

# **Employment of Foreign Workers in the United Kingdom (1997-2008)**

Gareth Clancy  
Office for National Statistics

## **Summary**

The Labour Force Survey (LFS) is the source for estimates of migrant workers in the UK economy. This article presents the most up to date LFS figures using the population estimates published in 2007. It updates figures for 1997 that have been previously released in the public domain, and also provides the most recent estimates.

Given the recent public interest in the topic this article seeks to ensure greater clarity and timeliness of migrant worker reporting from the LFS in the future, in line with the recommendations of the Inter-Departmental Task Force on migration statistics (2006). It reviews the ways in which the LFS can provide migrant worker figures, and presents the new ONS standard definition for migrant workers. By using the new definition, of people born abroad aged 16 and over for employment levels, and people born abroad of working age for employment rates, migrant worker estimates will be consistent with the definitions used for the headline figures in the Labour Market First Release. Analyses of migrant workers are provided over time and by industry, occupation and highest qualification.

The key figures presented are:

- The number of non UK born workers in January-March 2008 is 3.7 million, 12.5 per cent of total UK employment.
- In January-March 2008 people born in Europe made up the largest number of non UK born workers in the UK. This group comprises people born in the European Union 14 (0.7 million), the eight countries that joined the EU in 2004 (0.5 million) and all other European countries (0.2 million).
- Since January-March 1997 the increase in UK born workers has been 1.4 million and the increase in non UK born workers has been 1.8 million, 45 per cent and 55 per cent of the total increase respectively.

## **Introduction**

This article concentrates on the growth of employment for specific country groups in comparison to the UK born population, and describes how migrant employment varies by industry, occupation and education. While estimates presented in this article use the most up to date figures, ONS recognises the limitations of using the LFS to calculate the numbers of migrant workers in the UK (see technical note).

People come to the UK for a variety of reasons other than work, for example: study, holidays, and asylum or family ties (including children who come with their parents). However, when the intention is to work, economic factors will have a strong influence on the decision to migrate. For example, the rewards from migrating for work may be greater than those that can be obtained domestically. The attractiveness of coming to work in the UK (and any subsequent decision to return home) will vary according to the supply and demand of labour in the UK and the domestic country, as well as economic fluctuations, for example in exchange rates.

To understand how the decision to migrate impacts on UK employment levels, it is necessary to be familiar with the different approaches to calculating figures for migrant workers. This article helps familiarise readers with migrant worker concepts by:

- explaining the new standard definition for migrant workers, and how it differs from alternative options for producing estimates.
- presenting analyses of employment levels and rates since 1997 for different groups of workers according to their country of birth.
- analysing sampling variability on estimates of the number of migrant workers.
- comparing the education, industry and occupation of UK born workers to those from different countries.

It also provides an example of the impact of using the revised LFS figures (after the latest reweighting) on the UK and non UK born employment levels, before describing how migrant workers can be classified by the LFS.

## **Using the Latest Population Estimates**

On 14 May 2008 LFS microdata for all calendar quarters back to 1992 were made available weighted to the latest population estimates (published in August 2007). The impact of reweighting the microdata on labour market headline estimates is described by Hughes and Palmer (2008) (see link in references). The reweighting exercise means that both the LFS microdata and aggregates are weighted to the most accurate population estimates at the time of writing.

Previous estimates of migrant workers have been weighted to population estimates from 2003 because analysis of migrant workers required the use of the detailed LFS microdata. As a result, all estimates of foreign workers will have changed because they are now based on the latest population estimates. In addition, these earlier

estimates used the working age population to define the levels of migrant workers, whereas the new standard will be based on the population aged 16 and over.

**Table 1** shows the figures for the working age population in employment in Apr-Jun 1997 and Apr-Jun 2007 by country of birth (this quarter is used because the Jan-Mar 1997 quarter is not available using 2003 weights). These estimates for levels are consistent with the old definition for migrant workers (people of working age), and show the impact of the latest reweighting. The table shows that the estimate of the growth in non UK born workers over the period has increased from 1.4 million to 1.5 million, and for UK born workers from 0.3 million to 0.8 million. The estimate of the percentage of the total change in employment attributable to UK born workers of working age has therefore been revised from 18 per cent to 35 per cent as a result of reweighting the LFS microdata.

**Table 1 People in Employment of Working Age<sup>1</sup> by Country of Birth<sup>2</sup>, Apr-Jun**

	Millions and Per Cent					
	UK born		Non UK born		Total <sup>3</sup>	
	Before Reweight	After Reweight	Before Reweight	After Reweight	Before Reweight	After Reweight
1997	23.6	23.7	1.9	1.9	25.5	25.6
2007	23.9	24.5	3.3	3.4	27.2	27.9
Growth in Employment Levels	0.3	0.8	1.4	1.5	1.7	2.3
Per cent of Total Change <sup>4</sup>	18	35	81	64		

**Footnotes**

Source: Labour Force Survey

1. Working age is 16-59 for females and 16-64 for males.

2 The country of birth question in the LFS may undercount the numbers of foreign born because:

: it excludes students in halls of residence who do not have a UK resident parent

: it excludes people in most types of communal establishments (e.g. hotels, boarding houses, hostels, mobile home sites)

: it is grossed to population estimates that only include long term migrants (staying 12 months or more)

3. Totals include those employed but did not state country of birth.

4. Change does not sum to 100 because of those who did not state their country of birth.

## Defining Foreign Workers

From 20 May 2008, ONS will present information on migrant workers that is consistent with the definitions used in wider labour market publications. For employment levels this means the population aged 16 and over will be used, rather than working age. For employment rates the population of working age (defined as 16 to 64 for males, and 16 to 59 for females) will continue to be used. ONS will continue to use country of birth to determine a person's status as a migrant worker. Alternative definitions of migrant worker status are described in this section.

Since 1997 employment levels and rates have risen for both UK and non UK born irrespective of the definition used. However, under the ‘aged 16 and over’ definition, the difference between the increases in UK born and non UK born employment is smaller than under the ‘working age’ definition. This is because the new definition shows a greater increase in UK born employment levels. This is attributed to larger numbers of UK born people still working past state pension age who are included under the new definition, but not the old.

### Country of Birth versus Nationality

The migrant population of the UK can be described in a number of ways. For example, migrant status can be determined on the basis of a person’s country of birth, nationality (according to citizenship) or how recently they arrived. This can be complex. For example, a person born in France could hold a British passport (through family) and therefore, depending on the definition used could be categorised as a UK or non UK employee. In addition, their current stay may be their first or one of many.

ONS has preferred to define migrant workers to the UK by country of birth because this cannot change, whereas citizenship can change across time. In addition, the country of birth definition allows investigation using the year of arrival question in the LFS. This question can be used to investigate the length of time a migrant worker has been in the UK, although the LFS cannot be used to distinguish accurately between short and long-term migrants (see **Box 1** and **Technical Note**).

