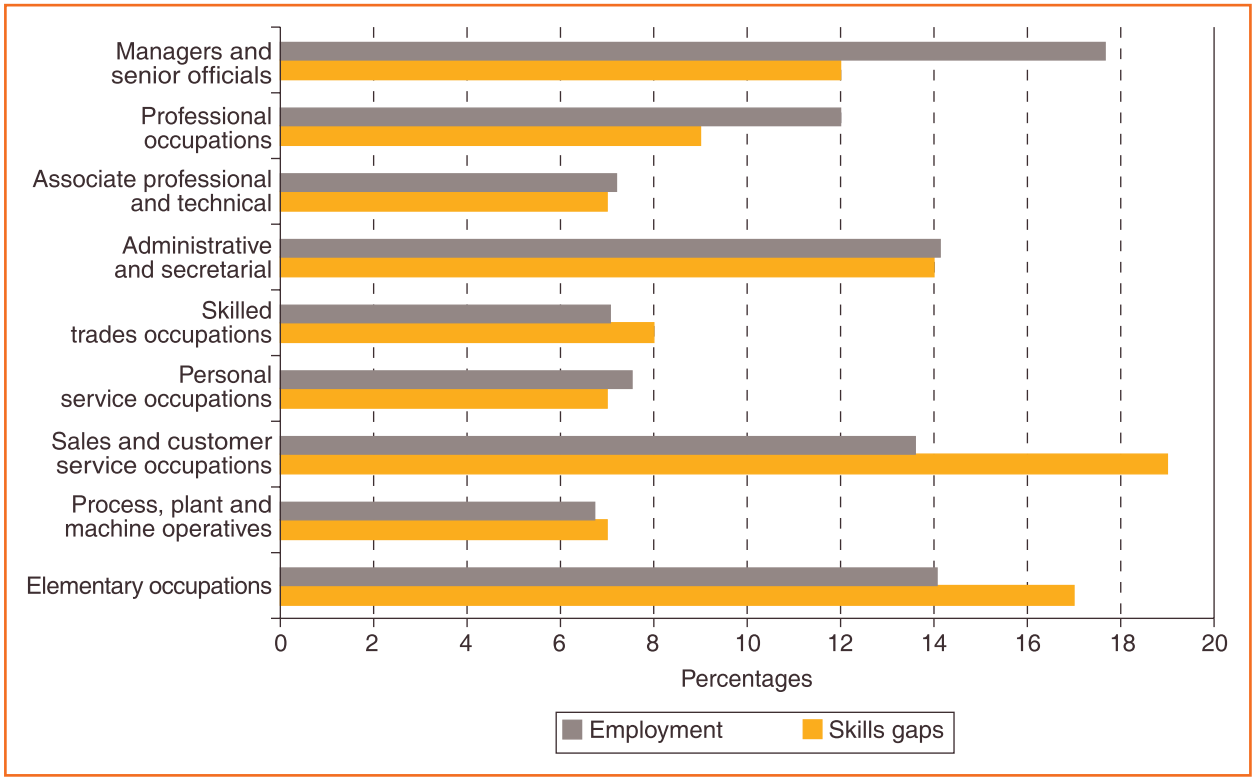
- The highest numbers of SSVs occur for Associate professionals and Skilled trades and Professional occupations, but the highest SSV densities are for Associate professionals and Skilled trades only;

- The highest numbers of skill gaps are for Sales and Elementary occupations, which also have the highest the highest density of skills gaps.

Data from the recently published Northern Ireland Skills monitoring survey (DELNI, 2009) highlight a similar pattern in (skills gaps) for sales and customer service occupations, and elementary occupations.

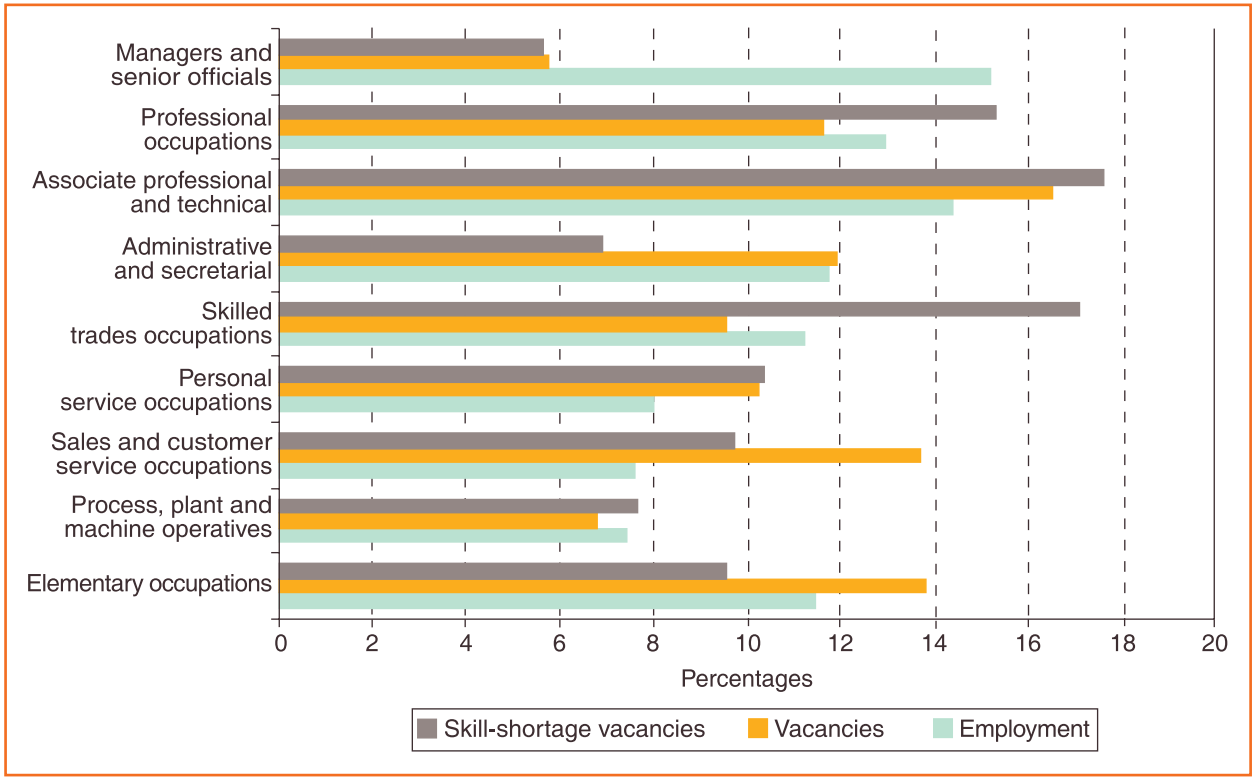
Some of these difficulties persist over time, but in many cases the problems appear to be more ephemeral and transitory. Where problems do persist this often reflects lack of market adjustment (parts of the public sector) or the perception that these are jobs in areas of declining employment, with relatively poor long-term prospects.

Figure 5.9: Shares of skills gaps and employment by occupation, England, 2007



Source(s): NESS 2007; LFS.IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D4/D4.6_Skills_gaps_England_by_SSC.xls

Figure 5.10: Skill-shortage vacancies by occupation, England, 2007



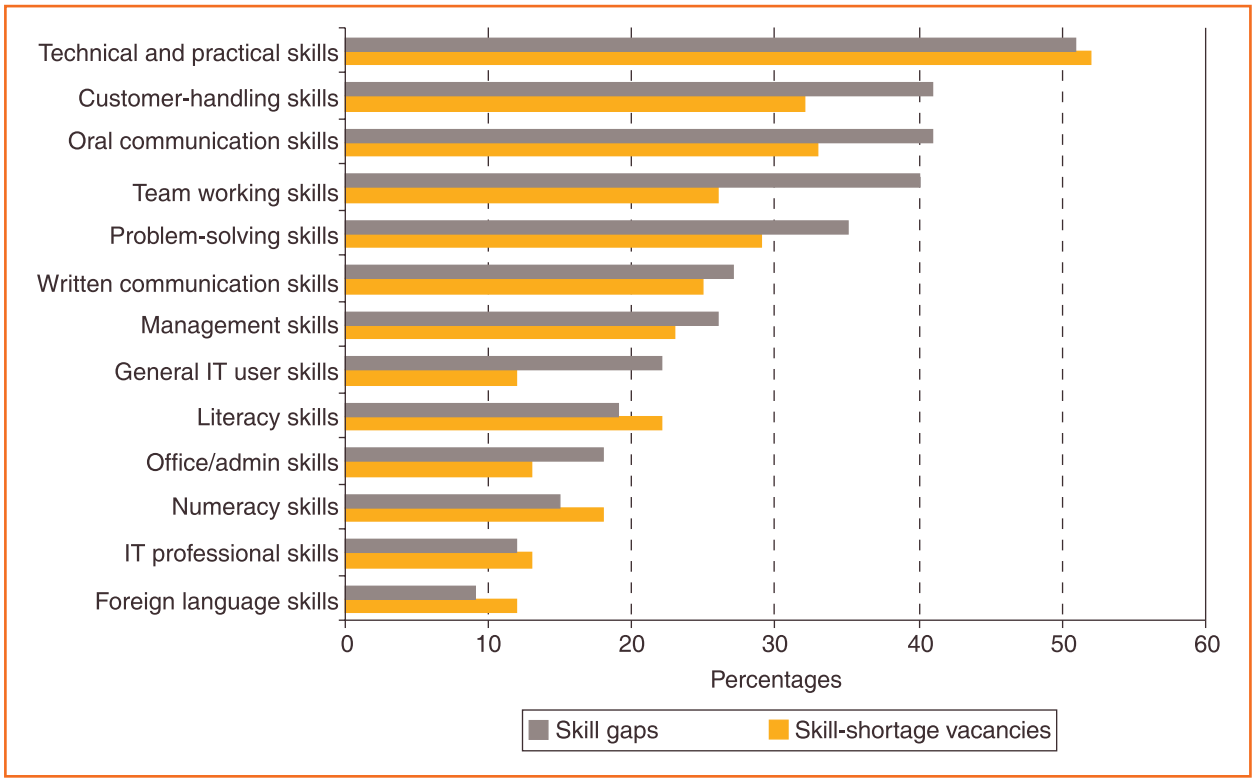
Source(s): NESS 2007; LSF/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D4/D4.2_England_Skills_Shortages_by_SSC.xls

For some occupations such as administrative and secretarial, sales and customer service jobs, there are above-average shares of unfilled vacancies relative to share of employment, but a relatively low level of SSVs. This may indicate problems of retention and high labour turnover rather than shortages of skills.

The employer skills surveys also highlight the generic skills which employers report as lacking in both the existing workforce and in the external market. Figure 5.11 indicates that team-working, customer handling and communication and problem solving are all important, but technical and practical skills remain the most significant category within England. These patterns do, however, vary systematically by sector and by occupation.

