

## Analysis in brief

# Employment and unemployment estimates for 1971 to 1991

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## Key points

- ONS has launched new National Statistics providing estimates of employment, unemployment, economic inactivity and hours of work for the period 1971-91 consistent with existing series for 1992 onwards.
- The data were estimated adjusting for discontinuities in the existing pre-1992 Labour Force Survey series and by modelling back in time using an econometric model.
- The new statistics allow comparisons over longer time periods than was possible previously.
- The highest working-age employment rate on record was 75.9 per cent in the period from June-August 1974 through to September-November 1974.
- The lowest unemployment rate on record was 3.4 per cent in October-December 1973 and November 1973-January 1974.
- The working-age inactivity rate has been relatively flat over the entire period, but peaked at 23.3 per cent in March-May 1983.

## Introduction

This article explains the introduction, from December 2004, of new National Statistics, for the years 1971 to 1991, which provide estimates of employment, unemployment, economic inactivity and hours of work. The new series are consistent with the series for 1992 and later years published by ONS, and all follow the present day definitional guidelines of the International Labour Organisation (ILO).

Until recently UK Labour Force Survey (LFS) data have only been available on a consistent basis back to 1992, and on differing bases back to 1979. However, there has been a strong user demand for longer time series of consistent data, for example for use in Government departments' econometric models. In addition, under the European ESA95 regulation there is a requirement to provide data back to the 1970s. Given these demands, ONS started work researching ways of modelling LFS data back over time.

The first results of this work were published on an experimental basis in August 2003. Revised estimates were then published in September 2004 to take onboard the effect of subsequent LFS reweighting. By publishing initial work online ONS was inviting feedback and user comment as part of a process of quality assurance. The response to the work has been positive and the methodology remains unchanged in the latest figures which now have been given National Statistics status.

## Methodology

An article setting out the detailed methodology underlying the estimates is available on the National Statistics website (see Doyle 'Consistent Historical Time Series of Labour Market Data'<sup>1</sup>). However, in essence there are two stages to the estimation.

For 1979-92, there are existing LFS data; however, there are discontinuities between these and the post-1992 data. For example, the quarterly survey was introduced in

► 1992; before this, the survey was annual (1984-91) or biennial (1979-83). The introduction of the quarterly survey appears to have introduced a discontinuity. In addition, there were discontinuities arising from changes in the classification of unpaid family workers, changes in the survey sampling frame, and differences in the weighting between the annual and biennial surveys. Attempts have been made in the past to quantify some of these discontinuities, and estimates for the size of the discontinuities have been published (see *LFS User Guide, vol. 1: Background and Methodology*<sup>2</sup>); however, no adjustments have ever been made to the headline LFS series. The project to create consistent historical series adjusted the headline series to allow for the discontinuities and to produce ONS's best estimate of a consistent series. This created adjusted annual LFS data points. A rolling three-

month series was created by interpolation as part of the same modelling process which produced 1971-79 data.

For 1971-79, there are no useable LFS data. Instead, the relationship between the LFS and other labour market measures over the period 1979-2003 was estimated. This relationship was then used to produce estimates of headline data for the 1971-79 period. For example, LFS unemployment was modelled based on the relationship between unemployment and the claimant count; employment was modelled on the relationship between employment and workforce jobs. Inactivity was then calculated as a residual of population minus employment minus unemployment.

Throughout the period, only key headline series were estimated. The series covered are rates and levels for employment, unemployment, and inactivity; for each of these there were two age breakdowns (working

age and 16 and over) and a breakdown by sex. A total weekly hours worked series was also calculated. No further disaggregations (for example, industrial, regional or more detailed age breakdowns) were calculated on the grounds that the samples would be too small and the standard errors associated with modelling would become too large.