The country of birth rule is not without problems, because a number of those people classified as foreign born were either British at birth, or have subsequently acquired citizenship. Others may consider themselves British, irrespective of their citizenship, or hold dual nationality. However, the country of birth gives an indication of the country of origin and the background of the worker. The nationality of long term migrants is also likely to differ from short term migrants (see Box 1) because they are more likely to apply for and receive British citizenship. However, work may be the primary reason that both short and long term migrants enter the UK.

## **Box 1: United Nations Definition of Migrants**

### **Long-term international migrant**

The United Nations recommended definition of a long-term international migrant is:

*A person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence. From the perspective of the country of departure the person will be a long-term emigrant and from that of the country of arrival the person will be a long-term immigrant.*

**This 12 month migrant definition is used for the UK usually resident population estimate series.**

### **Short -term international migrant**

The United Nations recommended definition of a short-term international migrant is:

*A person who moves to a country other than that of his or her usual residence for a period of at least 3 months but less than a year (12 months), except in cases where the movement to that country is for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage. For purposes of international migration statistics, the country of usual residence of short-term migrants is considered to be the country of destination during the period they spend in it.*

**UK population estimates do not currently include short-term in-migrants as usually resident in the UK, nor do they exclude short-term out-migrants from the usually resident population.**

## Working age versus 16 and over

An added area of potential confusion is whether figures are presented for all workers (normally 16 years of age and over) or for those of working age (males 16 to 64, females 16 to 59). Previously, the standard presentation of non UK born workers was defined by the population of working age in employment. This definition was used for both the number of workers and the employment rate.

This article presents employment levels according to the new standard (workers aged 16 and over), which corresponds with the definition used for the headline employment levels published in the Labour Market First Release (see link in references). For the employment rate, figures are presented for those persons of working age; again this is consistent with the headline employment rate definition used in the Labour Market First Release.

By presenting the levels figures under the new definition, a more complete picture of employment in the UK is provided because all workers in the economy are captured. The previous method underrepresented the number of UK and foreign born in employment, because male workers above 64 and female workers above 59 were excluded.

In common with labour market statistics more generally, ONS will continue to use working age for the employment rate because its purpose is to measure the economy's success in providing employment for those seeking work. Since the majority of people above working age are retired and therefore not looking for work, including them in the rate would present an artificial picture.

Figures will still be available for the population of working age definition, and according to nationality as opposed to country of birth. Comparisons of both definitions and using nationality are included in this article (see **Table 2**).

## UK and non UK Employment

Table 2 shows the revised estimates of the employment levels and growth in employment since 1997 based on reweighted LFS microdata. It shows that, on the new definition (country of birth for people aged 16 and over) the number of migrant workers in Jan-Mar 2008 was 3.7 million. It also shows that the increase in employment since 1997 attributable to UK born workers is 1.4 million or 45 per cent of the total increase.

Table 2 also gives sufficient information for users to calculate migrant worker estimates based on a variety of definitions, including by nationality and working age.

**Table 2 Comparison of Employment Levels for people aged 16 and over, and of working age<sup>1</sup> by Country of Birth<sup>2</sup> and Nationality**

Millions and Percent (not seasonally adjusted)								
	Nationality aged 16 and over			Percentage of Total Difference	Nationality working age <sup>1</sup>			Percentage of Total Difference <sup>3</sup>
	UK	Non UK	Total		UK	Non UK	Total	
<b>for the three months Jan-Mar 1997</b>								
<b>Country of Birth</b>								
UK/GB Born	24.3	0.0	24.3	-	23.6	0.0	23.6	-
Non UK born	1.0	0.9	1.9	-	1.0	0.9	1.9	-
Total	25.3	0.9	26.2	-	24.6	0.9	25.5	-
<b>for the three months Jan-Mar 2008</b>								
<b>Country of Birth</b>								
UK/GB Born	25.7	0.0	25.8	-	24.5	0.0	24.5	-
Non UK Born	1.4	2.3	3.7	-	1.4	2.2	3.6	-
Total	27.1	2.3	29.4	-	25.9	2.3	28.1	-
<b>Difference in Employment Levels between Jan-Mar 1997 and Jan-Mar 2008</b>								
<b>Country of Birth</b>								
UK/GB Born	1.4	0.0	1.4	45	0.9	0.0	1.0	36
Non UK Born	0.4	1.3	1.8	55	0.4	1.3	1.7	64
Total	1.8	1.4	3.2		1.3	1.3	2.7	
Percentage of Total Difference	57	43			49	50		

Source: Labour Force Survey<sup>4</sup>

### Footnotes

1. Working age is 16-59 for females and 16-64 for males.

2 The country of birth question in the LFS may undercount of foreign born because:

: it excludes students in halls of residence who do not have a UK resident parent

: it excludes people in most types of communal establishments (e.g. hotels, boarding houses, hostels, mobile home sites)

: it is grossed to population estimates that only include long term migrants (staying 12 months or more)

3. The symbol "-" indicates an empty cell because the calculation is not relevant.

4 The figures presented are weighted to population estimates published in 2007.

## Using Employment to estimate New Jobs

The primary purpose of the LFS is to calculate economic (in) activity (including levels and rates of employment). The Workforce Jobs Survey (WFJ) is the preferred source for the number of jobs in the UK economy. The number of people employed and the number of jobs are conceptually different. The simplest example of this is that

a person can hold two jobs. Neither source can provide an explicit estimate of the number of new jobs created in the UK economy. Furthermore, the WFJ does not collect information from employers on nationality or country of birth.

Therefore, the LFS is best placed to provide answers to questions relating to migrant employment. Table 2 provides the change in employment between the 1997 and 2008 Jan-Mar quarter for UK and non UK born. Under the new definition the total increase in employment is 3.2 million, of which 45 per cent reflects an increase in UK born employment and 55 per cent an increase in non UK born employment. The importance of how employment levels are defined is made clear when these percentages are compared with the equivalent percentages using nationality for UK (57 per cent) and non UK (43 per cent) employment.

## Time Series Analysis by Country Groups

When interpreting time series figures notable events which have influenced the migrant labour market in the UK should be kept in mind. Examples include: developments to the Single European Market which increase flexibility within the European labour market; the performance of the world and EU economy relative to the UK which creates push and pull factors for potential migrant workers; and political events like EU accession which have economic consequences.

Accession to the EU is the most easily recognisable factor because it can be so clearly defined in time. Until 2004 the EU consisted of 15 member states (see technical note) however, in this article the UK is kept separate creating a notional EU14 group. In 2004, a further ten states joined, however the close links that Cyprus and Malta have with other EU member states mean that for the purposes of this analysis a group of 8 accession countries (A8) is used (see technical note).

