

A century of labour market change: 1900 to 2000

By **Craig Lindsay**, Labour Market Division, Office for National Statistics

Key points

- In 1900 the population was around 38 million and gross domestic product (GDP) stood at just under £125 billion at constant 1995 market prices. By the end of the century, the population had increased by 50 per cent to 59 million, and GDP had risen fivefold to £800 billion.
- The estimated employment rate for 15 to 64-year-olds in 1902 was around 69 per cent. Using Labour Force Survey data the employment rate in 2000 was 71 per cent. However, this comparison is affected by changes in the school leaving age and retirement age.
- The unemployment rate, as measured by those claiming unemployment-related benefit, was below 5 per cent in 1900. It was at its highest point in 1932, at 22 per cent but by the end of the century, it was below 5 per cent again.
- One major change was the shift in industrial composition. In the UK, manufacturing's share fell from 28 to 14 per cent of employment, and agriculture's share from 11 to 2 per cent.
- At the beginning of the twentieth century, around five million women worked, making up 29 per cent of the total workforce. By 2000, the figure had risen to 13 million, 46 per cent of the total workforce.
- The average weekly hours of a manual worker fell from 53 hours in 1943 to 43.5 in 1987.
- In 1900 trade union membership represented 11 per cent of those in employment. It peaked in the late 1970s at 50 per cent but by 2000 was down to under 29 per cent, its lowest level for 60 years.
- The level of full-time earnings has soared from an average £1.40 per week in 1902 (not adjusted for inflation) to £350 per week in 1997.

A summary of labour market conditions in the twentieth century.

Introduction

THE AIM of this article is to provide an overview of labour market change through the twentieth century, and its links to major events and to social change more generally. ONS already produces a range of articles looking at general labour market conditions: the monthly Labour Market Assessment (see pp103-6) looks at the current labour market situation using the latest data; the annual 'State of the Labour Market' pieces (of which the first was published on the National Statistics website www.statistics.gov.uk last year) look at change over the course of a year. By comparison, this article aims to take a step back and to examine longer-term trends.

In 1900, Britain was coming to the

end of the Victorian age, a period that had seen the country at the forefront of the Industrial Revolution and the expansion of Empire. Government intervention was light, and the economy had developed largely based upon the free market liberal heritage of Adam Smith (1723-90), and of Cobden (1804-65) and Bright (1811-89). As late as 1874, both Disraeli (Prime Minister: 1868-68 and 1874-80) and Gladstone (Prime Minister: 1868-74, 1880-85, 1886-94) had gone into the general election promising to repeal income tax (although during their different times in office neither did). The nineteenth century had seen politics dominated by the Tory and Whig groupings, and then by their successor parties, the

Conservatives and Liberals respectively. However, the beginnings of change were evident. The Industrial Revolution, as well as bringing increased wealth and higher living standards, had seen the emergence of the working class and the first disciples of Marxism.

In 1900 the population was around 38 million¹ and gross domestic product (GDP) stood at just under £125 billion² at constant 1995 market prices. The economy was more notably based upon trade and manufacturing: manufacturing represented 28 per cent of output; agriculture, forestry and fishing 11 per cent; and services 50 per cent. Looking at the labour market, the employment rate was 69 per cent, with 24 per cent in manufacturing and textiles, and 12 per cent in agriculture. Unemployment stood at around 3 per cent. Within this, the workforce was very much male dominated, with men representing 70 per cent of the active population.³

Britain in 2000 was a very different place. The days of Empire were gone. The population had increased by 50 per cent to 59 million;⁴ by comparison, GDP had risen fivefold to £800 billion, at constant 1995 market prices (see *Figure 1*). This increase in living standards was also visible in average weekly wages, which had risen to over

250 times their 1902 level while prices had risen 67 times.⁵ Manufacturing's importance had declined, representing only 14 per cent of employment and 22 per cent of output. Similarly, only 2 per cent of people worked in agriculture, forestry and fishing, which represented only 2 per cent of output. By comparison, services represented around 75 per cent of employment⁶ and 66 per cent of output. Government intervention had increased markedly with, for example, the development of the Welfare State and the National Health Service (NHS). Government expenditure as a proportion of GDP had increased from 15 per cent to around 40 per cent.⁷

Looking more generally at the labour market, the employment rate stood at 71 per cent, with unemployment at 4 per cent, as measured by the number of people claiming benefit. Female participation had increased greatly, with women representing 45 per cent of the active working-age population. By comparison, male participation was declining.

The twentieth century was a period of substantial change for the UK. It saw among other things: two world wars; the rise and decline of trade unionism; the Great Depression; unemployment of up to 22 per cent; and great changes in social attitudes. There had also been

great political change with the rise of the Labour Party at the expense of the Liberals. The political consensus had shifted over the century: first, to incorporate greater state provision of public services; and then more recently it moved back slightly with privatisation and the reduction in direct government intervention in industry. A similar, if more extreme, shift had been played out on a global scale with the rise and fall of communism in Eastern Europe. This article attempts to examine the links between these events and changes in the labour market over the century, and in particular in the changing nature of employment.

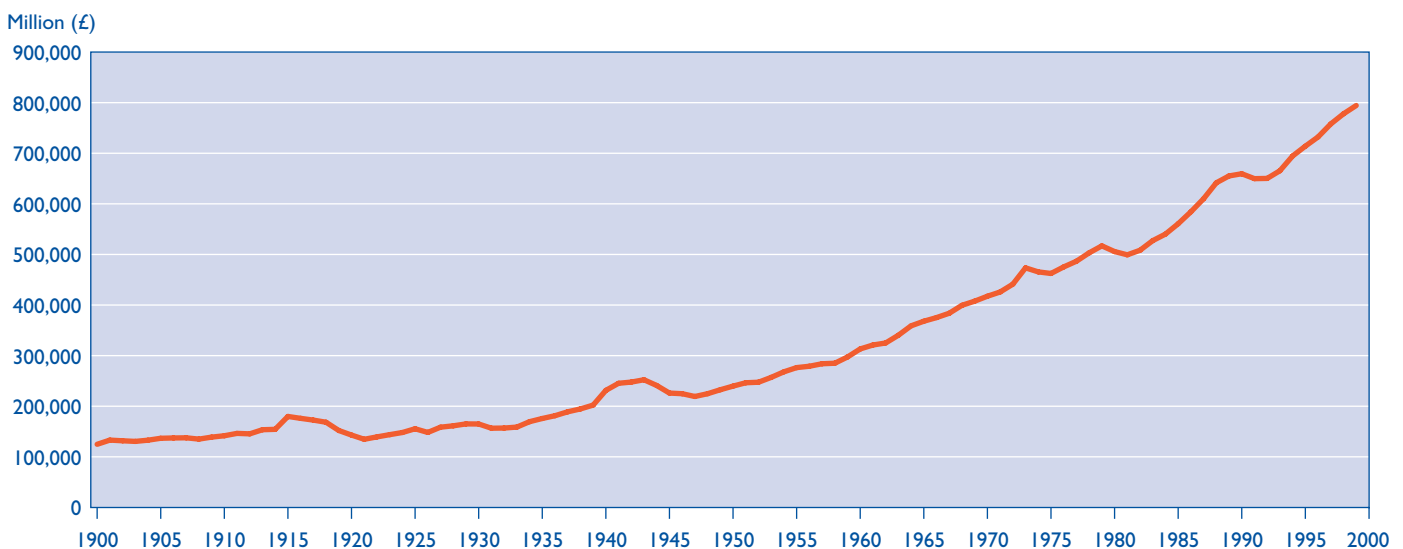
The changing population

Underlying the changes in the UK, and the UK labour market, patterns over the century have been changes in the population, most notably in migration, birth rates and life expectancy. Within this, the main change has come from the combination of falling birth rates and reduced mortality, which have led to an ageing population, with an increasing proportion of people of post-retirement age.