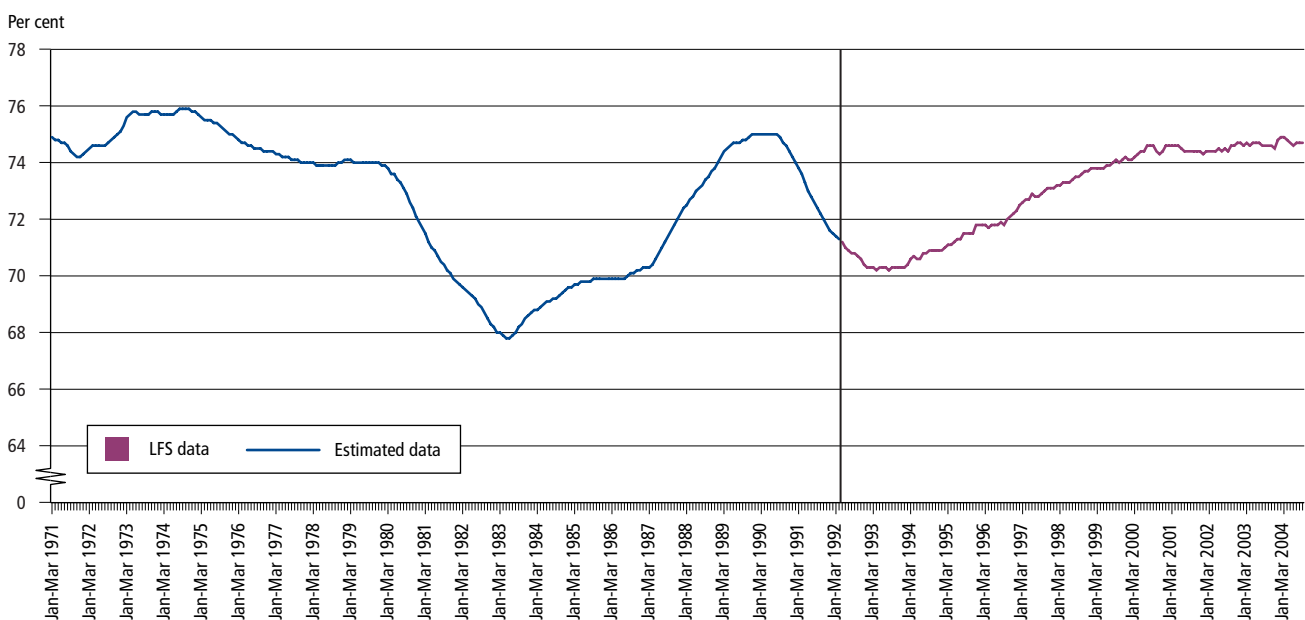
## Quality

The move to National Statistics status reflects the fact that these modelled estimates represent ONS's best estimate of the key labour market measures over the period. 'National Statistics' is a quality marker and statistics labelled as National Statistics must meet certain criteria. They should, for example, be fit for purpose, methodologically sound, politically independent and transparently produced.

Before their move to National Statistics status, the historical time

Figure 1

### Working-age<sup>a</sup> employment rate; United Kingdom; January-March 1971 to July-September 2004



Source: Labour Force Survey and ONS estimates

<sup>a</sup> Working age is 16-64 for men and 16-59 for women.

series estimates had undergone a rigorous quality assurance process. Data were first published in August 2003; comments were then invited from users. All the feedback received has been positive. Furthermore, in September 2004 revised estimates were produced to take onboard the effects of the March 2004 LFS reweighting. As part of this process there was a review of the model used, including a study of the effects of reweighting on the modelled estimates. A full report of this can be found online (see Madouros, ‘Historical LFS-consistent time series: September 2004 update’<sup>3</sup>). Overall though, the impact of the revisions was small, providing evidence of the model’s robustness. In addition, as an indicator of the quality of the estimates, maximum standard errors were published for the modelled series.

## Results and implications

Until now, the historical time series

have been experimental and so have not been used in official comparisons over time. For example, any discussion of when the unemployment rate was last lower has looked solely at data back to 1984. With the historical time series gaining National Statistics status this will change, and landmarks will be assessed using the modelled time series back to 1971. This changes the historical picture for all the key labour market measures.

### Working-age employment rate

As of November 2004, any historical comparison made by ONS focused solely on data from 1984 onwards. The working-age employment rate in July-September was 74.7 per cent, with the highest on record being 74.9 per cent in December 2003-February 2004 and January-March 2004. Using the new data, the highest working-age employment rate on record is 75.9 per cent in the