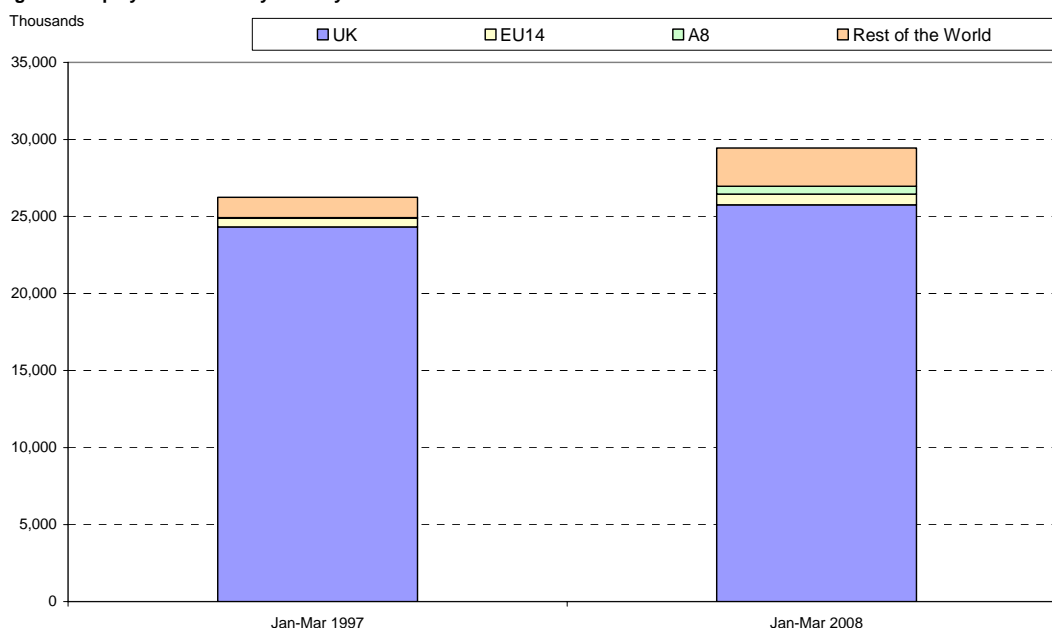
### Employment Levels

Employment levels are influenced by both supply and demand side factors such as population changes and demand for labour. Levels should be analysed along with the (un)employment rate. This is because both of these indicators will be affected by the performance of the economy, which will obviously influence labour demand. While labour demand can increase both the levels and rate of employment, supply factors can cause a decline in levels for one group of workers as they are 'replaced' in employment by another group. Other factors causing a decline include, the migrant population returning to their country of birth and the inflow of the migrant population not being at the same rate as the resident migrants who are retiring.

Table 2 shows that non UK born employment levels have increased from 1.9 million in Jan-Mar 1997, to 3.7 million in Jan-Mar 2008. The 1997 and latest employment levels for UK, EU14, A8 and the 'Rest of the World' born are presented in **Figure 1**. From the figure it can be seen that the total increase in employment is from 26.2 million to 29.4 million. The numbers of A8 born employment in 1997 are too low to be depicted. In Jan-Mar 1997 UK born employment accounted for 92.7 per cent of total employment, and non UK born 7.3 per cent. In Jan-Mar 2008 UK born

employment accounted for 87.5 per cent of total employment, while non UK born accounts for 12.5 per cent.

**Figure 1 Employment Levels by Country of Birth 1997 and 2008**



The main contributor to non UK born employment growth since 2004 is the increase in A8 employment levels. From Apr-Jun 2004 to Apr-Jun 2007 a five-fold increase in A8 levels took place and can be followed in the detailed table in the Annex.

**Table 3** shows employment levels for broad country of birth groups (EU14, A8 and non UK born). All groups show an increase, although this conceals various differences in labour market outcomes for people born in specific countries. For example, the LFS figures for Irish born people working in the UK show a decline that is hidden within the flat EU14 levels (compare EU14 estimates in table 3 to figure 2). This trend has taken place at the same time as the Irish economy has performed well against output, productivity and employment indicators (see Aiginger 2004).

### Employment Rate

Table 3 shows the employment rates for the January to March quarter from 1997 to 2008. The UK employment rate rises from 73 per cent in 1997 to remain between 75 and 76 per cent post 2000. Both the EU14 and A8 groupings depict more noticeable increases post 1997. The EU14 employment rate levels off similarly to the UK, but the A8 employment rate increased rapidly over the period and has established a seven percentage point gap over the UK in Jan-Mar 2008.

More detail on the non UK born employment rates can be found in the Annex. However, from table 3 it can be seen overall the non UK born rate has increased over the period presented. The gap between the UK rate and non UK rate highlights the differing economic participation rates of women from certain cultures. The detailed table in the Annex shows that Pakistani and Bangladeshi born people have the lowest employment rates, although they have increased over the period. The increase in the employment rates of people born in Pakistan and Bangladesh along with the higher

A8 employment rate has closed the UK to non UK gap from ten to seven percentage points.

To increase the accessibility of LFS migrant worker figures a version of table 3 will be published on a quarterly basis in conjunction with other migration statistics.

Table 3 Levels<sup>1</sup> and Rates<sup>2</sup> of Employment by Country of Birth, Jan-Mar 1997 to Jan-Mar 2008

Thousands and Percentages, not seasonally adjusted

	Total <sup>3</sup>		UK		Non UK <sup>2</sup>		EU14		A8		Rest of the World	
	Employment Levels	Employment Rates	Employment Levels	Employment Rates	Employment Levels	Employment Rates	Employment Levels	Employment Rates	Employment Levels	Employment Rates	Employment Levels	Employment Rates
Jan-Mar 97	26,245	72.2	24,323	73.1	1,921	62.5	565	56.9	26	31.9	1,330	57.8
Jan-Mar 98	26,546	72.8	24,505	73.7	2,041	63.7	592	60.2	33	40.0	1,416	58.4
Jan-Mar 99	26,909	73.5	24,777	74.4	2,130	64.0	634	66.0	31	37.6	1,466	59.1
Jan-Mar 00	27,239	73.8	25,102	74.9	2,135	63.2	599	69.3	45	71.6	1,491	60.9
Jan-Mar 01	27,505	74.2	25,229	75.2	2,272	64.4	633	74.0	37	56.4	1,602	61.6
Jan-Mar 02	27,675	74.0	25,313	75.1	2,360	63.9	617	72.2	45	60.4	1,699	61.5
Jan-Mar 03	27,970	74.3	25,445	75.4	2,524	64.2	648	72.9	49	58.3	1,826	61.9
Jan-Mar 04	28,331	74.6	25,742	75.7	2,589	65.0	619	70.2	63	63.8	1,906	63.6
Jan-Mar 05	28,641	74.6	25,814	75.6	2,826	66.7	627	73.6	117	74.2	2,082	64.5
Jan-Mar 06	28,869	74.4	25,767	75.4	3,100	67.4	635	75.2	254	82.7	2,210	64.1
Jan-Mar 07	28,978	74.1	25,622	75.1	3,350	67.2	654	75.2	377	80.8	2,319	63.5
Jan-Mar 08	29,438	74.6	25,755	75.5	3,682	69.3	696	76.5	510	82.8	2,475	65.3

1 Levels of employment are provided for the population aged 16 and over.

2 Employment rates are provided for the working age population currently defined as 16 to 59 for females and 16 to 64 for males.