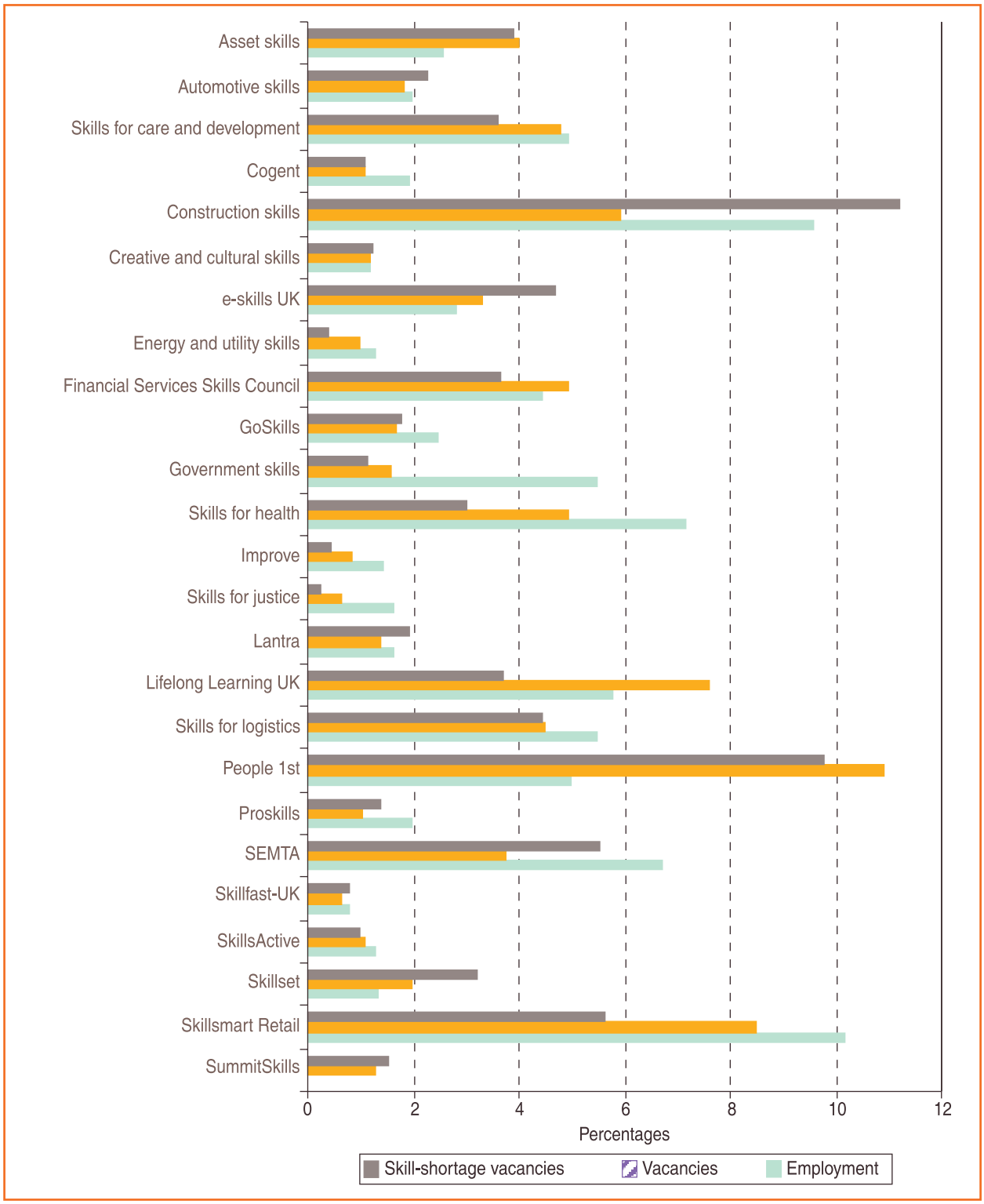
Figure 5.12 shows how these patterns vary across sectors (here measured using footprints for SSCs). Some sectors report a significantly greater share of SSVs than their share of employment (for example, Construction Skills). This is largely driven by their occupational structures. The concentration of problems in sectors such as construction reflects their strong dependence on operative craft and technical occupations.

Figure 5.11: Skills lacking in connection with skills gaps and shortage vacancies, England, 2007



Source(s): NESS 2007.
Datalink: https://almanac09.ukces.org.uk/Skills/D4/D4.1_Skills_Shortages_Vacancies_by_UK_Nation_English_Region.xls

Figure 5.12: Share of employment, vacancies, and SSVs by sector skills council, England, 2007



Source(s): NESS 2007; LFS/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D4/D4.2_England_Skills_Shortages_by_SSC.xls

5.6.2 Training activity

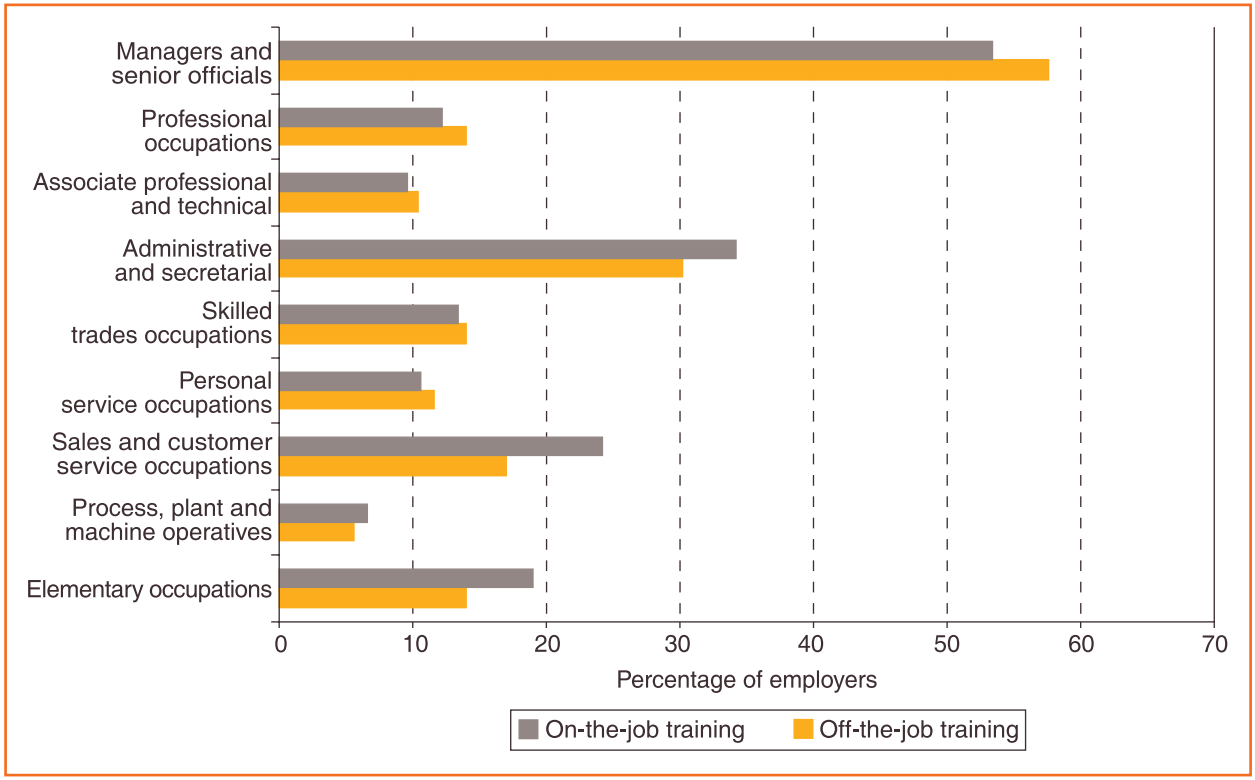
Training activity contributes to the supply of skills, and in this section the discussion focuses on the efforts of employers to train those in the workplace through both on-the-job training and off-the-job training.

Data from the NESS for England show that, overall, two-thirds of employers provided training in the previous 12 months. Training activity increases markedly with size: over nine in 10 employers with over 25 employees had funded training compared to 54 per cent of the smallest establishments (i.e. those with fewer than 5 employees).

Employers are more likely to offer on-the-job training than off-the-job training; in England 2007, 46% of employers funded or arranged off-the-job training compared with 54% for on-the-job training.

Figure 5.13 shows that employers focus much training activity, both on and off-the-job, on managers and senior officials. For a larger proportion of employers, on-the-job training is more common than off-the-job training for occupations such as administrative and secretarial, sales and customer service and elementary occupations; training for managers and professional occupations is more likely to be off-the-job.

Figure 5.13: On-the-job and off-the-job training by occupation, England, 2007



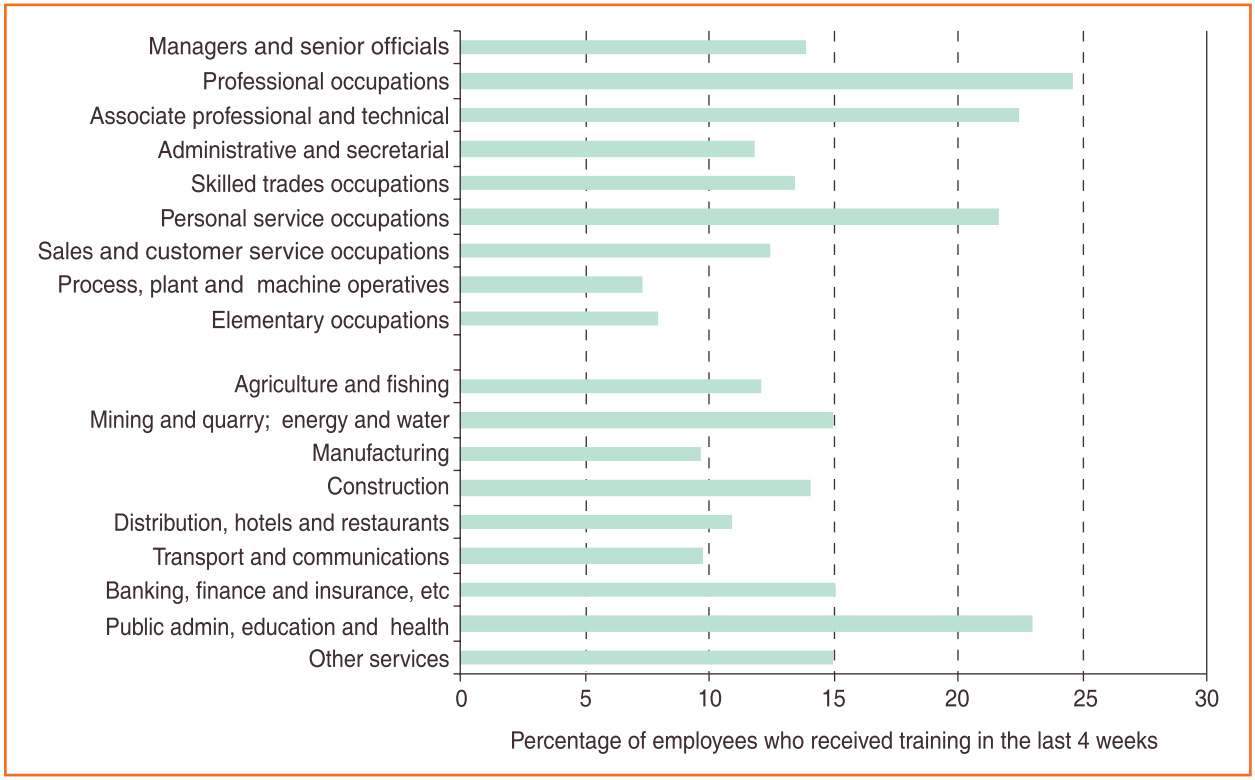
Source(s): NESS 2007.
Datalink: https://almanac09.ukces.org.uk/Skills/D3/D3.6_Employer_Provided_Training_by_UK_Nation_Sector_SSC.xls

LFS data for 2008 show that around 16% of all employees had received training in the last 4 weeks (see Figure 5.14)

Those occupations in which the largest proportions of employees received training were professional, associate professional (25% of employees) and technical occupations (23%), along with personal service occupations (22%).