Migration

Britain is a country of immigration and emigration. It has always been

Figure 1 Gross domestic product;^a United Kingdom; 1900 to 2000



Source: United Kingdom National Accounts – The Blue Book

a At constant 1995 market prices. See technical note for further information about the data sources. Note: Data have not been adjusted to reflect the post-2001 Census population estimates.

relatively open, and the British population is now, as it always has been, the result of successive influxes of migrants and the racial and cultural intermixture of these migrants with those who were already here. It is also reasonably clear, if difficult to quantify, that Britain has benefited considerably, in both economic and cultural terms, from this openness. Patterns in migration varied over the twentieth century. The century began with net emigration, mostly of young men, to other countries, especially North America, Australia, New Zealand and the other colonies. During the Great Depression this was reversed as migrants returned home, and following the Second World War there was marked immigration from Commonwealth countries. As a result, there was net inward migration from 1931 through to 1961. In the 1970s and 1980s, the UK became a net exporter of people as families migrated to Australia, New Zealand and South Africa. However, of late there has been a return to net immigration. For example, in 2000, an estimated 100,000 more people migrated into the UK than out of it.⁸

Moreover, immigrants are diverse, and cannot be easily treated as a single group. Their backgrounds are diverse. For example, according to Home Office

research,⁹ at the end of the century the largest single identifiable group was UK nationals (mostly returning emigrants, although some were born abroad). Other major sources were the European Economic Area and Asia, but, overall, there were significant numbers of migrants from as many as 29 regions of the world. This diversity of background also feeds into labour market experiences. Some migrants are very successful, others are not. Immigrants have a higher tendency to be unemployed or particularly economically inactive. Around 6 per cent of migrants are unemployed compared with a UK average of just under 5 per cent. The migrant working-age employment rate is around 65 per cent, compared with 74 per cent for the UK as a whole. However, those who do go into work, quite often move into areas of labour shortage. For example, according to a Home Office migration report¹⁰ published in 2001, 31 per cent of doctors and 13 per cent of nurses are non-UK born; in London the figures are 23 per cent and 47 per cent respectively. Half the expansion of the NHS over the last decade – that is, 8,000 of the additional 16,000 staff – had qualified abroad. An estimated 70 per cent of catering jobs in London are filled by migrants. And in 1995-96, the Higher Education Statistics Agency showed

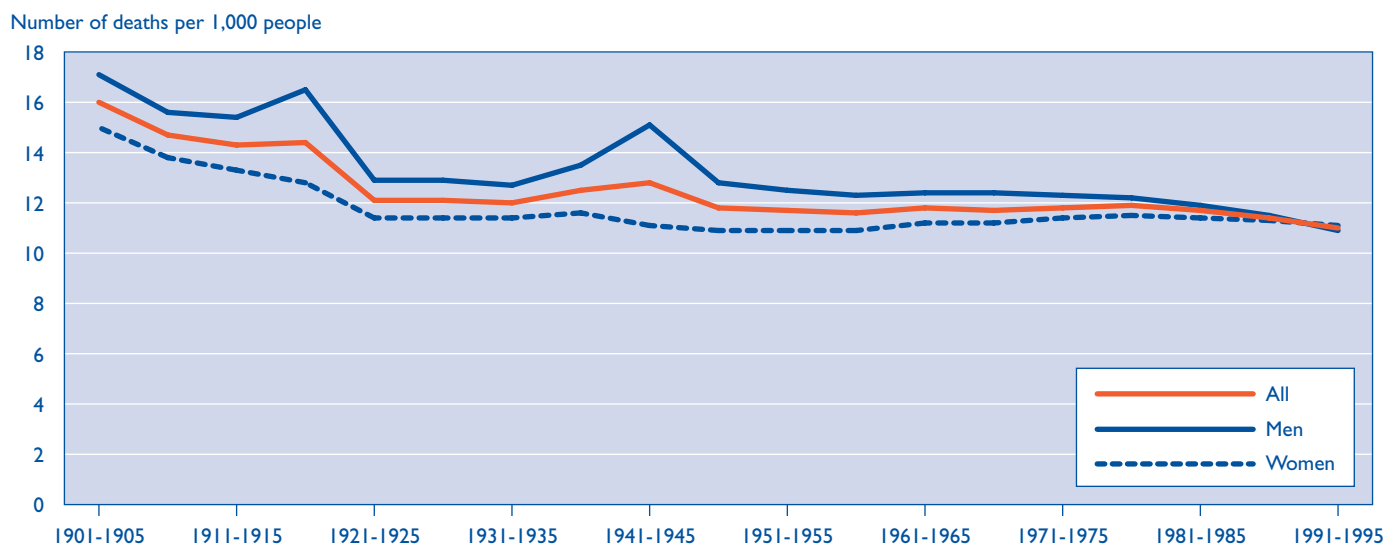
that non-British nationals made up 12.5 per cent of academic and research staff, were most likely to be in medicine, science and engineering, and comprised over half the faculty of the London School of Economics.

Mortality

At the start of the twentieth century the mortality rate was 16 deaths per 1,000 living persons,¹¹ and had been in constant decline since the 1860s when it stood at around 22.5 per 1,000. As *Figure 2* shows, this sharp decline continued into the first part of the new century, with continuing falls up until 1921-25. The effect of the First World War can be seen in the male mortality series for 1916-20 when the rate increased to 16.5 per 1,000. The rate subsequently declined to 13 per 1,000 in 1921-25. Female mortality also declined, reaching 11 deaths per 1,000.

By comparison, mortality rates have been fairly flat in the period since 1925, falling only marginally. Female mortality was relatively unchanged at 11 deaths per 1,000 in 1991-95. The male mortality rate had declined from 13 to 11 deaths per 1,000, excepting an upward surge during the Second World War. Most of this improvement in male mortality has come after 1980. Looking at the data on 'deaths from injuries and poisoning',¹² the main reason appears to

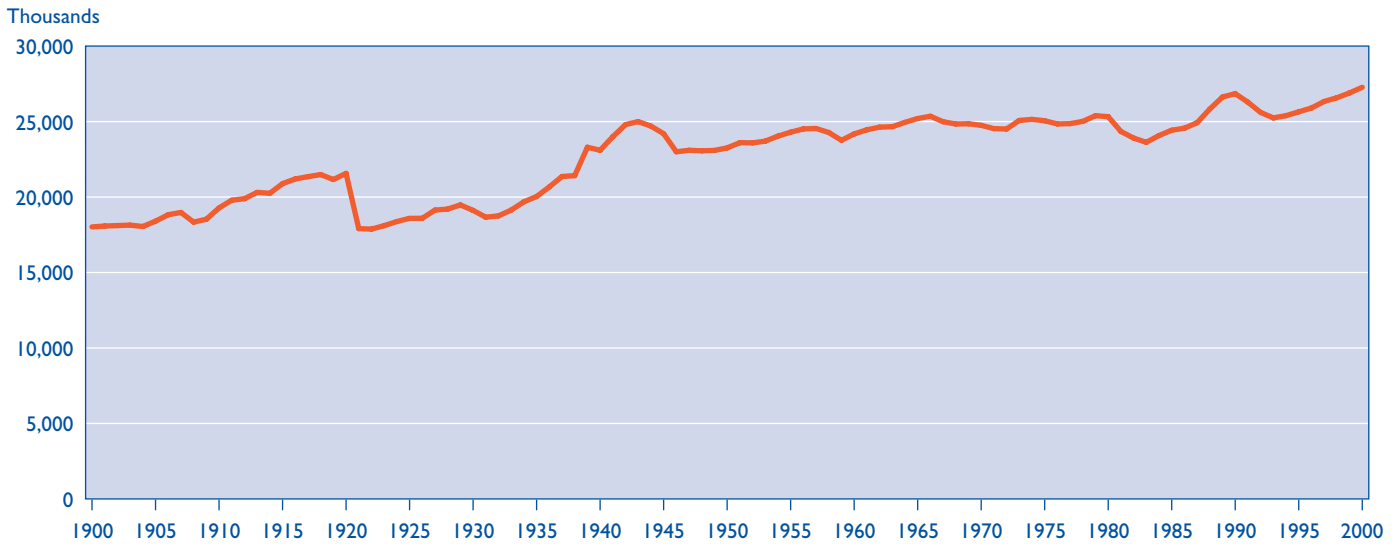
Figure 2 Mortality rates^a over five-year periods by sex; Great Britain; 1901-1905 to 1991-1995