3 Totals and include the rest of the world, and those people who did not state their country of birth. Non UK does not include those who did not state their country of birth.

4 The figures presented are weighted to the population estimates published in 2007.

Source: Labour Force Survey

## LFS estimates with Confidence Intervals

Like all survey estimates, those in table 3 are subject to sampling errors. **Table 4** shows the 95 per cent confidence intervals for a range of estimates of country of birth categories. These are provided because understanding the statistical robustness of migrant worker estimates is important in determining the validity of any conclusions reached. The sampling errors presented in Table 4 demonstrate that some of the differences in quarterly estimates from the detailed table in the Annex are not statistically significant at the 95 per cent level.

For example, South African born workers have an employment level estimate of 132,000 in Jan-Mar 2007. The 95 per cent confidence interval for this period is  $\pm 21,000$ . The estimate for the following quarter, Apr-Jun 2007 is 143,000 with a 95 per cent confidence interval of  $\pm 22,000$ . From these figures it can be seen that the confidence intervals overlap, and therefore this is an example where at the 95 per cent level the difference in the estimates is not statistically significant. The 95 per cent confidence intervals presented in table 4 can be used to evaluate changes in the estimates of employment.

Table 4: 95 Per cent confidence intervals for Employment Levels<sup>1</sup> and Rates<sup>2</sup> by Selected Country of Birth Groups

		Thousands and Per Cent <sup>3</sup>							
		Jan-Mar		Apr-Jun		Jul-Sep		Oct-Dec	
Country of Birth <sup>4</sup>		Level and Rate	95 Per cent Confidence Intervals	Level and Rate	95 Per cent Confidence Intervals	Level and Rate	95 Per cent Confidence Intervals	Level and Rate	95 Per cent Confidence Intervals
Total	Employment Level	28,978	± 140	29,100	± 140	29,382	± 139	29,488	± 140
	Employment Rate	74.1	± 0.4	74.3	± 0.4	74.8	± 0.3	75.0	± 0.4
UK Born	Employment Level	25,622	± 158	25,616	± 159	25,825	± 159	25,878	± 160
	Employment Rate	75.1	± 0.4	75.3	± 0.4	75.8	± 0.4	76.0	± 0.4
Non UK Born	Employment Level	3,350	± 95	3,474	± 100	3,549	± 100	3,607	± 101
	Employment Rate	67.2	± 1.1	68.0	± 1.1	68.9	± 1.1	68.7	± 1.1
EUA8	Employment Level	377	± 45	445	± 53	442	± 49	486	± 51
	Employment Rate	81	± 3	82	± 3	83	± 3	84	± 3
South Africa	Employment Level	132	± 21	143	± 22	136	± 21	139	± 21
	Employment Rate	82	± 5	84	± 5	85	± 4	82	± 5
Australia & New Zealand	Employment Level	127	± 19	140	± 20	135	± 20	135	± 21
	Employment Rate	82	± 5	85	± 4	87	± 4	85	± 4
EU14	Employment Level	654	± 42	677	± 42	680	± 42	670	± 42
	Employment Rate	75	± 2	74	± 2	75	± 2	75	± 2
India	Employment Level	324	± 33	313	± 34	302	± 33	316	± 34
	Employment Rate	69	± 3	71	± 4	69	± 4	69	± 4
Pakistan	Employment Level	149	± 23	153	± 22	167	± 22	160	± 22
	Employment Rate	49	± 5	50	± 4	47	± 4	47	± 4
Bangladesh	Employment Level	93	± 18	79	± 16	85	± 19	72	± 18
	Employment Rate	48	± 5	45	± 6	49	± 6	45	± 6
Africa	Employment Level	522	± 40	517	± 40	543	± 41	553	± 42
	Employment Rate	65	± 3	65	± 3	67	± 3	67	± 3
Americas	Employment Level	333	± 30	345	± 32	372	± 34	354	± 33
	Employment Rate	68	± 3	70	± 3	72	± 3	71	± 4
Middle East & Asia	Employment Level	427	± 37	443	± 38	469	± 39	481	± 41
	Employment Rate	57	± 3	58	± 3	63	± 3	60	± 3
Total	Employment Level	28,978	± 140	29,100	± 140	29,382	± 139	29,488	± 140
	Employment Rate	74	± 0	74	± 0	75	± 0	75	± 0

Source: Labour Force Survey

1 Levels of employment are provided for the population aged 16 and over.

2 Employment rates are provided for the working age population currently defined as 16 to 59 for females and 16 to 64 for males.

3 The figures presented are weighted to population estimates published in 2007.

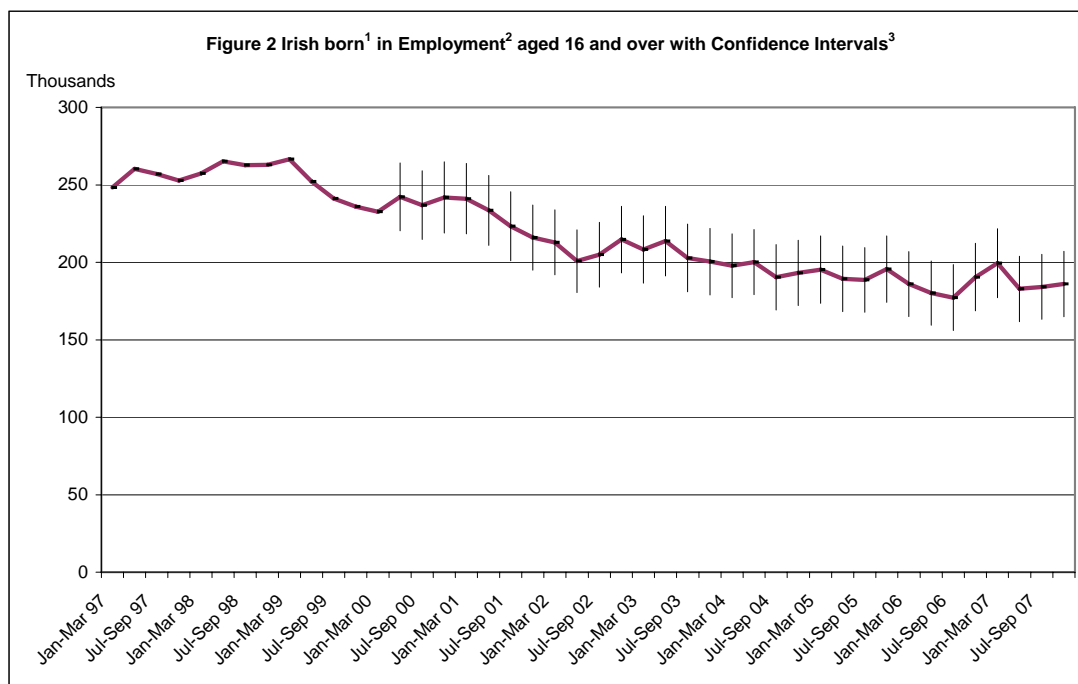
4 The country of birth question in the LFS/APS may undercount foreign born because:

: it excludes students in halls of residence who do not have a UK resident parent

: it excludes people in most types of communal establishments (e.g. hotels, boarding houses, hostels, mobile home sites)

: it is grossed to population estimates that only include long term migrants (staying 12 months or more)

**Figure 2** shows how the confidence intervals presented in table 4 can be used to support the statement made that the number of Irish born workers has declined over the period 2000 to 2007. This is because the confidence intervals (represented by the thin vertical lines) for 2000 and 2007 do not overlap each other. Although confidence intervals are not available at present for 1997, estimates of the sampling errors suggest they would support this statement as well. Therefore, it can be said that at the 95 per cent level there has been a fall in Irish born employment levels in the UK.