This occupational pattern is reflected in the training activity of industry sectors, where the largest proportions of employees that received training were in the public sector (23%) and other services (15%), both of which have a relatively large share of personal service occupations. The large share of professional, associate professional and technical occupations also helps to explain why a large proportion of employees received recent training in the public sector (23%) and financial services (15%).

Figure 5.14: Training activity by occupation and sector, UK, 2008

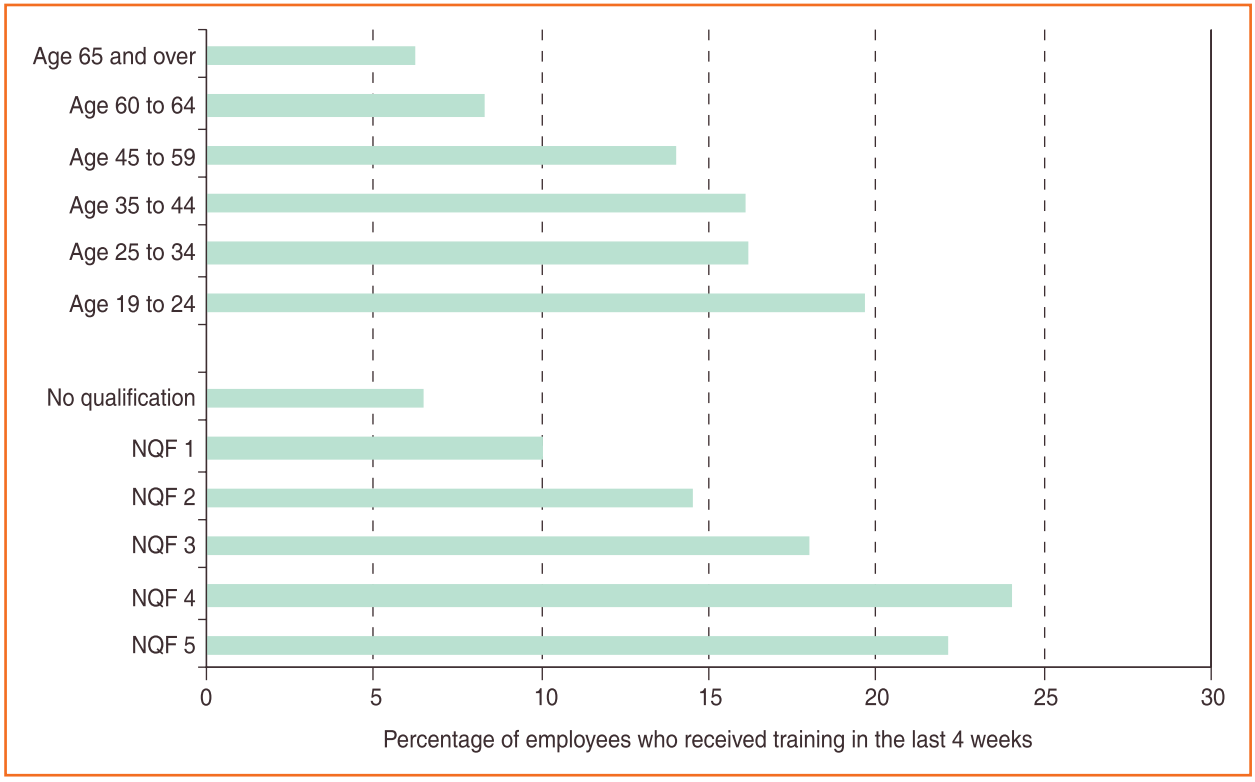


Source(s): LFS/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D3/D3.3_Employees_Receiving_Training_4_13_Weeks_by_Occupation.xls

Those with low qualifications are much less likely to receive training than more highly-qualified employees. Almost one-half of employees with at least a Level 4 qualification had received training from their employer in the last four weeks compared with only 10% of those with a Level 1 qualification and only 6% of those with no qualifications.

Of the 3.9m workers that had received training in the last 4 weeks (in 2008), more than one-half of them were aged 35-59 (Figure 5.15). However, when expressed as a proportion of employees, there is a clear pattern that younger workers are more likely to have received training.

Figure 5.15: Training activity by highest qualification and age, UK, 2008



Source(s): (LFS/IER.
Datalink: https://almanac09.ukces.org.uk/Skills/D3/D3.4_Employees_Receiving_Training_4_13_Weeks_by_Gender_Age_Ethnicity.xls

It is worth noting that only about a fifth of this training activity is designed to lead towards an nationally recognised qualification – so although there clearly are skills needs being addressed by this training activity it may not necessarily lead to a proportionate increase in qualification attainment.

6 Inequality

6 Inequality

Summary of Inequality Chapter

In recognition of the the UK Commission's objective of "a fair and inclusive society", the *Ambition 2020* framework for policy development highlighted "reducing inequality" as a key outcome of interest.

Income inequality in the UK has been increasing over the last 30 years, and the UK has a much more unequal income distribution than most of the other EU countries, and slightly more unequal than the OECD average.

The demographic balance of the UK population is changing rapidly. Net international migration has been high during recent years and the UK has attracted people in the younger economically active age range.

Participation in higher education impacts upon individuals likelihood of being in employment and income earned. Higher education has increased over the past few years, with women displaying a substantially higher participation rate than men.

Economic activity rates on the other hand are higher for men than women, but the differential is narrowing. Participation rates for young people have fallen slightly, while those for older people have increased slightly.

Unemployment rates are higher for men than women and decline with age. Unemployment rates for ethnic minority groups are still at least two times those for the white population.

Similarly employment rates are higher for men than women, and are highest in the peak economically active age range. The percentage of ethnic minorities in employment remains lower than for the white population, but there is slow convergence in employment rates.

Once in work, earnings tend to increase with age, but decline again for older workers. The recent increase in earnings has been slowest for young people. Gender differences are also evident in pay.

6.1 Introduction

In recognition of the the UK Commission's objective of "a fair and inclusive society", the *Ambition 2020* framework for policy development highlighted "reducing inequality" as a key outcome of interest. Equality refers to the level of fairness or disparity in access to opportunities or material circumstances, such as income, health or quality of life, or in future life chances. Success in improving employment and productivity outcomes will also depend to some extent on reducing the inequality of labour market outcomes (e.g. by increasing the labour market participation
of disadvantaged groups). The dimensions of concern may be disadvantaged groups (e.g. ethnicity, disability, age, etc) or disadvantaged local areas. The focus of this chapter is on national level data for disadvantaged sections of the population.

The Equality and Human Rights Commission (EHRC) suggests the need to focus attention on the range and dispersion of a number of key indicators: gender; age; ethnicity; disability; faith/ religion; sexual orientation/transgender; and social class. A number of indicators within the evidence base, e.g. employment and unemployment rates are readily measured on the basis of gender, age and ethnicity (and are used in the definition of social class) but the other sections are difficult to measure and result in gaps in the evidence base. This issue will be discussed further in the forthcoming *Depth Limits and Data Gaps* working paper, which will be published on *Almanac Online* (https://almanac09.ukces.org.uk).

6.2 International evidence on inequality

Income inequality may be regarded as indicative of a society with less potential for social mobility and a more unequal distribution of educational opportunities. The comparative international position of the UK in terms of income distribution (after taxes and transfers) is summarised in Table 6.1 below using Gini coefficients.[45]

- Income inequality tends to be lower in countries with redistributive tax systems and higher where the labour market is more polarised. Countries where the free market is least restrained tend to have the highest inequality.

- International income inequality, including the redistributive impact of taxes and benefits, over the last 30 years is summarised in the table. The Scandinavian countries stand out as having the most equal income distribution (indicated by the lowest Gini coefficients) throughout this period. In contrast, Turkey and Mexico display the highest levels of income inequality.

[45] Gini coefficients are a summary measure of inequality in the distribution of income. The lower the value, the more equally income is distributed.

Table 6.1: International income inequality

Income distribution: Gini coefficient for income (after taxes and transfers) in the working age population

Country	Mid-70s	Mid-80s	Around 1990	Mid-90s	Around 2000	Mid-2000s	Mid-2000s ranking
Australia	..	..	..	0.30	0.29	0.31	7
Austria	..	0.23	..	0.23	0.25	0.27	4
Belgium	..	..	..	0.28	0.28	0.27	4
Canada	0.28	0.29	..	0.29	0.31	0.32	21
Czech Republic	..	..	0.23	0.25	0.26	0.27	4
Denmark	..	0.21	0.21	0.21	0.22	0.23	1
Finland	0.23	0.20	..	0.23	0.26	0.27	4
France	..	0.31	0.30	0.28	0.29	0.28	11
Germany	..	0.25	0.25	0.27	0.27	0.30	14
Greece	0.41	0.33	..	0.32	0.34	0.31	18
Hungary	..	..	0.27	0.30	0.30	0.30	14
Iceland	..	..	..	..	..	0.29	13
Ireland	..	0.34	..	0.32	0.29	0.32	21
Italy	..	0.31	0.29	0.35	0.34	0.35	25
Japan	..	0.30	..	0.32	0.33	0.31	18
Korea	..	..	..	..	..	0.30	14
Luxembourg	..	0.24	..	0.26	0.26	0.26	3
Mexico	..	0.45	..	0.52	0.50	0.47	30
Netherlands	0.25	0.26	0.28	0.28	0.28	0.27	4
New Zealand	..	0.26	0.31	0.33	0.33	0.33	23
Norway	..	0.22	..	0.25	0.26	0.28	12
Poland	..	..	..	..	0.32	0.38	27
Portugal	..	..	0.32	0.34	0.35	0.38	27

Table 6.1 (continued): International income inequality

Income distribution: Gini coefficient for income (after taxes and transfers) in the working age population

Country	Mid-70s	Mid-80s	Around 1990	Mid-90s	Around 2000	Mid-2000s	Mid-2000s ranking
Slovak Republic	..	..	..	..	..	0.27	4
Spain	..	0.30	0.27	0.28	0.27	0.31	18
Sweden	0.20	0.20	0.20	0.22	0.24	0.24	2
Switzerland	..	..	..	..	0.28	0.27	4
Turkey	..	0.43	..	0.51	..	0.42	29
United Kingdom	0.28	0.32	0.36	0.35	0.37	0.34	24
United States	0.30	0.33	0.34	0.35	0.35	0.37	26
OECD Total	..	..	..	..	..	0.31	n/a

Source(s): OECD.
Sourcelink: http://stats.oecd.org/Index.aspx?DataSetCode=INEQUALITY
Datalink: https://almanac09.ukces.org.uk/inequality/E1/E1.1_International_Income_Distribution.xls

- Income inequality in the UK was lowest in the mid-1970s and increased from the 1980s to a maximum at around the year 2000, before reducing slightly by the mid-2000s. By the mid-2000s the UK was the 24 least equal (or 7th most unequal) of the OECD countries. A similar pattern is displayed by countries like New Zealand who also adopted neo-liberal (radical free market) economic policies over this period.