Source: Office for National Statistics, *Mortality Statistics, general 1998*

^a See technical note for further information about the data sources.
Note: Data have not been adjusted to reflect the post-2001 Census population estimates.

Figure 3 Number of people in employment;^a United Kingdom; 1900 to 2000



Sources: The Economist Publications Ltd.; Labour Force Survey

^a See technical note for further information about the data sources.

Note: Data have not been adjusted to reflect the post-2001 Census population estimates.

have been the decline in deaths in road traffic accidents (possibly linked to the introduction of compulsory seatbelt legislation in 1983).

Births

The number of births has declined throughout the century, interrupted only by the two post-war baby booms and a peak in the 1960s. In 1900 the fertility rate per woman was 3.5 children; by 1997 this had fallen to 1.7.

Linked to this, there has also been an increasing tendency for women to have their first child later in life. As a result, the number of children born to women aged under 30 has been in decline since 1961, whereas the number born to the over 30s has been increasing.¹³

The changing nature of employment and unemployment

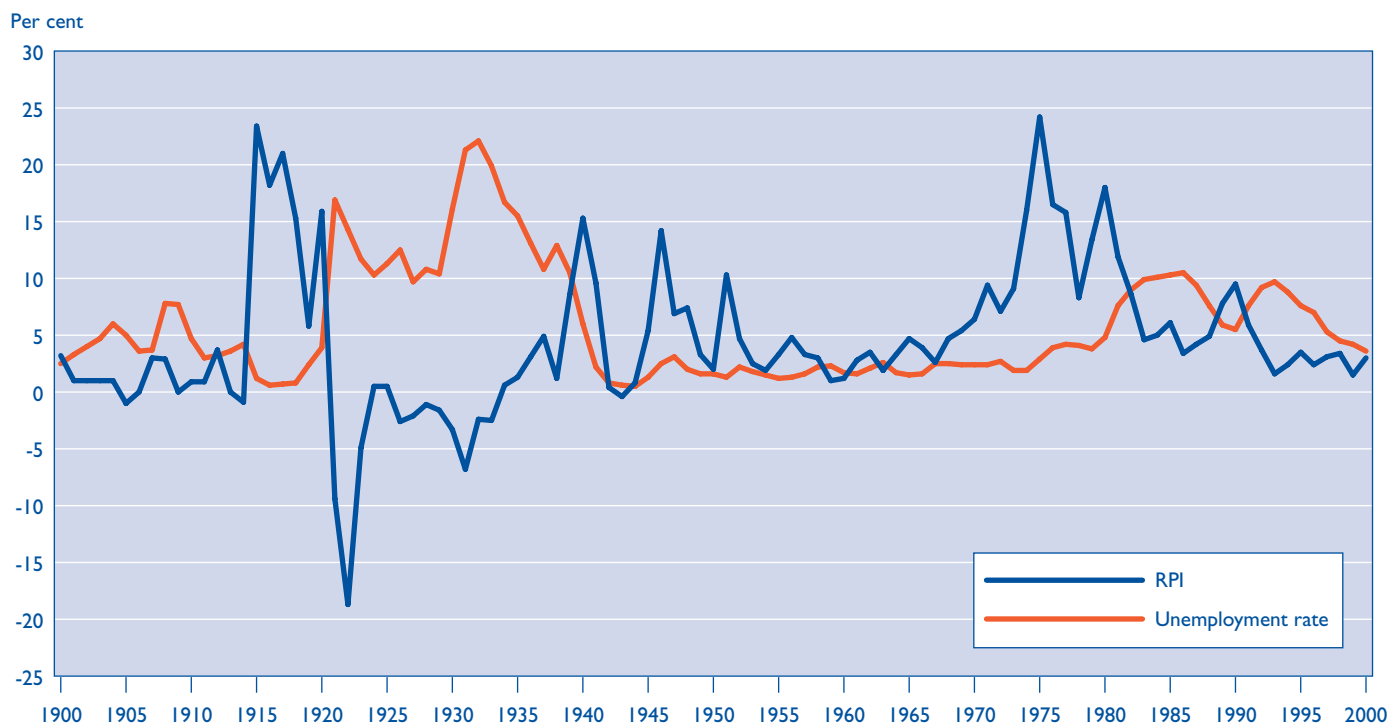
Given the growth in the UK population it is not surprising that the most obvious changes in employment have come in the changes in the level of employment. In 1900 18 million people were employed in the UK. By 2000 this had risen to 27 million (see *Figure 3*), mostly as a result of population growth. As already noted, the population increased from 38 million to around 59 million.

The employment level increased by around 0.5 per cent per year on average. However, within this, there have been variations, most notably half a dozen occasions when employment fell by 2 per cent or more. The most marked of these was in 1921 when employment fell 17 per cent at the onset of the inter-war depression. The second largest fall, of 5 per cent, came in 1946 following the end of the Second World War. By comparison, the largest falls in GDP came in 1919-21 and 1944-45. Similarly, it can be seen that employment falls in 1981 and 1991-92 also appear to be lagged responses to earlier falls in GDP. It is also noticeable that the two periods with the most marked world wars, which also provided the periods of strongest GDP growth (17 per cent annual growth in 1915 and 14 per cent in 1940).

In terms of the employment rate, the variations have been as marked as those in the level, but the overall growth has been somewhat less. It is possible to calculate an estimate for the employment rate for 15 to 64-year-olds¹⁴ in 1902 of around 69 per cent. On the same basis, but using Labour Force Survey (LFS) data, the current employment rate in 2000 was 71 per cent. However, this comparison is affected by changes in the school

leaving age. The school leaving age was 12 years in 1900. This was raised to 14 in 1918 and then to 15 in 1947. This was then raised again from 15 to 16 in 1972/73. Other things being equal, this will have reduced the number of young people in employment. For example, according to the 1901 Census around 10 per cent (140,000) of 10 to 14-year-old boys in Great Britain were already 'engaged in occupations'. Meanwhile, at the other end of the age scale, it is important to be aware of the increase in retirement; in 1901 nearly 40 per cent (110,000) of men aged 75 or over were still working. By comparison, in 2000 less than one in ten men was still in employment after reaching the state pension age of 65.

Just as employment has responded to changes in output, so too has unemployment. For much of the first 20 years of the twentieth century the unemployment rate, as measured by those claiming unemployment-related benefit, was below 5 per cent (see *Figure 4*). With the inter-war depression, the rate increased to 17 per cent in the early 1920s before easing to around 10 per cent, and then soaring to 22 per cent in 1932. This fell back in the run up to the Second World War, dipping to below 1 per cent during the war years. The post-war period was then fairly stable, with unemployment below

Figure 4 Year-on-year growth of the retail prices index (RPI)^a and unemployment;^b United Kingdom; 1900 to 2000

Sources: *Economica*; Retail Prices Index; *Employment Gazette*, December 1993; Office for National Statistics, claimant count series

a The RPI started in 1947. All figures before this date are estimated and are not official figures. They come from Layton and Crowther (1938). See *technical note* for further information on data sources.

b Unemployment data are based on register and claimant count data (see *technical note* for further information).