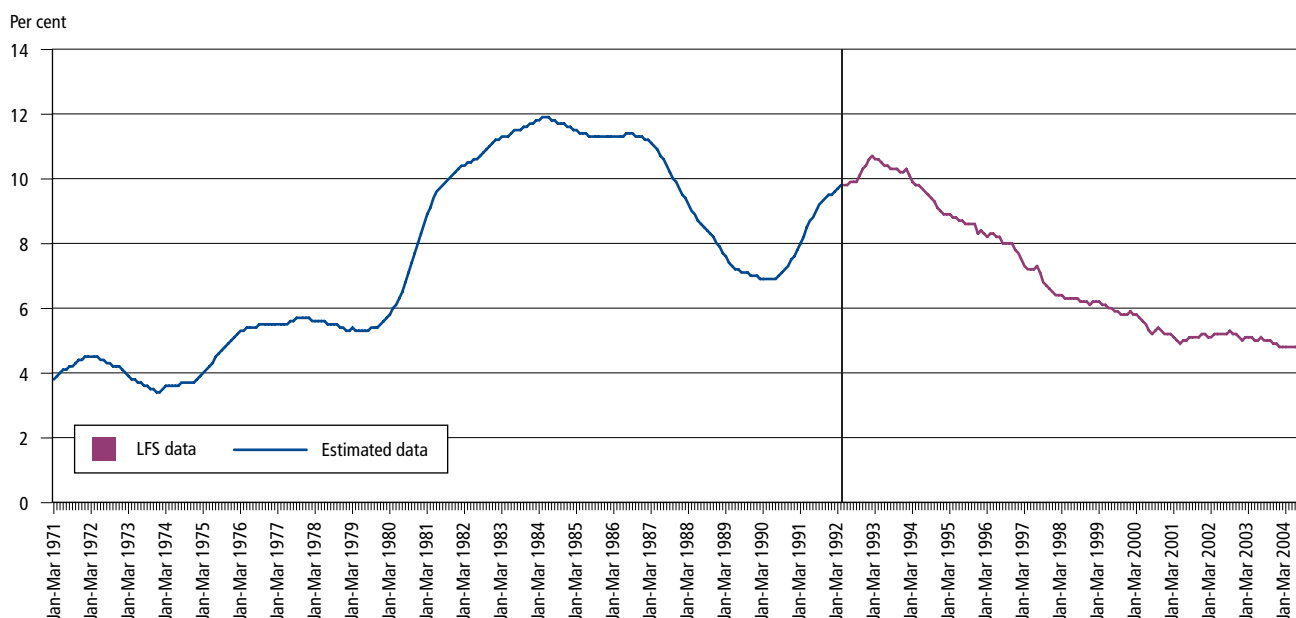
period from June-August 1974 through to September-November 1974 (see **Table 1**). Also, the discontinuity adjustments to the 1979-92 data have an important impact. Previously, ONS has reported that the 74.9 per cent rate in early 2004 was the highest on record; using the new data, it is the highest since June-August 1990. This is because the adjustments to the 1990 data have had the effect of raising employment by around 120,000 and increasing the employment rate. That said, as **Figure 1** shows, the high employment rate has been more sustained of late.

### Age 16 and over unemployment rate

Turning to unemployment, the ONS headline measure is the unemployment rate for people aged 16 and over. As of the November labour market statistics First Release, the July-September rate of 4.6 per

Figure 2

Unemployment rate for people aged 16 and over; United Kingdom; January-March 1971 to July-September 2004



Source: Labour Force Survey and ONS estimates

Table 1

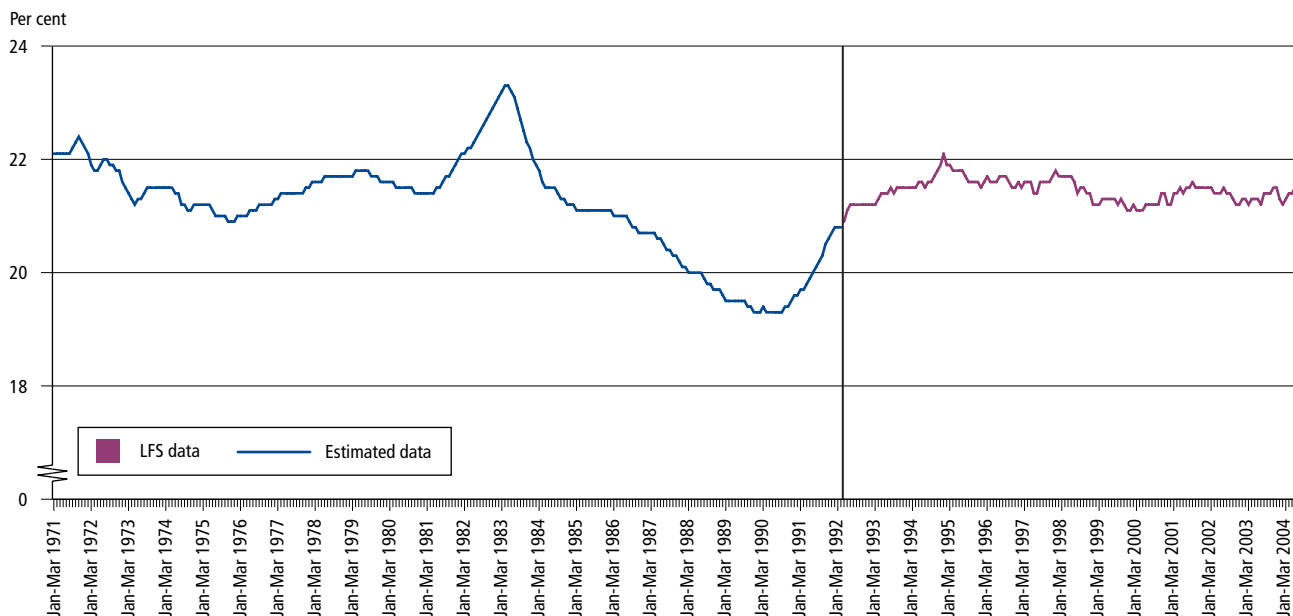
## Summary of results for key labour market indicators; United Kingdom; 1971 to 2004