- The UK's level of income inequality is higher than that of most other EU countries, Japan and the OECD average, but slightly lower than that of the USA.

6.3 Inequality within the UK

This chapter examines trends over time in patterns of inequality in the labour market, focusing in particular on three dimensions of interest: gender, age and ethnic group. These encompass groups of people who have historically been marginalised in UK society as a whole and in the labour market. UK and EU legislation has been introduced to combat discrimination on these dimensions.

6.3.1 Population trends

The demographic balance of the UK population is changing rapidly. The population of the UK has now reached 61 million (Table 6.2), with the recent population increase driven by high rates of net international immigration and high birth rates. In addition, the ethnic balance of the population has changed very greatly in recent years, with substantial growth of the ethnic minority population (of which international migration and high fertility of migrants are the main drivers).

- The UK population is ageing (see Table 6.2). The percentage of the population aged under 24 has declined. The percentage aged 65 and over has increased slightly since the early 1980s. The largest component of population ageing has been of people aged 35 to 44 and those aged 45 to 59. The percentage aged 35 to 59 increased from 29% in 1981 to 34% in 2007.

- While the number of 25 to 34 year olds declined between 2001 and 2007, the most rapid population increases were for 16 to 24 year olds and 60 to 64 year olds.

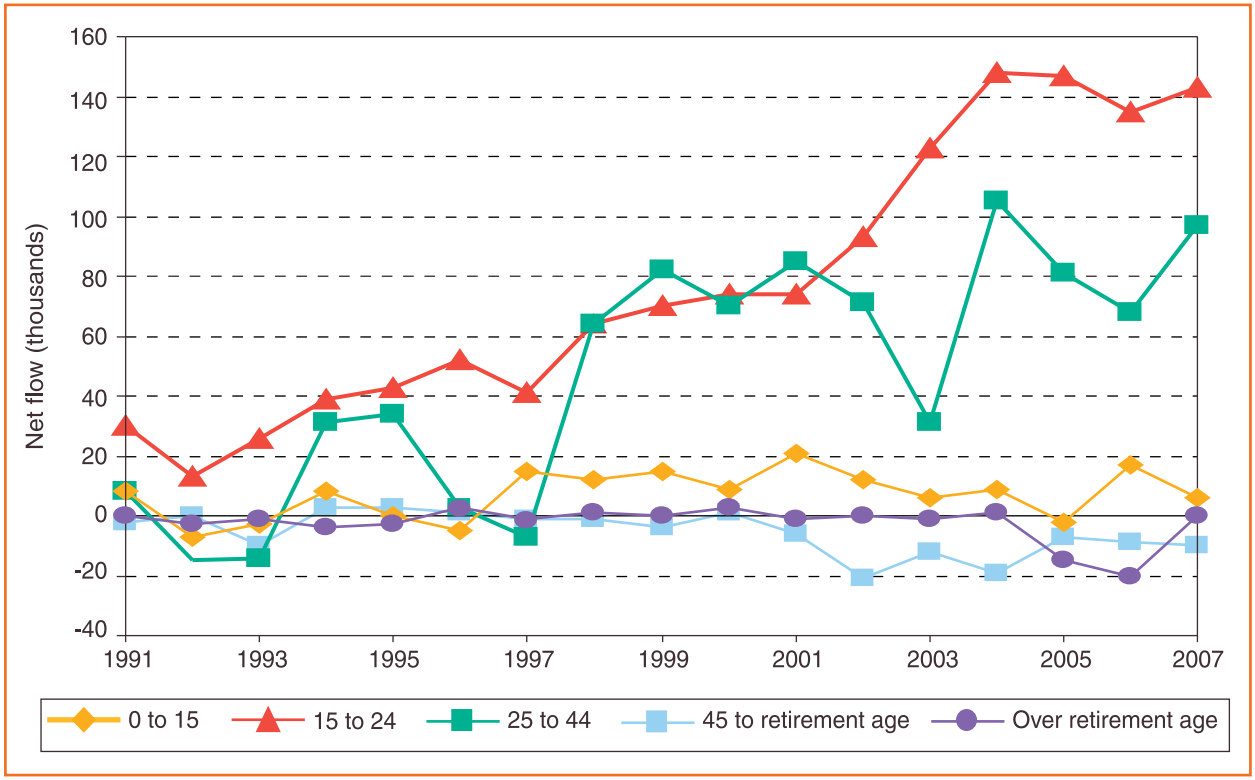
- Net migration to the UK has increased year-on-year since 1991 (Figure 6.1). The great bulk of the net increase in the population due to migration consists of people aged 15 to 24 or 25 to 44; representing migrants for education and employment. The UK is losing people aged over 45 through international migration.

Table 6.2: Population trends in the UK, 1981-2007

Population sub-group	Population (000s)			Share of population (%)			% change 2001-7
	1981	2001	2007	1981	2001	2007	
All	56,357	59,114	60,975	100	100	100	3.1
Male	27,412	28,832	29,916	48.6	48.8	49.1	3.8
Female	28,946	30,281	31,059	51.4	51.2	50.9	2.6
All	56,357	59,113	60,975	100	100	100	3.1
0 to 15	12,352	11,863	11,509	21.9	20.1	18.9	-3.0
16 to 24	8,271	6,504	7,368	14.7	11.0	12.1	13.3
25 to 34	8,010	8,475	7,859	14.2	14.3	12.9	-7.3
35 to 44	6,774	8,846	9,248	12.0	15.0	15.2	4.5
45 to 59	9,540	11,168	11,728	16.9	18.9	19.2	5.0
60 to 64	2,935	2,884	3,483	5.2	4.9	5.7	20.8
65 and over	8,476	9,373	9,779	15.0	15.9	16.0	4.3
Aged 16-64	35,530	37,878	39,687	63	64.1	65.1	4.8

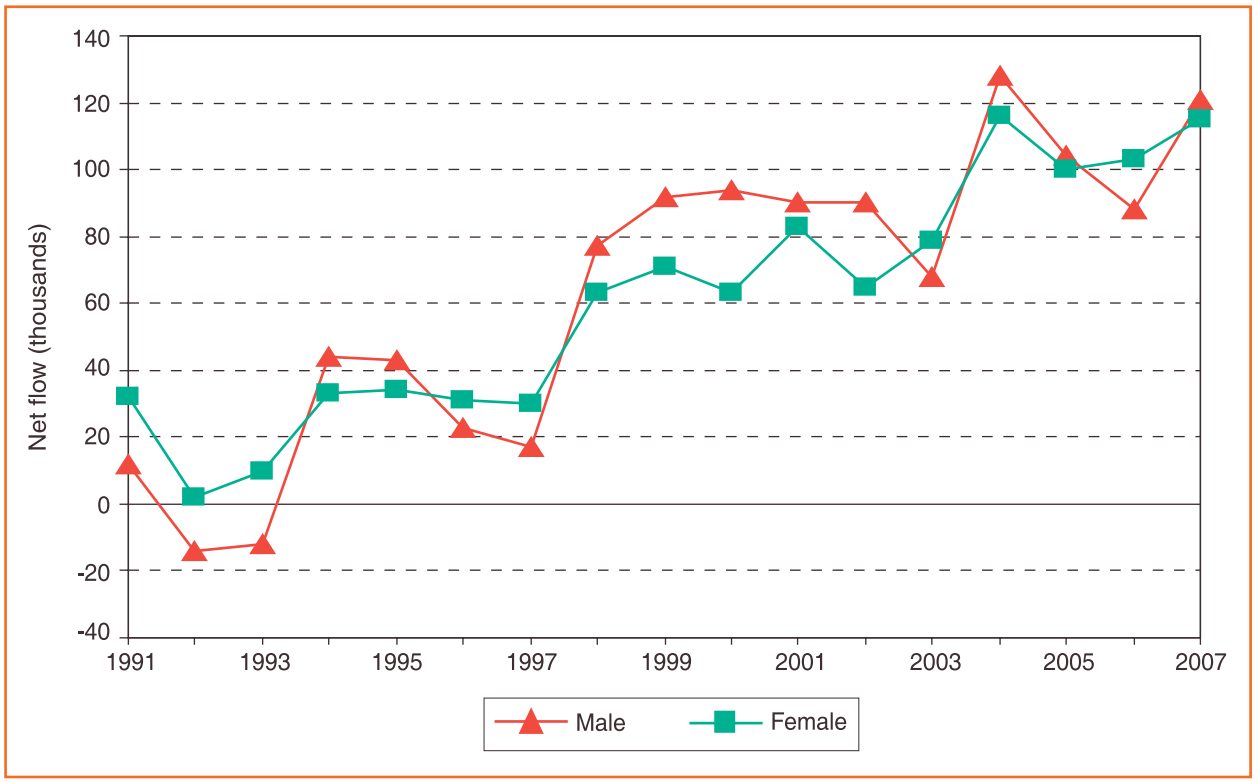
Source(s): ONS.
Sourcelink: http://www.gro-scotland.gov.uk/statistics/publications-and-data/population-estimates/index.html; http://www.nisra.gov.uk/demography/default.asp3.htm
Datalink: https://almanac09.ukces.org.uk/context/A5/A5.4_UK_Population_by_Age_and_Gender.xls

Figure 6.1: Trends in international migration to the UK by age, 1991-2007



Source(s): ONS.
Sourcelink: http://www.statistics.gov.uk/statbase/Product.asp?vlnk=507
Datalink: https://almanac09.ukces.org.uk/context/A5/A5.5_UK_Migration_Inflow_and_Outflow.xls

Figure 6.2: Trends in international migration to the UK by gender, 1991-2007



Source(s): ONS.
Sourcelink: http://www.statistics.gov.uk/statbase/Product.asp?vlnk=507
Datalink: https://almanac09.ukces.org.uk/context/A5/A5.5_UK_Migration_Inflow_and_Outflow.xls