Note: Data have not been adjusted to reflect the post-2001 Census population estimates.

3 per cent until the mid-1970s when it started to increase. The claimant unemployment rate peaked in 1986 at around 10.5 per cent and it was only in the last few years of the century that it dipped back to below 5 per cent.

The other interesting factor is the changing relationship between unemployment and inflation. The standard Phillips Curve theory (see *technical note*) suggests that there is a trade-off between inflation and unemployment. Low or falling unemployment will, other things being equal, increase inflation; high or rising unemployment will lead to inflation easing. *Figure 4* shows that while this holds for some periods, such as the 1920s and 1930s, and maybe the 1960s or the 1980s, it is far from convincing over the century as a whole. The most striking contradictions of the rule are the 1970s, when both inflation and unemployment were rising, and the 1990s when both fell.

Industrial composition

As already mentioned, one major change over the last century was the

shift in industrial composition, with the decline of agriculture and manufacturing's share of total employment and the rise of services. In the UK, manufacturing's share fell from 28 to 14 per cent of employment, and agriculture's share from 11 to 2 per cent. Nor was this a purely UK phenomenon. By 1900, the UK had already undergone the Industrial Revolution, and the proportion of employment in agriculture was already in decline. By comparison, according to Mitchell (1998) agriculture still represented around 40 per cent of employment in France, Germany and the USA.¹⁵ By 1990, this was down to 6 per cent, 3 per cent and 3 per cent respectively. Similarly, all three countries had seen growth in their service sectors, which increased from 17 to 33 per cent of employment in France, from 11 to 33 per cent in Germany, and from 14 to 33 per cent in the USA. On the same basis, the UK saw service sector employment increase from 21 to 32 per cent. This differs from the 75 per cent quoted earlier in the article, which is based on

official workforce jobs data and which includes a wider number of industries than are included in Mitchell's estimate. Mitchell excludes the transport and communications, and commerce and finance sectors from services. Including these sectors in Mitchell's estimates would suggest that services have increased from 34 per cent of UK employment in 1901 to 70 per cent in 1991.

There were several drivers behind this change, some local, some general. Most importantly, there is nothing new in shifting industrial composition; before the Industrial Revolution most people in the UK had worked in agricultural industries. The eighteenth and nineteenth centuries saw that change as technological innovations began to improve the productivity of agricultural workers, starting with Jethro Tull's (1674-1741) mechanical seed sower in 1701. These developments meant that more agricultural produce could be provided by fewer workers and consequently the numbers employed in the primary

sector began to fall. However, at the same time, technology such as the steam engine triggered the Industrial Revolution. The decline in employment in agriculture was more than offset by the increase in the new manufacturing and mining sectors. Similarly, the twentieth century saw ongoing improvements in technology which improved efficiency in the manufacturing sector, for example computers and automation. This in turn freed up resources to work in the burgeoning services sector. Moreover, each revolution also helped fuel the next: improved efficiency in agriculture raised living standards and wealth which increased the demand for manufactured goods; similarly, rising living standards and leisure in the twentieth century helped increase the demand for services.

Alongside this is a more international aspect to the process. Another driver behind manufacturing's decline was competition from abroad. To take one example, 1913 was a record year for the Lancashire cotton industry. Exports of woven cloth from the region topped 7,000 million linear yards – around 65 per cent of world output.¹⁶ By 1960, the Lancashire cotton industry was dead, killed by a combination of lack of investment, which left it at a disadvantage when competing with newcomers with newer, better machinery, and the fact that overseas labour was cheaper. The pattern was to be repeated across a number of industries, and the economy moved to focus on those areas where it had more of a competitive advantage, such as services or those manufacturing industries that required higher skills.

Participation in the workforce

Another major long-term change has been the increasing female participation in the workforce. At the beginning of the twentieth century, around five million women worked, making up 29 per cent of the total workforce.¹⁷ By 2000 the figure had risen to 13 million, representing around 53 per cent of the female population aged 16 and over and 46 per cent of the total workforce.

The First World War provided an initial

opportunity for women to move into industry, with men fighting overseas. However, longer-term growth in female participation is linked to other changes, some within the labour market and some within society more generally. The more general rise in female emancipation and the change in attitudes around the 1960s are likely to have helped, and it is noticeable that the major increase in female participation has come in the post-war period. However, there are also other direct economic factors at play. The first is the general move, already noted, from heavy industry to services. Even within remaining manufacturing there has been a shift from old industries to automation and to hi-tech manufacture, which are less physically demanding and, consequently, potentially more accessible. For example, the move from shipbuilding to computer component manufacture.

Also, within the labour market, there has been the increased use of part-time workers, leading to ongoing developments in flexible working. The development of part-time working was aided by the rise of the service sector and in turn made it easier for women with families to return to work. This move was probably also aided by the increased use of labour-saving equipment in the home, for example washing machines and tumble dryers among others.

Outside of the labour market, another development which helped increase female participation was the rise of widespread education. Government involvement in education before 1900 had been limited. The 1870 Elementary Education Act had required local school boards to provide elementary schools where existing facilities were inadequate, but it was not until the 1902 Education Act that schooling came under local authority control. It was also not until 1902 that the Government made any effort to establish a system of secondary education, when the Act provided for two types of state-aided secondary school: the endowed grammar school; and the municipal or county secondary schools. It was the 1944 Education Act that then established the principle of free education for all from primary to secondary level. These changes in

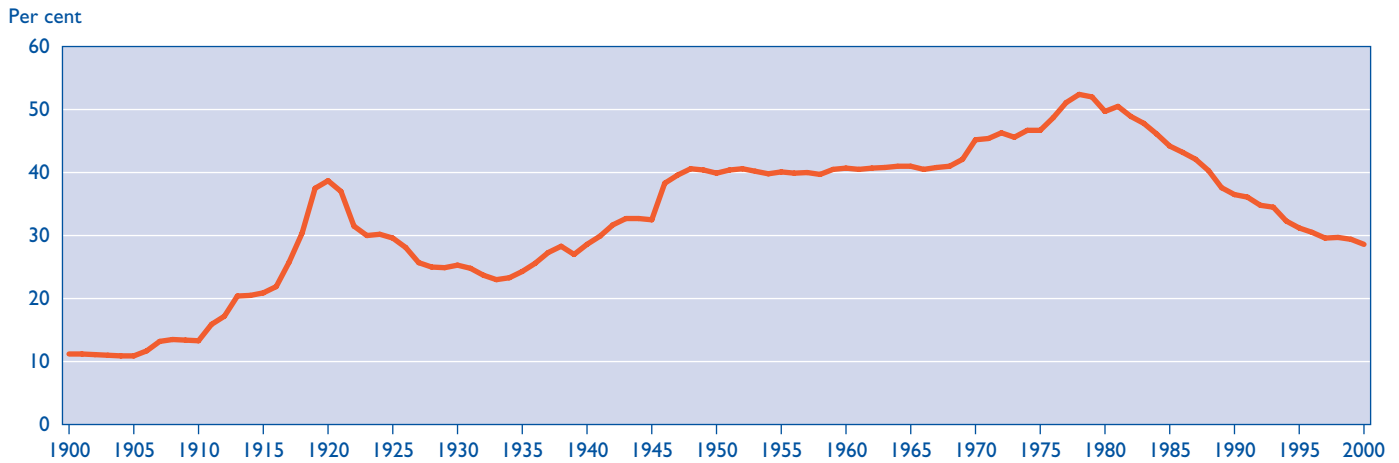
education seem likely to have fuelled increased female participation in two ways: first, with their children at school, women were more able to take up employment; secondly, and probably more importantly, with increased education women were equipped to take on the new jobs. For example, in 1922 female students obtained around 23 per cent of all first degrees – out of a total of just over 10,000; by 1993, this had risen to 45 per cent of around 90,000 degrees awarded in the UK.¹⁸

By comparison, male participation rates in the labour force fell over the latter part of the twentieth century. In part, this seems to have been associated with the same industrial shift which has helped increase female participation. For example, the decline of old heavy industries such as coal, shipbuilding and steel left a large number of men unemployed in the 1980s. Many seem to have drifted into inactivity, feeling detached from the labour market – either too old or unwilling to reskill. It might be expected that this is to be a passing problem that will lessen as the particular affected cohort of workers ages and leaves the workforce. However, there does appear to be a more persistent and general decline in male economic activity.