Source: Labour Force Survey

**Footnotes**

- 1 The country of birth question in the LFS may undercount foreign born because:
  - : it excludes students in halls of residence who do not have a UK resident parent
  - : it excludes people in most types of communal establishments (e.g. hotels, boarding houses, hostels, mobile home sites)
  - : it is grossed to population estimates that only include long term migrants (staying 12 months or more)
- 2. The figures presented are weighted to the population estimates published in 2007. The figures are not seasonally adjusted.
- 3. Confidence Intervals are not presented before Apr-Jun 2000 because the a key variable in their calculation is not available.

## Characteristics of UK Born and Foreign Born Workers

### Industry and Occupation

In **Table 5** the four quarterly averages from the LFS show that the main sectors for employment of UK and Other non UK born workers were similar in 2007. The top three sectors for both being: ‘Public admin, education and health’; ‘Distribution, Hotels and restaurants’ and ‘Business Services’. The notable differences are between the A8 countries and ‘Other non UK’ born employed. A8 migrant workers are concentrated in ‘Manufacturing and Distribution’ and ‘Hotels and Restaurants’, while ‘Other non UK’ born are spread across ‘Business Services’ and ‘Public admin, education and health’ in addition to the main two sectors where A8 born are concentrated.

This pattern of A8 employment makes sense because new entrants to the UK labour market will find it easier to obtain employment in ‘Distribution, Hotels and Restaurants’ and ‘Manufacturing’ without high levels of training.

**Table 5 Per Cent (and rank) working in each industrial sector aged 16 and over by Country of Birth<sup>1</sup>, 2007<sup>2,3</sup>**

Industrial Sector	Percent (and rank)					
	UK born		A8 born		Other Non UK born	
	Per cent	Rank	Per cent	Rank	Per cent	Rank
Agriculture & fishing	1	8	2	8	*	9
Energy & water	1	9	*	9	1	8
Manufacturing	13	4	27	1	10	4
Construction	9	5	12	3	4	7
Distribution, hotels & restaurants	19	2	22	2	20	3
Transport & communication	7	6	11	5	8	5
Business Services	16	3	11	4	21	2
Public admin, educ & health	28	1	9	6	29	1
Other services	6	7	6	7	6	6
<b>Total</b>	<b>100</b>		<b>100</b>		<b>100</b>	

Source: Labour Force Survey

\* Less than 0.5 per cent

Totals may not sum due to rounding

1 The country of birth question in the LFS may undercount foreign born because:

: it excludes students in halls of residence who do not have a UK resident parent

: it excludes people in most types of communal establishments (e.g. hotels, boarding houses, hostels, mobile home sites)

: it is grossed to population estimates that only include long term migrants (staying 12 months or more)

2. The figures presented are weighted to the population estimates published in 2007. Figures are not seasonally adjusted.

3 A four quarterly average is used, LFS quarters Jan-Mar to Oct-Dec 2007

Analysing the country of birth figures by occupation (**Table 6**) provides an indication of the areas of work that A8 migrants are most successful in gaining employment. When compared with education attainment it also provides an insight into the extent to which migrants use their skills. The distribution of the occupational categories shows how A8 workers have been attracted to 'Elementary Occupations' (36 per cent of all A8 workers) and 'Process, Plant and machinery Operatives' (21 per cent) which is in keeping with the assumption made in the industry analysis that A8 workers are finding employment where low levels of training are required.

The patterns of employment by occupation for non UK born (not shown in Table 6) are similar to those of the UK. This is likely to be because: the country of birth variable includes those who have been in the UK for some time and therefore may have become similar in terms of experience in the labour market to UK born workers; secondly, the non UK born category includes several country groups that have similar educational and cultural expectations, for example the EU14 group and Americas group have employment rates comparable to the UK.

**Table 6 Per Cent<sup>1</sup> of UK and A8 born by Occupational group<sup>2</sup> for Country of Birth<sup>3</sup>, 2007**

	Per Cent								
	Managers and Senior Officials	Professional occupations	Associate Professional and Technical	Administrative and Secretarial	Skilled Trades Occupations	Personal Service Occupations	Sales and Customer Service Occupations	Process, Plant and Machine Operatives	Elementary Occupations
UK Born	15	13	14	12	12	8	8	7	11
A8	3	4	5	4	17	7	3	21	36

Source: Labour Force Survey

1 Per Cent in employment is provided for the population aged 16 and over.

2 Excludes missing responses from the four quarter average calculations.

3 The country of birth question in the LFS may undercount foreign born because:

: it excludes students in halls of residence who do not have a UK resident parent

: it excludes people in most types of communal establishments (e.g. hotels, boarding houses, hostels, mobile home sites)

: it is grossed to population estimates that only include long term migrants (staying 12 months or more)

4 The figures presented are weighted to the population estimates published in 2007. The figures are not seasonally adjusted.

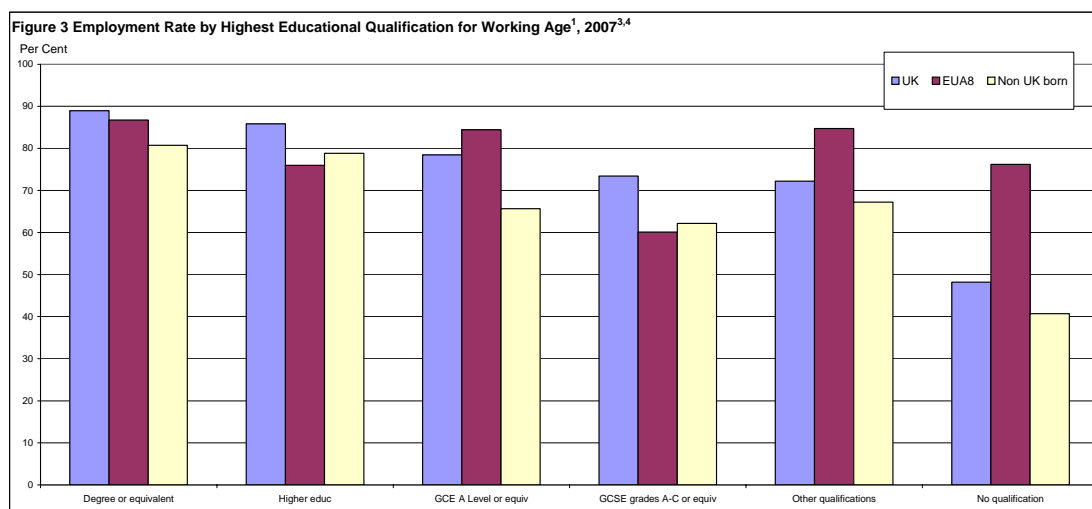
5 A four quarter average is used from Jan-Mar 2007 to Oct-Dec 2007

## Employment Rate by Education and Inactivity

In **Figure 3** the UK born employment rate is higher than the non UK born employment rate across all levels of education. The largest gap in employment rate is at 'GCE A-Level or equiv' and the smallest gap is in the 'Other Qualifications' category. However, for three of the six categories A8 workers have the highest employment rate by qualification.