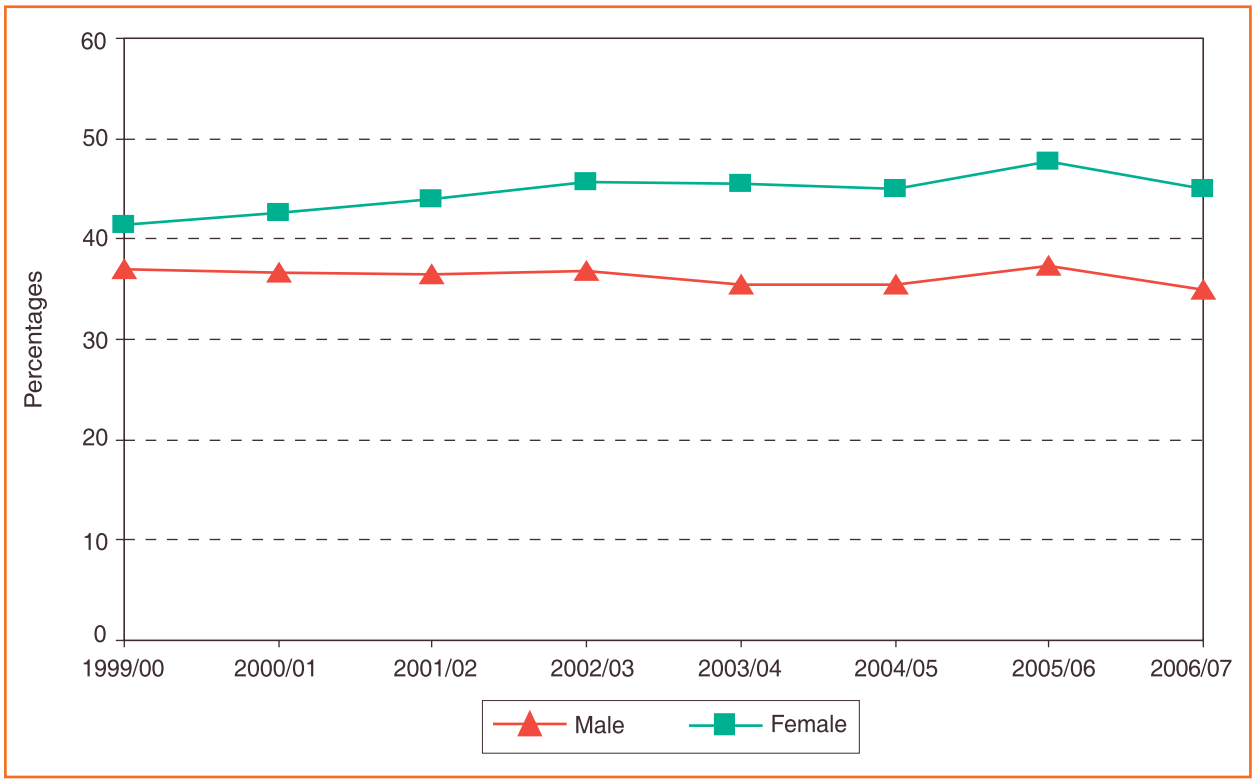
6.3.2 Educational participation

In the Comprehensive Spending Review (CSR) 2007, the UK government adopted a target to "increase participation in Higher Education towards 50% of those aged 18 to 30 with growth of at least a percentage point every two years to the academic year 2010-11". This forms part of the Public Service Agreement to "improve the skills of the population, on the way to ensuring a world-class skills base by 2020."

- The Higher Education Initial Participation Rate or HEIPR (Figure 6.3) summarises the percentage of people aged 17 to 30 who commence higher education. This rate is above 40% for females and below 40% for males. It increased for females from 1999/00 to 2005/06, approaching 50%. However, the corresponding rate for males has hardly increased during this period.

- Before the current recession, HEIPR was declining, but it is likely that the reduced probability of finding work has induced a higher percentage of young people to apply to higher education.

Figure 6.3: Participation in higher education (% population aged 17-30)



Source(s): DSCF.
Datalink: https://almanac09.ukces.org.uk/inequality/E2/E2.3_Higher_Ed_Participation_by_Gender.xls

6.3.3 Economic activity rates

Table 6.3 shows activity rates by gender, age group and ethnic group.

- The percentage of men economically active is highest in the 25-34 and 35-49 year old age groups. Only around three-quarters of men in the pre-retirement age group are economically active.
- Men aged 16-24 are much less likely to be economically active. The percentage in the labour force is declining over time, with just over two-thirds economically active in 2008.
- The percentage of men aged above retirement age who are economically active is very low, but is increasing over time.
- The percentage of women economically active is much smaller than the corresponding figure for men, in each age group. However, the pattern of economic activity by age is very similar.

- Women aged over 50 are becoming increasingly likely to be economically active, as younger cohorts of women who have been more active throughout their lifetime enter older age groups.

- The White ethnic group has the highest activity rate. Much of the difference in activity rates between ethnic groups reflects important gender differences. The gap between the activity rates of White and Asian men is only around 4 percentage points, while the gap between White and Asian women is around 25 percentage points.

Table 6.3: Activity rates by gender, age and ethnicity

	Economic activity rate %			
	2005	2006	2007	2008
Males				
16-24	70.6	70.3	69.5	68.9
25-34	91.8	92.4	92.5	92.4
35-49	91.6	91.9	91.7	91.9
50-retirement	74.6	74.9	75.0	75.3
Over retirement	8.8	9.6	10.0	10.4
White	84.0	83.9	83.8	83.7
Asian	77.5	79.5	77.9	80.2
Black	76.9	80.0	78.8	78.7
Mixed/Other	73.6	75.8	74.7	75.1
Females				
16-24	63.9	63.7	63.5	63.0
25-34	75.2	75.2	75.6	76.5
35-49	78.2	78.5	78.5	78.9
50-retirement	69.5	70.3	71.2	72.2
Over retirement	10.4	11.4	12.1	12.4
White	74.9	75.2	75.3	76.0
Asian	47.8	48.9	50.3	49.6
Black	66.0	66.8	68.2	66.4
Mixed/Other	58.7	58.3	60.2	60.4

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.1_Activity_Rate_by_Nation_Region_Age_Gender_and_Ethnicity.xls

6.3.4 Employment rates

Table 6.4 shows activity rates by gender, age group and ethnic group. Overall, employment for disadvantaged groups is increasing (mirroring change in the population for ethnic minorities). There is evidence of convergence over time in employment rates. Male employment rates have recently started to decline, while those for females have increased strongly.

Table 6.4: Employment rates by gender, age and ethnicity

	Employment rate %			
	2005	2006	2007	2008
Males				
16-24	60.0	59.2	58.9	57.2
25-34	87.3	87.7	88.1	87.3
35-49	88.6	88.4	88.7	88.5
50-retirement	72.2	72.2	72.4	72.5
Over retirement	8.6	9.4	9.7	10.2
White	79.9	79.4	79.6	78.9
Asian	70.2	71.4	71.2	72.8
Black	64.7	67.6	67.6	66.3
Mixed/Other	65.8	67.3	67.8	67.4
Females				
16-24	56.9	56.2	55.9	55.0
25-34	72.0	71.5	72.1	72.5
35-49	76.0	75.8	75.6	75.9
50-retirement	67.9	68.6	69.3	70.2
Over retirement	10.3	11.2	11.8	12.2
White	71.8	71.9	71.9	72.3
Asian	43.4	43.3	44.2	43.9
Black	58.6	59.4	60.5	58.0
Mixed/Other	53.9	51.9	53.6	54.3

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.3_Employment_Rate_by_Country_Nation_Region_Gender_and_Ethnicity.xls

The UK government adopted a PSA target in 2002 to reduce the gap between white and ethnic minority employment rates (then 15%), and there is evidence that the gap has declined slightly since then.

- The percentage of people of working age in employment is higher for men than women.
- Employment rates are highest for white men, but have been declining in recent years. Employment rates for men from ethnic minority groups are converging with those for white men.
- Employment rates for Asian men are higher than those for men of Black and mixed/ other origin.
- Employment rates for men are highest in the 25-34 and 35-49 year old age group and lowest for 16-24 year olds.
- For women, employment rates are lowest for 16-24 year olds, and highest for 35-49 year olds (slightly higher than for 25-34 year olds). Employment rates for women in the pre-retirement age group are slightly lower, but increased more than any other age group between 2005 and 2008.
- White women have the highest employment rates, followed by Black women, then Mixed/ Other women, then Asian women. Employment rates increased only marginally for most ethnic groups between 2005 and 2008.

6.3.5 Unemployment rates

Table 6.5 shows unemployment rates by gender, age group and ethnic group. There are marked differences in unemployment rates across the three dimensions of inequality. Unemployment rates have fallen to a level not seen since the early 1970s in recent years, but male unemployment rates remain slightly higher than those for females, while young and older people experience higher unemployment rates. The average unemployment rate for ethnic minorities is well over twice that for white people, but there are large differences between the relatively low rates experienced by Chinese and Indian people and the extremely high rates experienced by Black, Bangladeshi and Pakistani people.

- For men of working age, unemployment rates decline with increasing age. Unemployment rates for 16-24 year olds are 4-5 times higher than those for the pre-retirement age group.

- Unemployment rates are lower for women than men across the age range, but the pattern of unemployment rates by age is similar to that for men. However, the differential between the unemployment rates experienced by the youngest and oldest age groups is even wider.

- For both men and women, unemployment rates increased between 2005 and 2008. Unemployment rates increased more for Asian and Black women than for other groups. Higher unemployment rates have been experienced by all age groups, but youth unemployment rates have increased most.

- Unemployment rates for ethnic minorities are far higher than those for white people. Amongst men, the Black ethnic groups experience the highest rates, about three times the white rate. Asian and Mixed/Other men have similar unemployment rates. For women, differentials between ethnic minority groups are smaller, but the unemployment rate is also around three times that for white women.

Table 6.5: Unemployment rates by gender, age and ethnicity

	Unemployment rate %			
	2005	2006	2007	2008
Males				
16-24	14.9	15.8	15.2	17.0
25-34	4.9	5.1	4.7	5.5
35-49	3.2	3.8	3.2	3.7
50-retirement	3.3	3.6	3.5	3.8
White	4.8	5.2	4.9	5.6
Asian	9.4	10.2	8.5	9.1
Black	15.9	15.5	14.1	15.7
Mixed/Other	10.6	11.2	9.3	10.2
Females				
16-24	10.9	11.8	12.0	12.7
25-34	4.3	4.9	4.7	5.2
35-49	2.9	3.5	3.6	3.8
50-retirement	2.3	2.5	2.6	2.7
White	3.9	4.3	4.3	4.6
Asian	8.9	11.4	12.1	11.4
Black	10.9	11.0	11.1	12.6
Mixed/Other	8.1	10.8	10.8	9.9

Source(s): Annual Population Survey (APS).
Sourcelink: https://www.nomisweb.co.uk/
Datalink: https://almanac09.ukces.org.uk/employment/C1/C1.4_Unemployment_Rate_by_Country_Nation_Region_Gender_Ethnicity.xls

6.3.6 Earnings

The pattern of earnings demonstrates some of the same patterns of disadvantage, but is more complex (especially if ethnic group is disaggregated by gender). Younger people tend to have lower earnings, while male earnings are higher than female earnings.