This increase in male inactivity appears to be associated with an increase in the ill health of the inactive towards the end of the century. In particular, since 1981 there have been increasing numbers of working-age people being reported as disabled or long-term sick. For example, in 1997-98, almost two million long-term sick and disabled people in Great Britain were in receipt of incapacity benefit or severe disablement benefit, which was more than double the number on the equivalent benefits in 1981-82. The number of people receiving disability living allowance was three million, up over five times. Not surprisingly, this has fed into the social security budget, with social security expenditure more than doubling in real terms between 1977-78 and 1999-00 to stand at almost £103 billion.

The question is: why has there been this increase in ill health? The rise in the number of those receiving these

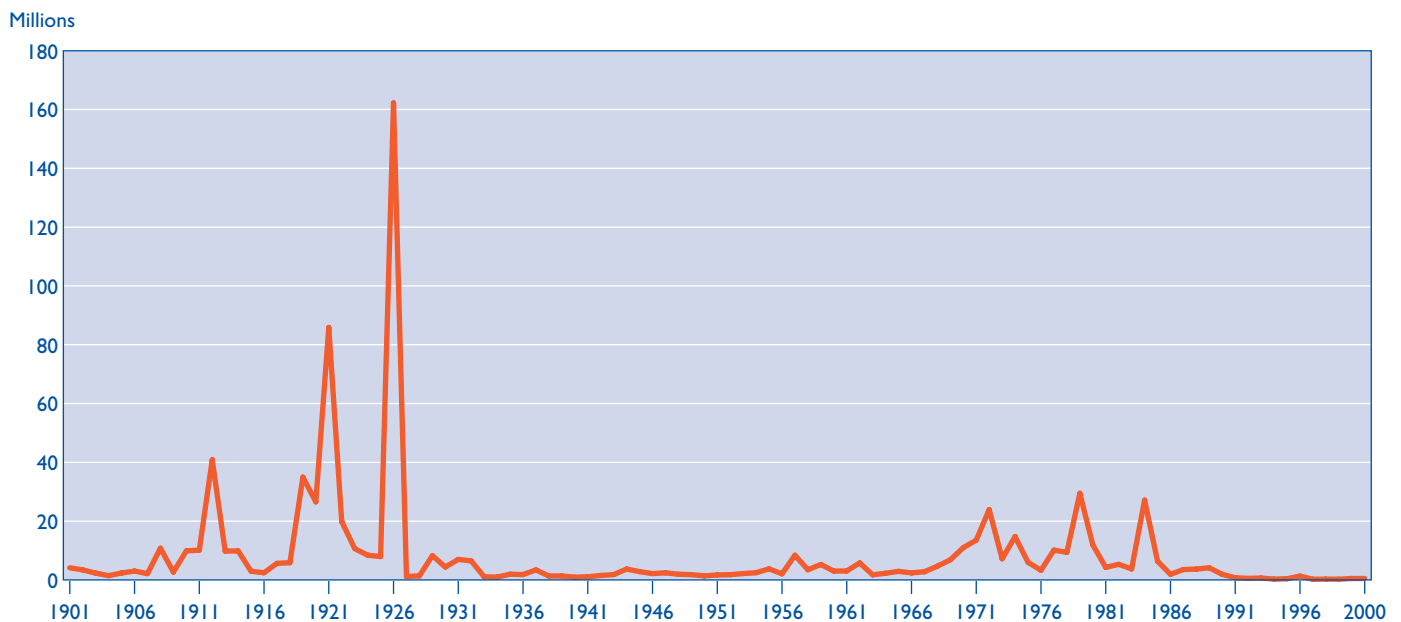
Figure 5 Proportion of people in employment who are members of a trade union; United Kingdom;^a 1900 to 2000



Sources: Trade union membership levels: *British Labour Statistics Historical Abstract 1886-1968*; Department of Employment; Certification Officer's Annual Reports. Employment levels: *One Hundred Years of Economic Statistics*; Labour Force Survey

^a Data since 1975 from the Certification Officer's Annual Reports are for Great Britain only. See *technical note* for further information about the data sources. Note: Data have not been adjusted to reflect the post-2001 Census population estimates.

Figure 6 Number of working days lost due to labour disputes;^a United Kingdom; 1901 to 2000



Source: *Social Trends 30*, Office for National Statistics

^a See *technical note* for further information about the data sources.

Note: Data have not been adjusted to reflect the post-2001 Census population estimates.

invalidity benefits is partly due to an increase in the duration of claims rather than an increase in new claims. However, as already noted there has also been a real increase, particularly among men, which in part seems to be linked to the decline of certain traditional industries and the resulting impacts on local areas. The rise cannot be explained solely in terms of the cohort of workers who left the old nationalised industries as subsidies

were cut; the problems continue to affect the next generation, and the explanation appears to be at least in part cultural, with a cohort of workers growing up used to worklessness. For example, a regional strengths, weaknesses, opportunities and threats (SWOT) analysis (see *technical note*) carried out in East Wales concluded that certain areas were affected by the decline and restructuring of traditional industries. People experienced multiple

deprivation which '... contributes to an inter-generational cycle of inactivity, low expectations, poor skills acquisition and social exclusion'.¹⁹ Alongside this is an increased awareness of illness and disease, such as depression. Previously such disorders may have existed but simply gone undiagnosed.

Hours worked

Alongside the changes in employment type and characteristics

there was also a general decline in average hours worked over the twentieth century. In 1870 annual hours worked per person stood at 2,984. By 1913 this was down to 2,624 and the decline continued, reaching 1,489 in 1998.²⁰ Similar trends can be seen across the developed world, and are linked to technological change increasing productivity. This rising productivity in turn feeds into rising wages, and as wages increase beyond the subsistence level the greater the demand, and opportunity, for increased leisure time.

The decline in annual hours can also be seen in the reduced length of the average working week. For example,

the average weekly hours of a manual worker fell from 53 hours in 1943 to 43.5 in 1987.²¹ Moreover, while overall hours have fallen there have been changes in working patterns, which have altered the nature of the working week. For example, Sunday working has become more widespread since the Sunday Trading Act 1994, which allowed Sunday shop opening in England and Wales.