Series	July-September 2004 (per cent)	Last lower	Last higher	Lowest on record (per cent)	Highest on record (per cent)
<b>Employment</b>					
Working-age employment rate	74.7	Apr-Jun 2004	Feb-Apr 2004	67.8 Mar-May to Apr-Jun 1983	75.9 Jun-Aug to Sep-Nov 1974
Male working-age employment rate	79.2	Apr-Jun 2004	Mar-May 2004	74.9 Feb-Apr 1993	92.1 Jan-Mar 1971
Female working-age employment rate	69.9	Jun-Aug 2004	Jan-Mar 2004	56.2 Jul-Sep to Oct-Dec 1971	70.1 Nov-Jan to Jan-Mar 2004
<b>Unemployment</b>					
16 and over unemployment rate	4.6	May-Jul 1975	Jun-Aug 2004	3.4 Oct-Dec 1973 to Nov-Jan 1974	11.9 Feb-Apr to Apr-Jun 1984
Male 16 and over unemployment rate	5.0	Sep-Nov 1979	Jun-Aug 2004	2.7 Sep-Nov 1973 to Nov-Jan 1974	12.7 Dec-Feb to Feb-Apr 1993
Female 16 and over unemployment rate	4.2	Never	May-Jul 2004	4.2 Nov-Jan & Jun-Aug to Jul-Sep 2004	11.8 Mar-May to Apr-Jun 1984
<b>Economic inactivity</b>					
Working-age inactivity rate	21.5	Mar-May 2004	Jun-Aug 2004	19.3 Oct-Dec 1989 to Dec-Feb 1990 & Feb-Apr to Jul-Sep 1990	23.3 Feb-Apr to Mar-May 1983
Male working-age inactivity rate	16.5	Apr-Jun 2004	Never	4.9 Jan-Mar 1971, Apr-Jun 1971 & Feb-Apr 1972	16.5 May-Jul to Jun-Aug 2004
Female working-age inactivity rate	26.9	Mar-May 2004	Jun-Aug 2004	26.7 Nov-Jan to Jan-Mar 2004	40.7 Feb-Apr, Jul-Sep to Oct-Dec 1971

Source: LFS and ONS estimates

**Figure 3**

**Economic inactivity rate for people of working age;<sup>a</sup> United Kingdom; January-March 1971 to July-September 2004**



Source: Labour Force Survey and ONS estimates

a Working age is 16-64 for men and 16-59 for women.

cent was the lowest on record, that is, since 1984. With the introduction of the new modelled series it becomes the lowest since May-July 1975, when the rate was 4.5 per cent. The lowest unemployment rate on record becomes 3.4 per cent in October-December 1973 and November 1973-January 1974 (see Figure 2).

**Working-age inactivity rate**

Looking at the working-age inactivity rate, the rate for July-September 2004 published in November was 21.5 per cent. The highest rate on record was 22.1 per cent which had been reached in both

1984 and 1994. Using the new data, the highest rate on record becomes 23.3 per cent in March-May 1983 (see Figure 3). It is worth noting that this spike is based on actual LFS data. Previously pre-1984 LFS data have not been used in landmark comparisons due to the different weighting procedure pre-1984; however, analysis has shown the spike to be genuine, not a product of the different weighting. It probably reflects the impact of the increases in unemployment in the early 1980s, and in particular the fallout from the reduction of employment in nationalised industries.

A fuller discussion of the long-term

trends shown in the historical data was published earlier (see pp467-75, *Labour Market Trends*, September 2003).<sup>4</sup> While the estimates have been revised slightly since, the core trends illustrated in this analysis remain.

**Further information**

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- Notes**
- 1 See [www.statistics.gov.uk/articles/labour\\_market\\_trends/Consistent\\_Time\\_Series\\_web\\_article.pdf](http://www.statistics.gov.uk/articles/labour_market_trends/Consistent_Time_Series_web_article.pdf)
  - 2 See [www.statistics.gov.uk/downloads/theme\\_labour/LFSUG\\_Vol1\\_2003.pdf](http://www.statistics.gov.uk/downloads/theme_labour/LFSUG_Vol1_2003.pdf)
  - 3 See [www.statistics.gov.uk/articles/nojournal/ExpLFS.pdf](http://www.statistics.gov.uk/articles/nojournal/ExpLFS.pdf)
  - 4 See [www.statistics.gov.uk/articles/labour\\_market\\_trends/Experimental\\_LFS\\_LMTSep03.pdf](http://www.statistics.gov.uk/articles/labour_market_trends/Experimental_LFS_LMTSep03.pdf)