- Mean earnings have increased steadily over the period 2005-8 in the UK. Male earnings have remained about a third higher than those of females, and this differential has widened. The highest earners receive about seven times as much as the lowest paid.

- Earnings are highest for people aged 40-49, followed by people aged 30-39. Mean earnings decline with increasing age after 49. The lowest earnings are experienced by 16-17 year olds.

- The differential between the earnings of the best and poorest paid age groups widened between 2005 and 2008.

Table 6.6: Earnings by gender and age

	Mean weekly wage rate (£)			
	2005	2006	2007	2008
Total	422.8	440.0	453.3	471.9
Ratio of top decile to bottom decile (%)	7.3	7.2	7.0	7.6
Male	524.9	545.0	558.6	580.7
Female	319.5	333.2	343.9	359.3
16-17	97.2	96.9	94.8	98.5
18-21	191.0	194.4	206.6	207.5
22-29	362.2	369.4	381.8	396.2
30-39	472.7	491.7	506.9	525.9
40-49	486.0	508.8	522.6	546.1
50-59	449.7	468.9	480.8	507.3
60+	323.1	351.2	359.6	377.7

Source(s): ONS, ASHE.
Sourcelink: http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=13101
Datalink: https://almanac09.ukces.org.uk/inequality/E1/E1.2_Ave_Weekly_Pay_by_Age_and_Gender.xls

Spotlight Feature: The labour market impacts of the recession

In the third and fourth quarters of 2008 GDP in the UK contracted and the UK entered recession for the first time since 1991, ending a prolonged period of economic growth.

Attention soon turned to what the differential impact of the 2008-09 recession would be on different areas and population sub-groups. In particular, would recession have a disproportionate impact on those who were already disadvantaged? Would this exacerbate existing patterns of sub-group and spatial inequality within the UK? How similar or different would the pattern of recession be compared with previous recessions? Would the global nature of the 2008-09 recession, the fact that it originated in financial markets, together with the response of unprecedented monetary and fiscal support, make past experience irrelevant as a guide to the present?

The human costs of recession are reflected in labour market indicators such as job losses and increasing unemployment, which typically lag behind contractions in output. These reflect the options of reducing recruitment, working hours and employee earnings, and making people redundant, that are available to businesses looking to reduce input costs.

Initially it was expected that the main impact of the recession would be felt in London and neighbouring parts of south-eastern England, reflecting the concentration of financial and business services employment in these areas. Such a pattern would be akin to the recession of the early 1990s when unemployment increases were highest in the South. This was in contrast to the geography of the recession of the early 1980s, which had a particular impact on areas of manufacturing concentration in the Midlands, Wales and the North.

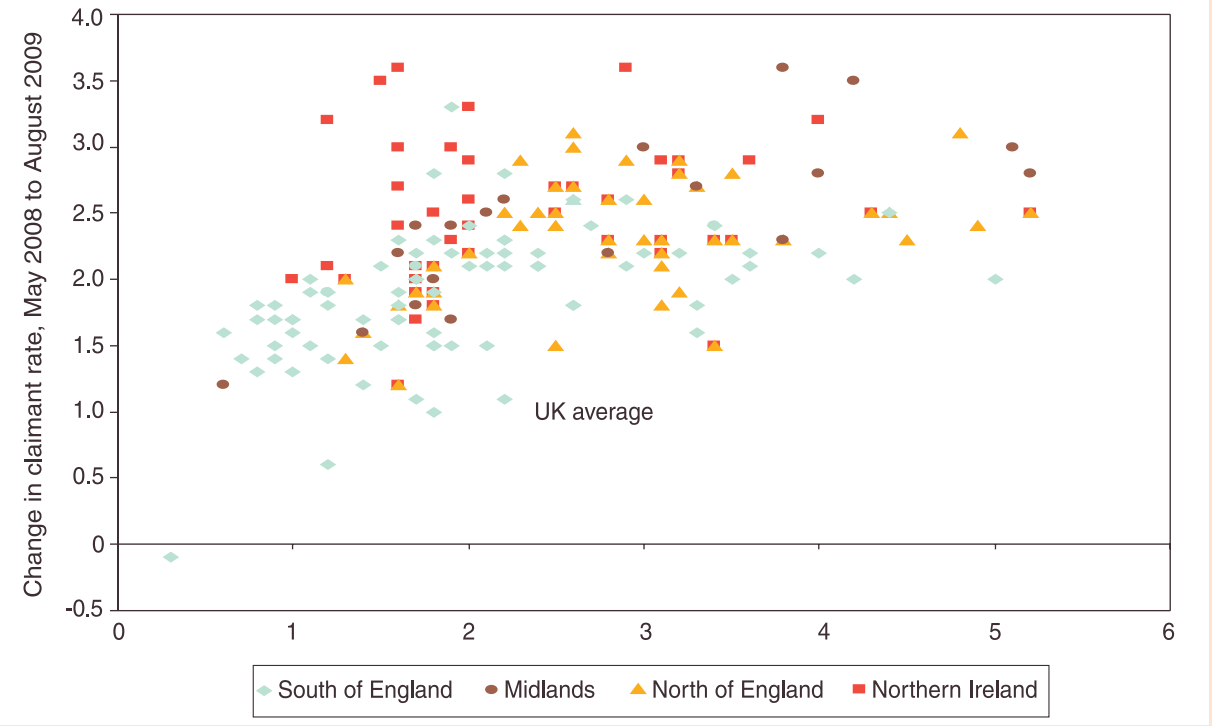
Although the sectoral composition of sub-national economies provides some guide to the differential geographical impact of recession, they do not explain it fully. Local variations in circumstances and need have led to calls for greater devolution to sub-regions and greater flexibility to choose how to respond.

Contrary to initial expectations, it is not the South that has witnessed the largest increases in unemployment in the current recession. Figure S6.1 below shows that on the whole, the Midlands, the north of England, and Northern Ireland have seen larger increases. It also shows that areas that already had somewhat higher unemployment in May 2008 have seen the largest increase (i.e. there is a general tendency for an upward drift).

Of course there are some local variations within this general picture – as exemplified by the marked increase in unemployment in Swindon in the South. Job losses in financial services have not been as large as initially feared, while the impact of cuts in discretionary spending by businesses and households have fallen most heavily on manufacturing (especially investment goods). Construction has been hit hard for the same reason, but these effects are widespread across the UK. Because of their greater specialisation in services, cities seem to have been somewhat less affected to date.

The recession has had a greater impact on some sub-groups than on others. As in previous recessions, young people have suffered particularly marked increases in unemployment rates and falls in employment rates. This raises concerns about the longer-term adverse 'scarring' effect of unemployment at the start of working lives. Lessons from longitudinal analyses covering individuals' experiences in the 1980s recession and subsequent work histories suggest that this is a legitimate worry.

Figure S6.1: Increase in unemployment claimant rate by local authority, 2008-2009



Source(s): ONS, NOMIS.
Datalink: https://almanac09.ukces.org.uk

Initiatives such as the Future Jobs Fund are designed to support the creation of jobs for long-term unemployed young people (and others facing disadvantage in the labour market). There is some evidence that redundancy rates have been higher amongst young people with no qualifications than amongst graduates, although graduates entering the labour market have also met difficulties in the current recession as businesses have curtailed recruitment.

Early claims in 2008 of a 'middle class recession' have not proved wholly accurate. Certainly some individuals with high level qualifications and unbroken work histories have lost their jobs, but as in previous recessions those with poor skills have suffered most. This reflects the fact that employers might try harder for longer to retain skilled workers in whom they have invested and also that those with higher level skills are able to 'bump down' in the labour market to fill jobs at lower skill levels. This helps explain why those with the lowest qualifications and poor skills are the most likely 'losers' in any recession.

To date, men have experienced higher job losses than women in the current recession, which is consistent with the higher representation of men in manufacturing and construction jobs. Overall, people from ethnic minority groups have been more insulated to date from the impact of recession than white people, partly as a consequence of variations in their sectoral and occupational profiles and geographical concentrations.

However, the pattern of impacts may change as recession evolves; for example, real cuts in public spending which have yet to come may have a disproportionate effect on ethnic minority groups and women because of their particular concentrations in public services. A more detailed analysis of the impact on ethnic groups is complex and beyond the scope of this feature.

Recession is likely to result in declines in employment rates for disabled and non-disabled people. It is also the case that recessions tend to be associated with a rise in work-related disabilities, notably psychological problems.

Overall, concerns about the potential for recession to exacerbate existing inequalities appear well founded. Experience from previous recessions suggests a tendency for "rock-pools" of lingering worklessness to remain, as some areas fail to recover pre-recession worklessness levels prior to the onset of subsequent recessions. What is clear also is that possession of qualifications and skills helps protect individuals from the most adverse impact of recession.

Further reading

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Appendices

Appendix 1: Notes on the data coverage

Employer Skills Surveys

The data presented in this *UK Employment and Skills Almanac* and *Almanac Online* (https://almanac09.ukces.org.uk) workbooks from the Northern Ireland Skills Monitoring Survey (NISMS) have been reprocessed to match the new[46] definitions of SSC footprints. Therefore these data differ from those presented in NISMS 2005 and the results will also be different from those shown in previously published reports. The definitions used for this report for the NISMS are given in Appendix 2; the original NISMS definitions are given in Appendix 3.

Similarly, statistics for England by SSC from National Employers Skills Survey 2007 (NESS07) are also based on the new SSC definitions (see Appendix 2). For the 'old' SSC definitions as used in the original NESS07 report please see Appendix 3.

Data for Wales from the Welsh Employers' Skills Survey is presented in Future Skills Wales (FSW) 2005. Although the sample for the survey was drawn by an older SSC footprint, insufficient details are available to reprocess the data to match the newer SSC definitions (in Appendix 2). For the SSC definitions used in FSW, please see Appendix 3.

Note on Labour Force Survey data

Some of the data for SSCs presented in the *Almanac Online* (https://almanac09.ukces.org.uk) workbooks and this report were derived from the ONS' Labour Force Survey. This involved aggregating detailed SIC data into the corresponding SSC definitions (see Appendix 2).

There are a few reasons why SSC data we have generated from the LFS (and presented in the Almanac and its associated workbooks) may be different from the data released in other publications that also use LFS data.

One reason for these differences is the existence of different versions of LFS data, while another is due to differences in the methodologies used in processing of the LFS data.

[46] April 2009.

LFS is weighted using population estimates and therefore the versions of LFS based on different population estimates will give different estimates of employment data. Methodologically, employment variables generated by considering population as a whole will be different from the ones generated by merely considering a subset of the population, e.g. the working-age population or those who are 16+. Furthermore, whether or not the annual data is generated by taking the average across four quarters or by taking the results from one quarter can give different employment estimates. Moreover, different options for dealing with 'no answer', 'does not apply', and missing variables in the surveys will inevitably result in different results.