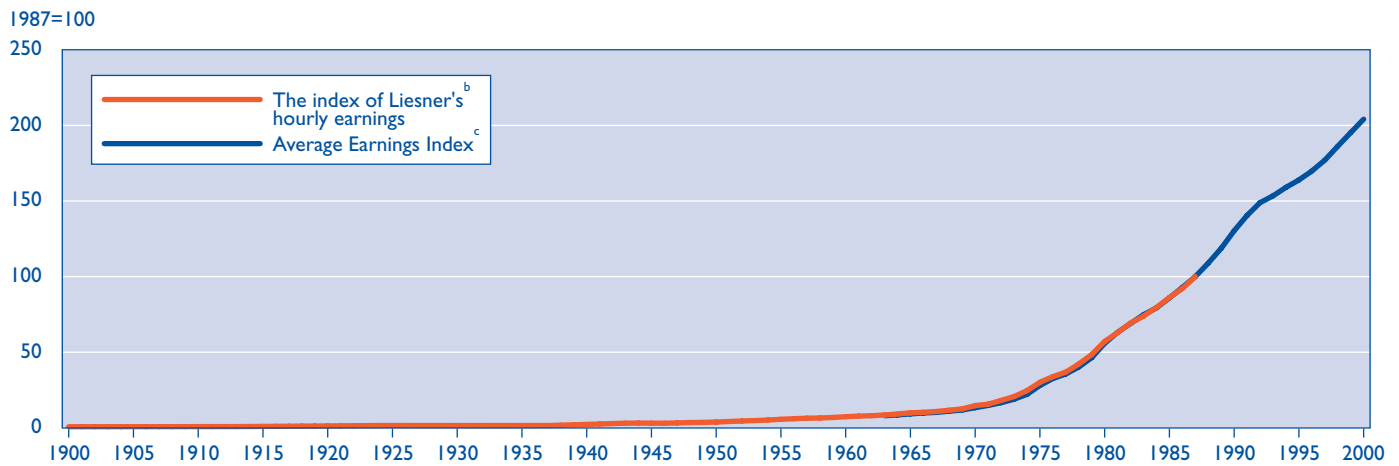
Workplace relations

The century also saw major changes in workplace relations. In 1900 trade union membership represented a little under 11 per cent of those in

employment. This rose to 40 per cent in the early 1920s before falling back to around 24 per cent in the mid-1930s (see *Figure 5*). Membership then surged again, reaching 40 per cent in the late 1940s and remained fairly constant until the 1970s when again recruitment increased. Union membership peaked in the late 1970s at a little over 50 per cent of those in employment. However, it has been in almost continuous decline ever since and by 2000 was down to under 29 per cent, its lowest level for 60 years.

Coupled to this there were varying levels of industrial unrest through the century. As *Figure 6* shows, for much of the period, the number of working days

Figure 7 Index of earnings;^a United Kingdom; 1900 to 2000



Sources: The Economist Publications Ltd.; Average Earnings Index

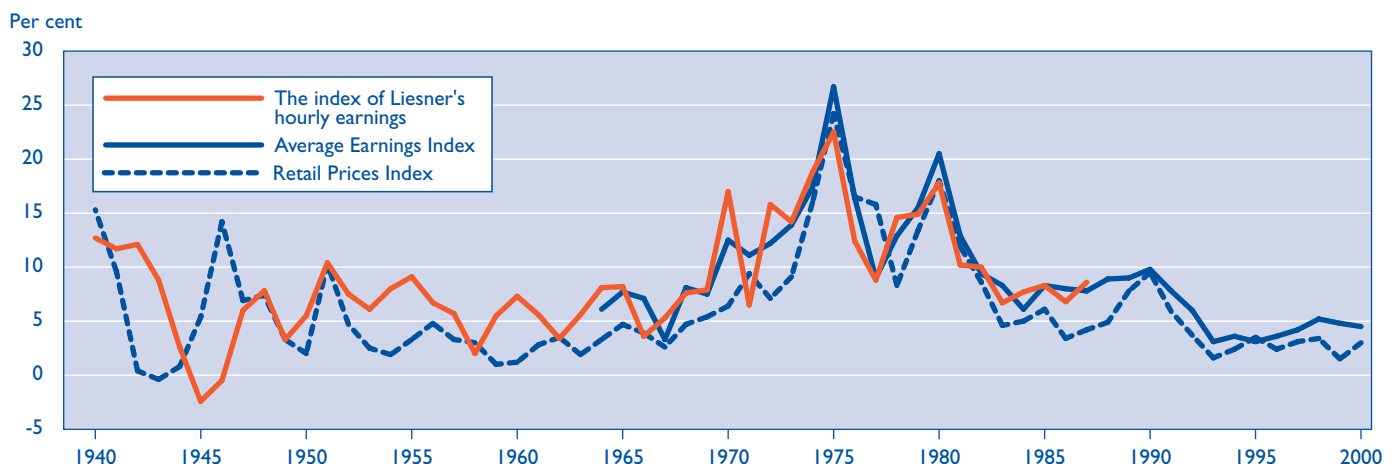
a See technical note for further information about the data sources.

b The Liesner index data are based on the hourly earnings rates given in Liesner's One Hundred Years of Economic Statistics. Data have been converted into an index so that 1987=100.

c The Average Earnings Index is based on the published data. However, the index has been reweighted so that 1987=100 instead of 1995=100 as in the published data.

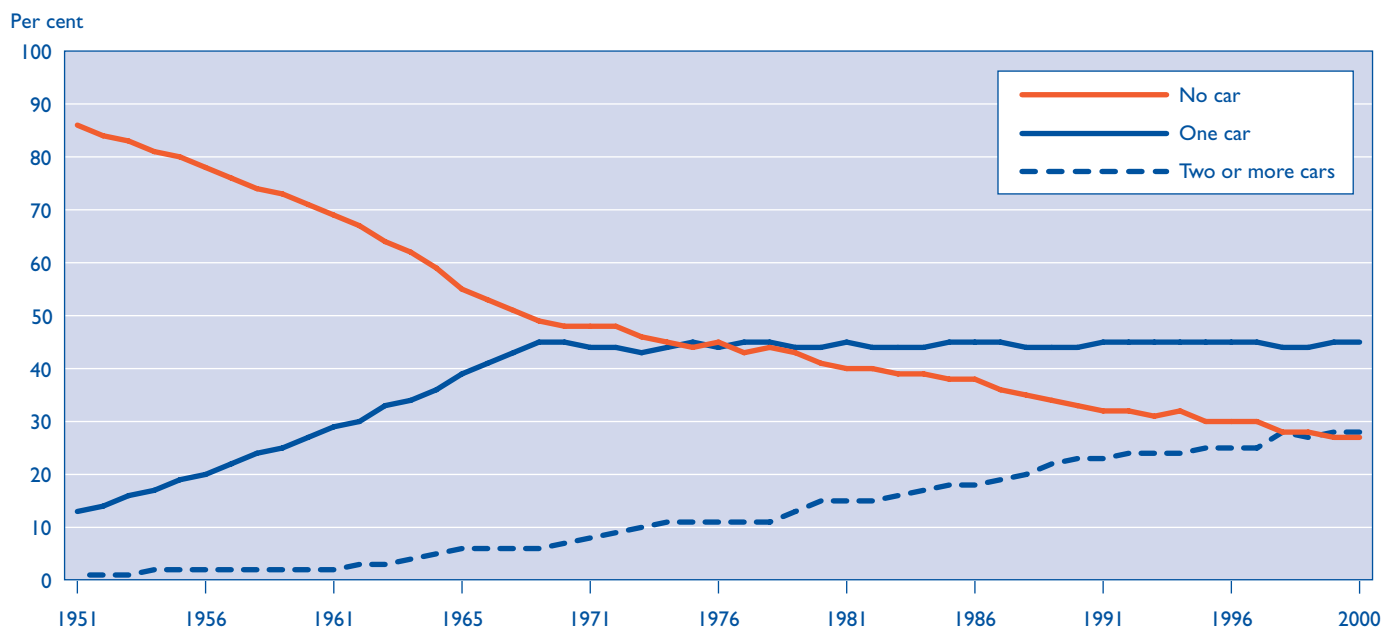
Note: Data have not been adjusted to reflect the post-2001 Census population estimates.