Both the UK and 'non UK' born employment rates increase as the level of education increases. This supports the statement that investment in human capital increases the likelihood of a person being employed. However, the 'Other Qualification' category is higher than both the 'GCE A-Level or equiv' and 'GCSE grades A-C or equiv' for non UK born. A similar result is shown for the A8 countries, where the 'GCE A-Level or equiv' and 'Other Qualification' employment rate are almost as high as the degree employment rate.

These results are partly explained by the way the qualification question is coded. For all non UK born, responses can be entered in 'Other Qualifications' because of the difficulty in matching to UK qualifications. This includes foreign degrees, and therefore the employment rate for this category could be artificially inflated. Certain specialist work qualifications can also be coded in 'Other Qualifications', which could also increase the employment rate since migrants with work specific qualifications are more likely to find employment.

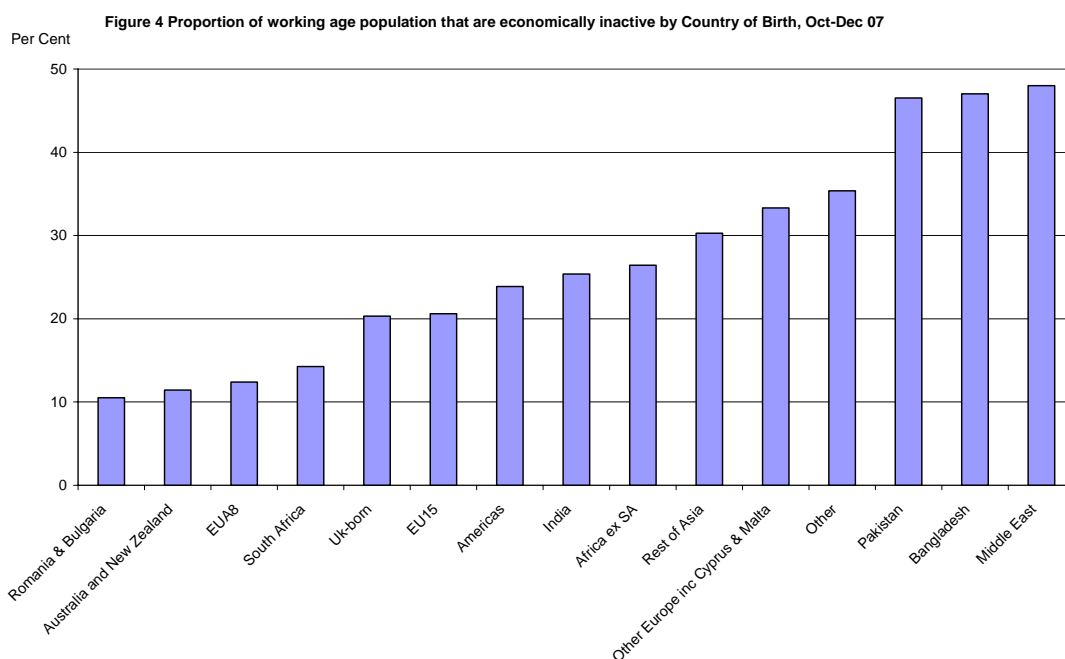


### Footnotes

- 1 Employment rate is provided for the population of working age.
- 2 The country of birth question in the LFS/APS may undercount foreign born because:
  - : it excludes students in halls of residence who do not have a UK resident parent
  - : it excludes people in most types of communal establishments (e.g. hotels, boarding houses, hostels, mobile home sites)
  - : it is grossed to population estimates that only include long term migrants (staying 12 months or more)
- 3 The figures presented are weighted to the population estimates published in 2007. The figures are not seasonally adjusted.
- 4 A four quarter average is used from Jan-Mar 2007 to Oct-Dec 2007
- 5 Figures exclude missing responses from the four quarter average calculations.

The UK versus non UK born employment comparisons in this article hide a great disparity in inactivity rates across the country groupings contained in table 3. The inactivity rates contained in figure 4 begin to demonstrate some disparities. This can be seen where those born in the "Rest of Asia" have lower inactivity rates than those born in the Middle East. The variation in inactivity rates across these country groupings suggests a large number of factors influencing labour market outcomes for people of different countries of birth.

A more complete picture is obtained when inactivity rates are compared with employment levels and rates. In figure 4 Middle East, Pakistani and Bangladeshi born groups have the highest inactivity rates. For those born in Pakistan and Bangladesh this finding corresponds with the lower employment rates presented in the detailed table in the Annex (Middle East born are grouped with the Asian born in the Annex table). The A8 born group has increasing growth in employment levels (see table in Annex) corresponding with low inactivity rates. People born in Romania and Bulgaria are grouped with ‘Other Europe’ in the Annex table, however using the information provided by figure 4 it can be seen that people born in these two countries are likely to increase the ‘Other Europe’ employment rate.



## Country of Birth Analysis by Year of Arrival

The estimates of A8 born employment that migrated pre 1996 shown in **Table 7** are low. Given the likely margins of error for these estimates these figures become less reliable. The most robust conclusion that can be drawn from this period for A8 migrants is that the numbers of A8 migrants in employment were extremely low in comparison to estimates of ‘Other non UK’ born.

However, these low figures do emphasise for the A8 countries the magnitude of the increase in stocks and flows after 2004. Of the 486,000 A8 born workers in employment in Oct-Dec 2007, 387,000 arrived in the UK in the last three years. Across all three periods the largest educational group for A8 born is ‘Other Qualifications’. As discussed when comparing education to employment rate, the ‘Other Qualification’ category captures some educational attainment that might match to any of the other four named categories in table 7. The A8 born labour supply includes a higher proportion of people working with no qualifications compared to

those born in the EU14. This corresponds with the conclusions drawn about the industries and occupations in which A8 workers are employed.