For LFS-based data presented in this report and *Almanac Online* (https://almanac09.ukces.org.uk) workbooks, quarterly micro-LFS data from the UK data Archive based on the 2007 population estimates have been used. For the employment variables, population in all age groups are used whereas for skills/qualifications variables only working-age (19-59/64) population has been considered. For example, headline LFS indicators published in the ONS labour market statistics are either based on working-age population or people who are 16+, which implies that these indicators are inevitably smaller than their counterparts in the Almanac.

As for the quarterly data that have been used, the employment variables have been generated by taking the average across four quarters and the skills/qualifications variables only consider the fourth calendar quarter of the year. The different treatment of the skills/qualifications data is intended to reduce the inconsistencies between the Almanac and *Ambition 2020* data.

For all variables in the Almanac generated from the LFS data, we have not re-allocated the numbers in 'no answer', 'does not apply', and missing variables categories, nor have we used any scaling/estimation techniques which might distort the raw data we receive. However, the ONS uses the whole population to weight the LFS indicators, but their weighting strategy is complex due to differential non-response rates in age groups and genders.

Appendix 2: Sector Skills Councils (Almanac definitions)

A2.1 Sector Skills Councils

Sector Skills Councils (SSCs) are independent, employer-led, UK–wide organisations designed to build a skills system that is driven by employer demand. There are currently 25 SSCs covering over 90% of the economy and they all work towards the following four key goals:

- reduced skills gaps and shortages;
- improved productivity, business and public service performance;
- increased opportunities to boost the skills and productivity of everyone in the sector's workforce;
- improved learning supply through National Occupational Standards, apprenticeships, and further and higher education.

SSCs have done a great deal of work on behalf of employers; however there are many challenges which lie ahead. We need to be sure that the SSCs are up to that challenge, and that is why the UK Commission for Employment and Skills (UK Commission) is assessing the performance of SSCs this year. While there is no intention of embarking on a wholesale re-structuring of the network, the Commission wants to identify any potential for collaboration or consolidation across the network of SSCs, where this would help simplify the skills environment and make it clearer for employers. For more information on the re-licensing of SSC's please refer to the Sector Skills Councils pages on our website: www.ukces.org.uk.

Further information on SSC's can either be accessed from the Alliance of Sector Skills Councils http://www.sscalliance.org/ or from individual SSC web pages which are detailed below.

A2.2 Sector Skills Councils and Labour Market Intelligence

Good quality sectoral labour market and skills data and, crucially, interpretation and analysis of data (i.e. adding intelligence to the information) is vital to the success of each SSC. SSC's remit with regard to labour market intelligence is outlined in the UK Commission (2009) publication *Information to Intelligence*, which can be found in the publication section of our website www.ukces.org.uk.

A2.3 Sector Skills Council Definitions

SSC definitions use Standard Industrial Classification (SIC) codes that most closely match each SSC's employer coverage. SIC 2003 is used to define SSCs within this Almanac. These SIC 2003 definitions are a 'best fit' of each SSC's core business sectors (as defined by each SSC's contract at project inception in spring 2009). In some cases the use of core SIC codes excludes elements of the SIC footprint because they are included in other areas.

The extent to which the 2003 SIC codes used in the Almanac are an exact fit with each SSC's employer coverage varies between SSC's.

Some SSC's footprint definitions and coverage are slightly different when defined by SIC 2007. We were unable to use SIC 2007 definitions of SSCs in the Almanac this year as data was not yet commonly available on this basis.

In addition, the Almanac project has been developed in a period of change and ambiguity whilst re-licensing has been underway across the SSC network. This makes it difficult to produce a data series at any one point in time. Therefore the project has required a consistent 'anchor point' for *all* SSC definitions. Taking the broader picture into consideration, the approach we chose was to use SSC definitions (SIC 2003) as they stood in spring 2009 within pre re-licensed core contracts. The notes on each individual SSC below detail where caution should be exercised with these definitions – for example if employer coverage has changed since core contracts were implemented.

We recommend that users seeking richer, deeper intelligence on, employer and employee needs within a specific sector contact the relevant SSC.

SSC name	SSC description	SIC definition* (SIC 2003)
Asset Skills (www.assetskills.org)	Property, housing, cleaning and facilities management	70, 74.7
Although Facilities Management as an industry is included in SIC code 70, it is also an occupation employed across all industries, and so is not fully represented through SIC. Some social Housing Management activity also falls within 85.31 Social Work activities with accommodation.		
Automotive Skills (www.motor.org.uk)	Retail motor industry	50.1-50.4, 71.1
Cogent (www.cogent-ssc.com)	Pharmaceuticals, chemicals, nuclear, oil and gas, petroleum and polymer industries	11, 23–25 (excluding 24.3, 24.64, 24.7, 25.11, 25.12), 50.5
Cogent also covers the nuclear industry and signmaking, but it is not possible to isolate these in terms of SIC.		
ConstructionSkills (www.cskills.org)	Planning, design, construction and maintenance of the built environment	45.1, 45.2, 45.32, 45.34, 45.4, 45.5, 74.2
A substantial proportion of construction work utilises labour-only sub-contracting (LOSC) arrangements and self-employed persons (without employees), and will therefore be excluded from any evidence based on employer surveys.		
Creative & Cultural Skills (www.ccskills.org.uk)	Arts, museums and galleries, heritage, crafts and design	22.14, 22.31, 36.3, 92.31/1*, 92.31/9*, 92.32, 92.52, 36.22, 74.4, 92.34
Much of the craft footprint sits in a huge variety of SIC codes in other industrial areas outside of Creative & Cultural Skills footprint. Businesses in the creative and cultural industries are generally small, with self employment, freelance, part time and temporary work a feature of the industry. These businesses may not appear adequately on official sources of data. SIC and SOC analysis of the industry is generally considered as problematic due to the complex nature of activity and production of creative and cultural output. Crafts, advertising and design data, in particular, require the implementation of a broader methodology to understand of the nature of business activity to accurately assess demographic and economic impact. More information is provided on Creative and Cultural Skills Industry Research Pages.		
Energy & Utility Skills (www.euskills.co.uk)	Power, gas, waste management and water industries	40.1, 40.2, 41, 90.01-90.02, 37, 60.3
Energy & Utility Skills also has an interest in gas fitters, covered by SummitSkills SSC.		

SSC name	SSC description	SIC definition* (SIC 2003)
e-skills UK (www.e-skills.com)	IT and telecoms	22.33, 64.2, 72
e-skills UK covers IT and telecoms professionals across all industries. A fast-changing sector, its boundaries are continually changing.		
Financial Services Skills Council (www.fssc.org.uk)	Financial services industry	65-67
The financial function within organisations in industry, commerce, the public sector and the third sector are not well described by SIC codes. Much better coverage is offered by SOC 2000 codes (1131, 2421, 2422, 3535, 3537, and 4122).		
GoSkills (www.goskills.org)	Passenger transport	60.1, 60.21, 60.22, 60.23, 61.1, 61.2, 63.21, 63.22, 63.23, 80.41
Goskills also covers Community Transport and Transport Planning, for which there are no specific SIC2003 codes. GoSkills also has an interest in scheduled and non-scheduled air transport, this is not reflected in the data as the 2003 SIC (62.10 and 62.20) codes at present are not covered by their core contract (Spring 2009). User should also be aware that although SIC codes 61.10 and 63.22 sat in GoSkills contract at the time of project inception work on these sectors is undertaken via a memorandum of understanding with the Marine Skills Alliance. Therefore users seeking a more detailed understanding of this sector should refer to GoSkills.		
Government Skills (www.government-skills.gov.uk)	Central government	75.1, 75.21, 75.22, 75.3
Improve Ltd (www.improveltd.co.uk)	Food and drink manufacturing and processing	15 (apart from 15.92 and 15.11/3*), 51.38
Lantra (www.lantra.co.uk)	Environmental and land-based industries	1, 2, 5.02, 51.88, 85.2, 92.53, 20.1
Lantra also covers industries which are small elements of other SIC codes not necessarily within their core, e.g. floristry, fencemaking, farriery.		
Lifelong Learning UK (www.lluk.org)	Career guidance, community learning and development, further education, higher education, libraries, archives and information services, work-based learning	80.21, 80.22, 80.3, 80.42, 92.51
The Secondary Education SSC interface (80.21) is complex because teaching takes place across the whole school and there is a growing 14-16 age group vocational link to colleges. This interface is a difficult area and is addressed in dialogue with other SSC's.		

SSC name	SSC description	SIC definition* (SIC 2003)
People 1st (www.people1st.co.uk)	Hospitality, leisure, travel and tourism	55.1, 55.21, 55.23, 55.3-55.5, 63.3, 92.71, 92.33
Proskills UK (www.proskills.co.uk)	Process and manufacturing of extractives, coatings, refractories, building products, paper and print	10, 12-14, 20.4, 20.51, 21.1, 21.2, 22.2, 24.3, 26 (except 26.82/2*), 36.1
Semta (www.semta.org.uk)	Science, engineering and manufacturing technologies	25.11, 25.12, 27-35, 51.52, 51.57, 73.10
Skillfast-UK (www.skillfast-uk.org)	Apparel, footwear and textile industry	15.11/3, 17-19, 24.7, 51.16, 51.24, 51.41, 51.42, 52.71, 93.01
Skills for Care and Development (www.skillsforcareand development.org.uk)	Social care including children, families and young children	85.3
Skills for Health (www.skillsforhealth.org.uk)	NHS, independent and voluntary health organisations	85.1
Skills for Justice (www.skillsforjustice.com)	Custodial care, community justice and police	75.23, 75.24
Skills for Logistics (www.skillsforlogistics.org)	Freight logistics industry	51 (except 51.16, 51.24, 51.38, 51.41, 51.42, 51.52, 51.57, 51.88), 60.24/9*, 62.1, 62.2, 63.11, 63.12/1*, 63.12/9, 63.4, 64.11, 64.12
Skills for Logistics also covers rail and water freight transport, for which there are no specific SIC codes.		
SkillsActive (www.skillsactive.com)	Sport and recreation, health and fitness, playwork, the outdoors and caravans.	55.22, 92.6
SkillsActive covers sectors which form only a portion of other SIC codes and so do not make sense to include in analysis. Some sub-sectors, such as playwork, are excluded from analyses. A number of previous LMI sources for SkillsActive have included 2003 SIC codes 92.72 and 93.04. However as only contracted SIC codes have been used for the Almanac these codes are not included in almanac analyses. Care should therefore be exercised if users are interested in studying SkillActive's sector in-depth, and we advise users requiring detailed information refer to SkillsActive directly.		