Figure 8 Growth rates of average earnings and the Retail Prices Index; Great Britain; 1940 to 2000



Sources: The Economist Publications Ltd.; Average Earnings Index

Figure 9 Proportions of households with regular access to a car;^a United Kingdom; 1951 to 2000



Sources: Family Expenditure Survey; General Household Survey; National Travel Survey

^a See technical note for further information about data sources.

lost to stoppages has remained fairly low. The first part of the century saw three main periods of unrest, each more marked than its predecessor. This culminated in the General Strike in 1926 when 162 million days were lost to strikes; this was more than was lost for the entire period between 1927 and 1970, an era of relative industrial peace. The 1970s and 1980s then saw industrial action flaring up again with three years in which days lost hit 20 million. However, following the end of the miners' strike in 1985 and reform of union legislation, the number of stoppages fell away again. It is important to note that a single major stoppage can dominate these figures. For example, even of the 162 million days lost to strikes in 1926, 90 per cent were in the coal industry.

Earnings

The level of full-time earnings has soared from an average £1.40 per week in 1902 (unadjusted for inflation) to £350 per week in 1997. *Figure 7* illustrates an index of weekly earnings over the century with 1987=100. As can be clearly seen most of this increase came in the period from 1970 onwards.

However, this is slightly misleading. The patterns in growth are more

accurately drawn out in *Figure 8*, which provides annual growth rates for earnings and the retail prices index (RPI). Most significant is the peak in the 1970s, which is also in official average earnings index (AEI) data, and which can be linked to the high inflation of the period, and the resulting wage-price spirals. Generally, and without broaching the issue of causality, earnings and inflation have moved together since the 1950s.

Figure 8 also brings out, which is not clear in the previous figure, that wage rate inflation has been declining since the 1970s.

Labour mobility

Linked to the changing nature of work and the increased mobility of the workforce has been the rise of motor transport, in particular the car. The car has revolutionised working patterns, increasing travel and labour mobility, and allowing an increase in distances commuted. Data on the first half of the century are not available, but even in 1951 only 14 per cent of households had regular access to a car (see *Figure 9*). By 2000 this had increased to 73 per cent. The big growth came between 1951 and 1970 with the proportion of households with access to one car rising from 13 to

45 per cent by 1970. This has remained constant since, but there has been continuing growth in the proportion of households with two or more cars (from 7 per cent in 1970 to 28 per cent in 2000).

As well as the increase in car ownership, there has been an increase in commuting. For example, from 1976 to 1999/2001 average commuting trip distance increased by over 60 per cent.²² There are various reasons for increased commuting in recent times. Greater specialisation in the job market may have led to more distant opportunities and more frequent job moves. The growth in female participation has increased the number of households in which both partners are working, and inevitably in some cases travelling in opposite directions and living in the middle. Some commuting is from choice. Nor is all commuting by road. Travel has also become easier with the development of the railway, and for certain parts of the country – in particular London – there can be no doubt that the development, and spread, of commuting is heavily linked to the development of the railway.

The key point is that over the last century travelling to work has become easier and allowed people to commute

longer distances. As such, it has had the effect of increasing the catchment area of local labour markets (as defined by Travel-to-Work Areas).

Conclusion

The twentieth century was a period of great change. In some cases, these were

trends that had started in the previous century, for example in terms of industrial change and the continuing improvements in technology. As always when there is such sweeping change, there are winners and losers. Many traditional industries such as shipbuilding or mining, growth areas of the nineteenth century, went into

decline. Trade unions rose and then fell in influence. However, the overall improvements were overwhelming: better working conditions generally; falling hours; increased real wages; greater flexibility in work; and increased female participation in the workforce.

Further information

For further information, contact:

Craig Lindsay,

B3/04,

Office for National Statistics,

1 Drummond Gate,

London SW1V 2QQ,

e-mail craig.lindsay@ons.gov.uk,

tel. 020 7533 5896.

Notes

- 1 House of Commons Library Research Paper 99/111, *A Century of Change: Trends in UK Statistics since 1900* (1999).
- 2 *100 Years of GDP 1900-1999* at: http://statbase/themes/economy/Articles/NationalAccounts/Articles/100_years_of_GDP.asp.
- 3 Mitchell, B. R., *International Historical Statistics: Europe 1750-1993*, fourth edition.
- 4 2001 Census of Population.
- 5 House of Commons, Research Paper 02/44, *Inflation: the value of the pound 1750-2001* (2002) at www.parliament.uk/commons/lib/research/rp2002/rp02-044.pdf.
- 6 Workforce jobs.
- 7 Institute for Fiscal Studies Briefing Note 25: *Long-Term Trends in British Taxation and Spending* (2002).
- 8 Office for National Statistics, *International Migration 2001 – interim estimates*, First Release (28 November 2002).
- 9 Home Office, Research Study, *The Settlement of Refugees in Britain*, No. 141 (1995).
- 10 Home Office, Research Study, RDS Occasional Paper No. 67, *Migration: an economic and social analysis*, at www.homeoffice.gov.uk/rds/pdfs/occ67-migration.pdf.
- 11 Office for National Statistics, *Mortality Statistics general 1998* (series DH1, No. 31), at www.statistics.gov.uk/statbase/xsdataset.asp?vlnk=2278.
- 12 Office for National Statistics, 'Deaths from injury and poisoning: external cause and year of registration or occurrence, 1901-2000' taken from Table 3 published in *Mortality Statistics: Injury and Poisoning* (series DH4, No. 25), at www.statistics.gov.uk/statbase/xsdataset.asp?vlnk=5679.
- 13 Table 3.1 of *Population Trends*, No. 110, at www.statistics.gov.uk/statbase/xsdataset.asp?vlnk=6161.
- 14 Based on population and employment data in Liesner, T. Publications Ltd, *One Hundred Years of Economic Statistics*, The Economist Publications Ltd. (1989).
- 15 Mitchell, B. R., *International Historical Statistics: Europe 1750-1993*, fourth edition, and Mitchell, B. R., *International Historical Statistics: The Americas 1750-1993*, fourth edition.
- 16 History and Heritage of the City and the Metropolitan County of Greater Manchester, at www.manchester2002-uk.com/history/modern/20thcent-1.html.
- 17 Mitchell, B. R., *International Historical Statistics: Europe 1750-1993*, fourth edition.
- 18 House of Commons Library Research Paper 99/111, *A Century of Change: Trends in UK Statistics since 1900* (1999).
- 19 East Wales, Objective 3, Regional Action Plan, Appendix 5, at prp.powys.org.uk/docs/obj3%20rap%20appendix%205.pdf.
- 20 Maddison, A., *The World Economy: A Millennial Perspective*, Organization for Economic Cooperation and Development (2001).
- 21 Liesner, T. Publications Ltd, *One Hundred Years of Economic Statistics*, The Economist Publications Ltd. (1989).
- 22 Department for Transport, National Travel Survey 1999/2001. Update at www.transtat.dft.gov.uk/tables/2002/nts/nts02.htm.