The workers born in the EU14 countries present a different distribution of arrival in the UK to A8 born workers. The majority of EU14 workers had already arrived pre 1996 (399,000 of the 653,000). Throughout all the time periods presented, a degree (or equivalent) is one of the largest qualification groups for EU14 employees. It can also be seen that highly educated people ('higher education below degree level' and 'degree or equivalent') play an important role in the composition of the 'Other non UK' born group. The two categories account for 39 per cent of the 'Other non UK' migrant labour force across the entire period. This is likely to indicate that a higher qualified person born in the EU14 or 'Other non UK' category is more flexible (able to migrate), and with this greater mobility can seek out higher returns to the investment they have made in their education.

The analysis of occupation by year of arrival shows similar patterns to the point in time analysis in Table 6. Workers born in the EU14 are predominately employed in 'Managers and Senior Officials', 'Professional Occupations' or 'Associate Professional and Technical' work (57 per cent across the entire period). **Table 8** shows an important change in the distribution of occupations for A8 migrants arriving post 2004. Before accession there appears to be a more even distribution of occupations, while following accession 64 per cent of A8 workers were employed in 'Elementary' or 'Process Plant and Machine Operatives' occupations. However, caution should be exercised when acting on this conclusion because of the small numbers in the earlier periods.

**Table 7 People in Employment aged 16 and over by country of birth<sup>1</sup>, highest qualification and year of arrival<sup>2</sup> Oct-Dec 2007**

	Thousands				
	UK <sup>3</sup>	A8 <sup>4</sup>	EU14 <sup>5</sup>	Other Non UK	Total <sup>6</sup>
<b>Totals</b>					
Total for period <sup>7</sup>	25,878	486	670	2,451	29,488
Degree or equivalent	5,924	46	209	743	6,922
Higher educ	2,614	11	57	219	2,901
GCE A Level or equiv	6,550	35	104	266	6,956
GCSE grades A-C or equiv	6,045	11	67	206	6,329
Other qualifications	2,424	293	179	751	3,647
No qualification	2,128	83	49	247	2,507
<b>Year of arrival Pre 1996</b>					
Total for period <sup>7</sup>	-	22	404	1,264	1,714
Degree or equivalent	-	7	104	421	542
Higher educ	-	*	40	127	171
GCE A Level or equiv	-	4	82	182	273
GCSE grades A-C or equiv	-	*	58	139	201
Other qualifications	-	8	82	248	341
No qualification	-	-	37	137	176
<b>Year of arrival 1996 to 1999</b>					
Total for period <sup>7</sup>	-	16	70	240	326
Degree or equivalent	-	4	28	63	95
Higher educ	-	*	7	21	30
GCE A Level or equiv	-	*	8	22	33
GCSE grades A-C or equiv	-	-	4	18	22
Other qualifications	-	8	20	92	121
No qualification	-	-	*	21	22
<b>Year of arrival 2000 to 2003</b>					
Total for period <sup>7</sup>	-	53	85	498	638
Degree or equivalent	-	8	40	140	190
Higher educ	-	3	5	42	50
GCE A Level or equiv	-	5	6	37	47
GCSE grades A-C or equiv	-	*	2	34	37
Other qualifications	-	24	27	196	247
No qualification	-	10	5	47	62
<b>Year of arrival 2004 to 2007</b>					
Total for period <sup>7</sup>	-	392	103	433	929
Degree or equivalent	-	27	36	116	179
Higher educ	-	5	3	27	36
GCE A Level or equiv	-	25	6	24	56
GCSE grades A-C or equiv	-	9	2	14	24
Other qualifications	-	250	49	211	509
No qualification	-	72	5	39	116

Source: Labour Force Survey

1 The country of birth question in the LFS may undercount foreign born because:

- : it excludes students in halls of residence who do not have a UK resident parent
- : it excludes people in most types of communal establishments (e.g. hotels, boarding houses, hostels, mobile home sites)
- : it is grossed to population estimates that only include long term migrants (staying 12 months or more)

2 Year of arrival is the first time a person entered the UK. A person who entered the UK,

3 UK figures are only provided in the Totals section as CAMEYR is only relevant to Non

4 See Technical note for list of the A8 countries

5 See Technical note for list of EU14 countries.

6 Total includes those people who did not state their country of birth.

7 Total for period includes those respondents who did not state their highest qualification.

"-" denotes figures are not relevant for UK born and "\*" denotes figures are based on sample of 3 or less.

**Table 8**  
**People in Employment aged 16 and over by country of birth, occupation and year of arrival<sup>1</sup> Oct-Dec 2007**

	Thousands				
	UK <sup>2</sup>	A8 <sup>3</sup>	EU14 <sup>4</sup>	Other Non UK	Total <sup>5</sup>
<b>Total</b>					
Total <sup>7</sup>	25,878	486	670	2,451	29,488
1 Managers and Senior Officials	3,918	13	129	391	4,452
2 Professional occupations	3,258	18	119	422	3,816
3 Associate Professional and Technical	3,771	26	135	354	4,286
4 Administrative and Secretarial	3,097	22	60	216	3,395
5 Skilled Trades Occupations	2,946	82	49	173	3,251
6 Personal Service Occupations	2,074	32	55	192	2,353
7 Sales and Customer Service Occupations	2,052	19	29	155	2,255
8 Process Plant and Machine Operatives	1,801	104	35	188	2,128
9 Elementary Occupations	2,901	167	58	346	3,472
<b>Year of arrival Pre 1996</b>					
Total <sup>7</sup>	-	22	404	1,264	1,714
1 Managers and Senior Officials	-	5	4	78	333
2 Professional occupations	-	5	4	57	276
3 Associate Professional and Technical	-	4	4	78	266
4 Administrative and Secretarial	-	1	2	44	173
5 Skilled Trades Occupations	-	2	2	37	133
6 Personal Service Occupations	-	2	2	37	125
7 Sales and Customer Service Occupations	-	1	2	18	96
8 Process Plant and Machine Operatives	-	0	2	25	133
9 Elementary Occupations	-	2	1	29	173
<b>Year of arrival 1996 to 1999</b>					
Total <sup>7</sup>	-	16	70	240	326
1 Managers and Senior Officials	-	*	18	31	51
2 Professional occupations	-	3	17	46	67
3 Associate Professional and Technical	-	*	12	34	47
4 Administrative and Secretarial	-	*	5	18	24
5 Skilled Trades Occupations	-	*	4	20	26
6 Personal Service Occupations	-	*	5	12	17
7 Sales and Customer Service Occupations	-	2	*	18	22
8 Process Plant and Machine Operatives	-	3	*	24	29
9 Elementary Occupations	-	2	4	34	40
<b>Year of arrival 2000 to 2003</b>					
Total <sup>7</sup>	-	53	85	498	638
1 Managers and Senior Officials	-	*	18	63	82
2 Professional occupations	-	2	21	91	114
3 Associate Professional and Technical	-	2	15	81	100
4 Administrative and Secretarial	-	6	7	35	48
5 Skilled Trades Occupations	-	17	3	31	52
6 Personal Service Occupations	-	3	5	49	57
7 Sales and Customer Service Occupations	-	6	4	33	43
8 Process Plant and Machine Operatives	-	6	5	32	42
9 Elementary Occupations	-	9	8	79	95
<b>Year of arrival 2004 to 2007</b>					
Total <sup>7</sup>	-	392	103	433	929
1 Managers and Senior Officials	-	7	14	50	71
2 Professional occupations	-	8	24	72	104
3 Associate Professional and Technical	-	18	28	57	102
4 Administrative and Secretarial	-	13	3	36	54
5 Skilled Trades Occupations	-	61	4	25	90
6 Personal Service Occupations	-	26	8	44	79
7 Sales and Customer Service Occupations	-	10	4	28	43
8 Process Plant and Machine Operatives	-	94	2	24	120
9 Elementary Occupations	-	154	15	94	263