SSC name	SSC description	SIC definition* (SIC 2003)
Skillset (www.skillset.org)	Broadcast, film, video, interactive media, publishing, and photo-imaging	22.11-22.13, 22.15, 22.32, 24.64, 74.81, 92.1, 92.2, 92.4
Photo-imaging is spread across a range of SIC codes: it is not possible to isolate the retail element. Interactive media, the largest sector in scope to Skillset, is not exclusively coded; since it is included within the core of e-skills UK, it is excluded from analyses. Additionally, self-employed people without employees are not included in employer survey evidence but represent most of the sector in areas which are included, such as film production and independent production. For these reasons combined, the data presented for Skillset should be interpreted with extreme caution.		
Skillsmart Retail (www.skillsmartretail.com)	Retail industry	52.1-52.6
SummitSkills (www.summitskills.org.uk)	Building services engineering (electro-technical, heating, ventilating, air conditioning, refrigeration and plumbing)	45.31, 45.33, 52.72
The LFS data for SummitSkills does not provide sufficient detail to allow the allocation of SIC 2003 codes 45.31 and 45.33 to Summitskills; these activities are allocated to Construction Skills. This explains the small number of workers in Summitskills presented in any tables derived from the LFS. The ABI gives a much better measure of employment in SummitSkills.		
Non-SSC employers	All sectors not covered by an SSC at the time of the project, spread across manufacturing and service sectors.	All other SICs

*Inclusion/exclusion of 5-digit SIC codes dependent on the level of industrial disaggregation available within the specific data source in the Almanac.

Appendix 3: Further SSC definitions

The table below gives the SSC footprints by SIC 2003 used in the original National Employer Skills Survey 2007, and Northern Ireland Skills Monitoring Survey 2005. Both these surveys have had their data re-analysed to the footprints outlined in Appendix 2.

SSC	SSC SIC03 definitions previously used by (and published in) NESS 07	SIC03 codes covered by SSC in Future Skills Wales	SSC SIC03 definitions previously used and published in NISMS 2005
ASSET SKILLS	70, 74.7	70, 74.7	70, 74.7
AUTOMOTIVE SKILLS	50.1–50.4, 71.1	50.1-50.4, 71.1	50.1-50.4, 71.1
COGENT	11, 23–25 (excluding 24.3, 24.64, 24.7, 25.11, 25.12), 50.5	11, 23-25 (excluding 24.3, 24.64, 24.7, 25.11, 25.12), 50.5	11, 23-25 (excluding 24.3, 24.64, 24.7), 50.5
CONSTRUCTIONSKILLS	45.1, 45.2, 45.32, 45.34, 45.4, 45.5, 74.2	45.1, 45.2, 45.32, 45.34, 45.4, 45.5, 71.32, 74.2	45.1, 45.2, 45.32, 45.34, 45.4, 45.5, 74.2
CREATIVE AND CULTURAL	22.14, 22.31, 36.22, 36.3, 74.4, 92.31, 92.32, 92.34, 92.4, 92.52	22.14, 22.31, 36.3, 74.4, 92.31, 92.32, 92.34, 92.4, 92.52	22.14, 22.31, 36.3, 92.31, 92.32, 92.52
ENERGY & UTILITY SKILLS	37, 40.1, 40.2, 41, 60.3, 90.01, 90.02	37, 40.1, 40.2, 41, 60.3, 90, 51.54, 51.55	37.1, 40.1, 40.2, 41, 51.54, 51.55, 90
E-SKILLS UK	22.33, 64.2, 72, 74.86	22.33, 64.2,72, 74.86	22.33, 64.2, 72, 74.86
FINANCIAL SERVICES	65–67	65-67	65-67
GOSKILLS	60.1, 60.21–60.23, 61, 62.1, 62.2, 63.2, 80.41	60.1, 60.21-60.23, 61, 62.1, 62.2, 63.2,80.41	60.21, 60.22, 60.23, 61.1, 61.2, 62.1, 62.2, 63.21, 63.22, 63.23, 80.41
GOVERNMENT SKILLS	75.1, 75.21, 75.22, 75.3	–	75.1, 75.21, 75.22, 75.3
IMPROVE	15, 51.38	15 (excluding 15.92) 51.38	15, 51.31-51.34, 51.36-51.39

SSC	SSC SIC03 definitions previously used by (and published in) NESS 07	SIC03 codes covered by SSC in Future Skills Wales	SSC SIC03 definitions previously used and published in NISMS 2005
LANTRA	1, 2, 5.02, 20.1, 51.88, 85.2, 92.53	1, 2, 5.02, 85.2, 92.53	29.3, 51.88, 85.2, 92.53
LIFELONG LEARNING UK	80.22, 80.3, 80.42, 92.51	80.22, 80.3, 80.42, 92.51	80.22, 80.3, 80.42, 92.51
PEOPLE 1ST	55.1, 55.21, 55.23, 55.3-55.5, 63.3, 92.33, 92.71	55.1, 55.21, 55.23, 55.3-55.5, 63.3, 92.33, 92.71	55.1, 55.21, 55.23, 55.3-55.5, 63.3, 74.873, 74.874, 92.71
PROSKILLS	10, 12–14, 21.24, 22.2, 24.3, 26.1, 26.26, 26.4–26.8	10, 12-14, 21, 22.2, 24.3, 26.1, 26.26, 26.4-26.8, 40.3	10,12-14, 21, 22.2, 24.3, 26.1, 26.26, 26.4, 26.5, 26.61-26.66, 26.7, 26.8, 37.2, 40.3
SEMTA	25.11, 25.12, 27-35, 51.52, 51.57, 73.10	25.11, 25.12, 27.4, 27.5, 28.1-28.3, 28.5-28.7, 29-35	27.4, 27.5, 28.1-28.3, 28.5-28.7, 29-35 (excluding 29.3)
SKILLFAST-UK	17–19, 24.7, 51.16, 51.24, 51.41, 51.42, 52.71, 93.01	17-19, 24.7, 51.16, 51.24, 51.41, 51.42, 52.71, 93.01	17-19, 24.7, 51.16, 51.41, 51.42, 52.71, 93.01
SKILLS FOR CARE AND DEVELOPMENT	85.3	85.3	85.3
SKILLS FOR HEALTH	85.1	85.1	85.1
SKILLS FOR JUSTICE	75.23, 75.24	75.23, 75.24	75.23, 75.24
SKILLS FOR LOGISTICS	60.24, 63.1, 63.4, 64.1	60.24, 63.1, 63.4, 64.1	60.24, 63.1, 63.4, 64.1
SKILLSACTIVE	55.22, 92.6, 93.04	55.22, 92.6, 93.04	55.22, 92.33, 92.6, 93.04
SKILLSET	22.32, 24.64, 74.81, 92.1, 92.2	22.32, 24.64, 74.81, 92.1, 92.2	22.32, 24.64, 74.81, 92.1, 92.2
SKILLSMART RETAIL	52.1–52.6	52.1-52.6	52.1-52.6
SUMMITSKILLS	45.31, 45.33, 52.72	45.31, 45.33, 52.72	45.31, 45.33, 52.72

SSC	SSC SIC03 definitions previously used by (and published in) NESS 07	SIC03 codes covered by SSC in Future Skills Wales	SSC SIC03 definitions previously used and published in NISMS 2005
SSDA sector 1 (Primary/ Wholesale/Retail)	All the other SICs	5.01, 15.92, 16, 20, 22.11-22.13, 22.15, 26.21-26.25, 26.3, 27.1-27.3, 28.4, 36.1, 36.2, 36.4-36.6, 51.1-51.3, 51.43-51.47, 51.51-51.53, 51.56, 51.57, 51.8, 51.90, 52.73, 52.74	16, 20, 22.11-22.13, 22.15, 26.21, 26.25, 26.3, 27.1, 27.2, 27.3, 28.4, 36.1, 36.2, 36.4-36.6, 51.11-51.15, 51.17-51.19, 51.2, 51.35, 51.43-51.47, 51.51, 51.52, 51.53, 51.56, 51.57, 51.81-51.87, 51.90, 52.73, 52.74, 60.1, 60.3, 62.3, 71.2-71.4, 73, 74.1, 74.3-74.6, 74.82, 74.85, 74.871, 74.872, 74.879, 75.25, 80.10, 80.21, 91, 92.34, 92.40, 92.72, 93.02, 93.03, 93.05
SSDA sector 2 (Business services/Public services)		62.3, 71.2, 71.31, 71.33, 71.34, 71.4, 73, 74.1, 74.3, 74.5, 74.6, 74.82, 74.85, 74.87,75.1, 75.21, 75.22, 75.25, 75.3, 80.10, 80.21, 91, 92.72, 93.02 93.03, 93.05	

Appendix 4: Definition of broad sectors

UK average

The LFS industry grouping are based on the Industry Sections defined under Standard Industry Classification (SIC) 2003 codes

A-B	Agriculture and fishing
	Section A Agriculture, Hunting and Forestry
	Section B Fishing
C,E	Mining and Quarry; Energy and water
	Section C Mining and Quarrying
	Section E Electricity, Gas and Water Supply
D	Section D Manufacturing
F	Section F Construction
G-H	Distribution, hotels and restaurants
	Section G Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
	Section H Hotels and Restaurants
I	Section I Transport, Storage and Communication
J-K	Banking, finance & insurance etc
	Section J Financial Intermediation
	Section K Real Estate, Renting and Business Activities
L-N	Public admin, educ & health
	Section L Public Administration and Defence; Compulsory Social Security
	Section M Education
	Section N Health and Social Work
O-Q	Other services
	Section O Other Community, Social and Personal Service Activities
	Section P Private Households Employing Staff and Undifferentiated Production Activities of Households for Own Use
	Section Q Extra-territorial Organisation and Bodies

Glossary of terms

APS	Annual Population Survey
ASHE	Annual Survey of Hours and Earnings
BIS	Department for Business, Innovation and Skills
BME	Black and minority ethnic
BTEC	Business and Technology Educational Council
CE	Cambridge Econometrics
CIPD	Chartered Institute of Personnel and Development
CSR	Comprehensive Spending Review
DELNI	Department of Employment and Learning Northern Ireland
DWP	Department for Work and Pensions
EU	European Union
Eurostat	European Commission official statistics body
FWS	Futureskills Wales
G7	Group of Seven industrialised nations
GCSE	General Certificate of Standard Education
GDP	Gross domestic product
Gini coefficient	Measure of income inequality; 1=least equal, 0=most equal
GNVQ	General National Vocational Qualification
GOR	Government Office Region
GVA	Gross value added
HEIPR	Higher education initial participation rate
HPWPs	High performance working practices
ICT	Information and Communication Technology
IER	Institute of Economic Research

LFS	Labour Force Survey
LMI	Labour market intelligence/labour market information
LSC	Learning and Skills Council
NESS	National Employer Skills Survey
NHS	National Health Service
NISMS	Northern Ireland Skills Monitoring Survey
NOMIS	UK official labour market statistics body
NQF	National Qualifications Framework
NVQ	National Vocational Qualification
OECD	Organisation for Economic Co-operation and Development
ONC	Ordinary National Certificate
OND	Ordinary National Diploma
ONS	Office of National Statistics
PSA	Public Service Agreement
PWC	Pricewaterhouse Coopers
R&D	Research and development
RSA	Royal Society of Arts
SCOTVEC	Scottish Vocational Education Council
SSC	Sector Skills Council
SSDA	Sector Skills Development Agency
SSV	Skills shortage vacancy
UKCES	See UK Commission
UK Commission	UK Commission for Employment and Skills
USD	US dollars
VAT	Value-added tax

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