References

- Allin, P., 'One Hundred Years of Labour Market Indicators', *Employment Gazette*, pp553-7, December 1993.
- Department of Employment and Productivity, *British Labour Statistics Historical Abstract 1886-1968* (1971).
- Phillips, H., 'The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom', 1861-1957, *Economica*, new Series 25, No.2, (1958).
- Home Office Research Study, 'The Settlement of Refugees in Britain', RDS Occasional Paper No. 67, *Migration: An economic and social analysis*, No.141 (1995).
- House of Commons Library Research Paper 99/111, *A Century of Change: Trends in UK Statistics since 1900* (1999).
- House of Commons Library Research Paper 02/44, *Inflation: the value of the pound 1750-2001* (2002).
- Institute for Fiscal Studies Briefing Note 25: *Long-Term Trends in British Taxation and Spending* (2002).
- Layston, W.T. and Crowther, G., *An Introduction to the Study of Prices*, Macmillan and Co., (1938).
- Liesner, T. Publications Ltd, *One Hundred Years of Economic Statistics*, The Economist Publications Ltd. (1989).
- Maddison, A., *The World Economy: A Millennial Perspective*, Organization for Economic Cooperation and Development (2001).
- Mitchell, B. R., *International Historical Statistics: Europe 1750-1993*, fourth edition, New York Stockton Press (1998).
- Mitchell, B. R., *International Historical Statistics: The Americas 1750-1993*, fourth edition, New York Stockton Press (1998).

Technical note

This article presents an overview of the main trends within the UK labour market over the twentieth century. In doing this, it uses data from a number of different sources, and inevitably there are issues of consistency and comparability over time. Such issues of consistency occur throughout this analysis. Data have only been presented where it is considered that they add value. However, this is an analytical article trying to draw out the main messages from the data and not a reconciliation piece; users should be aware that there are limitations in comparing data over such a long period of time.

Chart sources

Gross domestic product (GDP)

Figure 1 showing historical GDP is reproduced from the article '100 Years of GDP 1900-1999', which was originally published in the 2000 edition of the *United Kingdom National Accounts – The Blue Book*, and is available online at statbase/themes/economy/Articles/NationalAccounts/Articles/100_years_of_GDP.asp.

The source for much of the data before 1948 is *The Economist* publication, *One Hundred Years of Economic Statistics* by Thelma

Liesner, published in cooperation with ONS in 1989. Data for later years are consistent with the 2000 edition of *The Blue Book*. Data for years before 1948 are not available from National Statistics.

Mortality rates

Figure 2 shows mortality rate data which are taken from Table 3 published in *Mortality Statistics, general 1998* (series DHI No. 31), Appendix 1 (notes to tables – sources, methods and definitions) and are available at www.statistics.gov.uk/statbase/xsdataset.asp?vlnk=2278.

Employment

Employment data are taken from two main sources: *One Hundred Years of Economic Statistics* for the period 1900-1983; and the Labour Force Survey from 1984-2000. This does create a potential inconsistency as the former is based on Census of Employment data, whereas the latter is based on the number of people in employment. However, this does not detract from the overall message seen in the data, and the two series do appear reasonably compatible.

Technical note

Historical industrial employment data are derived from B. R. Mitchell's *International Historical Statistics: Europe 1750-1993*, fourth edition. This allows comparison with other countries on a more comparable basis. However, *One Hundred Years of Economic Statistics* does contain some industrial data, and while the detail differs, the overall message is the same: a decline in agriculture (from 13 to 1 per cent of the workforce); and manufacturing (from 33 to 20 per cent) between 1901 and 1987. The main difference is in services, where the sector is more tightly defined, and so smaller both in 1901 and 1987. But again, it has seen growth (from 20 to 35 per cent). The other sectors identified by *One Hundred Years of Economic Statistics* are largely unchanged: construction, energy and water supply, transport and communication have all declined slightly as a proportion of the workforce (by 2 to 4 percentage points). Distributive trades and public administration and defence have increased (by 1 to 2 percentage points).

Unemployment

Data on unemployment are based on the number of registered unemployed in the *British Labour Historical Abstract 1886-1968* for the period 1900 to 1968. Data for 1969-79 are taken from *Employment and Productivity Gazette*, vol. LXVIII, January-December 1970. Data for the period 1971 onwards are taken from the claimant count series available on the National Statistics website. This has a number of consistency issues. The series from 1971 to the present has been adjusted to be on a consistent basis, but before that the data are affected by different definitions as set out in the *Historical Abstract*. Most notably, up until 1948 the series is based on the proportion of insured workers unemployed – but not all workers were covered by the scope of the Unemployment Insurance Acts. For example, certain domestic employment was only brought within scope in 1938. From 1948 onwards the data are based on the unemployment register.

In addition, while the claimant series is the only long-term series available, the user should be aware that it is a narrower measure and does not correspond to 'unemployment' as defined under National Statistics today.

Retail prices index (RPI)

Figure 4 shows retail prices growth, which has been calculated from the RPI. However, the RPI does not date back to 1900. Official RPI data started in 1947. All figures before 1947 are estimated and are not 'official' figures, and come from estimates in Layton and Crowther, *An Introduction to the Study of Prices* (1938).

Trade union membership

The data on trade union membership levels are drawn from three different sources. For the period 1900-1968 figures come from the *British Labour Statistics Historical Abstract 1886-1968* and are on a UK basis. From 1968-74, the figures are from the former Department of Employment, and are also on a UK basis. Data from 1975 are taken from Certification Officer's Annual Reports and are for Great Britain (GB). Trade union membership rates are then calculated as a proportion of the employment series outlined earlier. The switch from UK to GB does mean that there is an inconsistency in the series, but the impact appears to be small and does not detract from the overall message of union membership.

Working days lost through stoppages

The historic figures for working days lost are taken from *Social Trends 30* and are available on the National Statistics website at www.statistics.gov.uk/statbase/xsdataset.asp?vlnk=134&more=Y.

Earnings

Two main sources are used for earnings data: *The Economist* publication *One Hundred Years of Economic Statistics*; and the Average Earnings Index (AEI). The former provides data on the average weekly earnings of manual workers. This has been converted into an index with 1987 equal to 100 for the purposes of Figure 7. The AEI is available from 1963 – although not on a completely consistent basis. The AEI is normally presented as an index with a base year of 1995. For the purposes of Figure 7, it was rebased to 1987=100. The reason for this was to allow a better comparison with the data from the publication *One Hundred Years of Economic Statistics*; 1987 was the last year of available data from *The Economist* publication.

Car ownership

Data on car ownership is taken from *Transport Statistics Great Britain: 2002 Edition*. Figure 7 is derived from a number of surveys: the National Travel Survey, the Family Expenditure Survey and the General Household Survey – and is available at www.transtat.dft.gov.uk/tables/tsgb02/9/section9.htm#9.04.

'Phillips Curve'

The Phillips Curve represents the relationship between the rate of inflation and the unemployment rate, and was outlined by A. W. H. Phillips in his 1958 study 'The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957' (*Economica*, NS 25, No. 2, 1958). Phillips discovered that there was a consistent inverse, or negative, relationship between the rate of wage inflation and the rate of unemployment in the UK from 1861 to 1957. When unemployment was high, wages increased slowly; when unemployment was low, wages rose rapidly. (The only important exception was during the period of volatile inflation between the two world wars.) This in turn led to the suggestion that there is a trade-off between unemployment and inflation. However, this inverse relationship did not hold throughout the twentieth century, most notably breaking down in the 1970s when both inflation and unemployment reached high levels. For more information, see www.econlib.org/library/Enc/PhillipsCurve.html.

SWOT analysis

SWOT analysis is a business tool for auditing an organisation and its operations, for informing planning and helping a company to focus on key issues. SWOT stands for 'strengths, weaknesses, opportunities, and threats'. Strengths and weaknesses are internal factors. For example, a strength could be specialist expertise. A weakness could be a high cost structure. Opportunities and threats are external factors. An opportunity could be a new technological development; a threat could be a shift in consumer tastes. Successful businesses build on their strengths, correct weaknesses and protect against vulnerabilities and threats. For further information, see www.quickmba.com/strategy/swot/.