Source: Labour Force Survey

1 Year of arrival is the first time a person entered the UK. A person who entered the UK, then left and has

2 UK figures are only provided in the Totals section as CAMEYR is only relevant to Non UK born.

3 The A8 countries are: Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Slovakia, and

4 The EU14 countries are Austria, Belgium, Denmark, France, Finland, Germany, Greece, Ireland, Italy,

5 Total includes those people who did not state their country of birth.

6 The country of birth question in the LFS gives an undercount of foreign born because:

: it excludes students in halls of residence who do not have a UK resident parent

: it excludes people in most types of communal establishments (e.g. hotels, boarding houses, hostels,

: it is grossed to population estimates that only include long term migrants (staying 12 months or more)

7 Totals may not sum because of rounding. "\*" indicates figure based on sample of 3 or less.

## **Further Work**

Using the new standard definition for employment levels (population aged 16 and over) this article has shown that the number of non UK born workers has almost doubled over the period discussed (1.9 million to 3.7 million). There has been a significant shift in the composition of the migrant workforce, with A8 born workers overtaking those born in India, the Americas, Australia and New Zealand amongst others. This article has briefly commented on the differences in the characteristics of the workers from different backgrounds. It has noted that even within Europe different employment outcomes exist. The work outlined in the following paragraphs has been identified to explore these differences further.

Firstly, the low employment rate of people born in certain countries is predominantly because of low female participation in the labour market (figures not provided in this article). These analyses can be provided in the future. We are also considering conducting analysis using the LFS on earnings of migrant workers, once the figures have been tested against the Annual Survey of Hours and Earnings (the preferred source for earnings analysis).

A version of Table 3 will be published on a quarterly basis to coincide with other official statistics produced on migration related issues. Alongside the table will be commentary using LFS data on any emerging trends or characteristics of migrant workers. Work is currently in progress to develop further the availability of confidence intervals on estimates of migrant workers.

Comments on this future work programme are welcomed by ONS and should be addressed to the author.

## **Technical Note**

### **Understanding the LFS**

The Labour Force Survey (LFS) is a quarterly household survey run by ONS, representative of the household population of the UK. The LFS collects a wide range of variables including nationality and country of birth. The data can be used as an indicator of the non UK or foreign born migrant numbers in the UK. The population covered is all people resident in private households. The LFS excludes most communal establishments although it does cover most staff resident in National Health Service accommodation. Students in halls of residence are covered by proxy through their parents and thus foreign students living in halls of residence are not likely to be covered – though those living in private households will be. The impact of this coverage of communal establishments is that the number of foreign born workers may be under-reported.

Until December 2007, to be included in the LFS a respondent had to be resident in the UK for six months. This restriction was removed at the end of 2007. However, without a question asking the length of time a respondent will stay in the UK, it is not possible to accurately compare LFS foreign worker figures with the definitions for international migrants as defined by the UN (see Box 1).

In addition to these difficulties the population estimates that the LFS is weighted to are based on the long-term migrant definition. Therefore, although the LFS surveys people who are in the UK for less than 12 months, these people are weighted according to the distribution of people resident for more than 12 months.

### **EU Accession**

Until 2004 the EU consisted of 15 member states: Belgium, France, Italy, Luxembourg, Netherlands, Germany, Ireland, United Kingdom, Denmark, Greece, Portugal, Spain, Austria, Finland, and Sweden. In this article a EU14 group is used for analyses to indicate that the UK is excluded.

In May 2004 a further ten states joined the EU: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovak Republic, and Slovenia. This article uses a group of eight countries (A8) for analyses. The A8 group are Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, and Slovenia. Finally, in January 2007 Romania and Bulgaria joined the EU. People born in these two countries are included in the 'Other Europe' group unless stated otherwise.

## References

- Aiginger K (2004) 'Labour Market Reforms and Economic Growth: The European Experience in the nineties'. WIFO Working Papers, No. 232, <http://www.oecd.org/dataoecd/41/58/34943545.pdf>
- Arpaia A and Turrini A (2008) 'Government Expenditure and Economic Growth in the EU: Long-run tendencies and short-term adjustment'. European Economy, Economic Papers 300. [http://ec.europa.eu/economy\\_finance/publications/publication12024\\_en.pdf](http://ec.europa.eu/economy_finance/publications/publication12024_en.pdf)
- Hughes M and Palmer N (2008) 'Labour Force Survey: Reweighting and Seasonal Adjustment Review 2007' [www.statistics.gov.uk/cci/article.asp?id=1992](http://www.statistics.gov.uk/cci/article.asp?id=1992)
- Office for National Statistics 'Labour Market First Release' [www.statistics.gov.uk/STATBASE/Product.asp?vlnk=1944](http://www.statistics.gov.uk/STATBASE/Product.asp?vlnk=1944)
- Office for National Statistics (2006) 'Report of the Inter-departmental Task Force on Migration Statistics' <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14731>
- Walling, A (2007) 'Labour market summary for UK household population by country of birth' [www.statistics.gov.uk/articles/nojournal/Birthcountry.pdf](http://www.statistics.gov.uk/articles/nojournal/Birthcountry.pdf)
- Statistics Commission (2007) 'Foreign Workers in the UK - Statistics Commission Briefing Note' [www.statscom.org.uk/C\\_1237.aspx](http://www.statscom.org.uk/C_1237.aspx)
- Office for National Statistics, Department of Work and Pensions and Home Office (2007) 'Statistical Evidence provided to the House of Lords Select Committee' [www.parliament.uk/documents/upload/EA235percent20ONS.doc](http://www.parliament.uk/documents/upload/EA235percent20ONS.doc)
- Statistical Evidence Provided to House of Lords Select Committee (2008) 'The Economic Impact of Immigration' [www.parliament.the-stationery-office.co.uk/pa/ld200708/ldselect/ldconaf/82/82.pdf](http://www.parliament.the-stationery-office.co.uk/pa/ld200708/ldselect/ldconaf/82/82.pdf)

Annex Table: Levels<sup>1</sup> and Rates<sup>2</sup> of Employment by Country of Birth, Jan-Mar 1997 to Jan-Mar 2008

Thousands and Percentages, not seasonally adjusted

	Total <sup>3</sup>		UK		Non UK <sup>3</sup>		EU14		A8		Other Europe <sup>4</sup>		Middle East and Asia		Americas		Africa ex. SA		South Africa		Australia and New Zealand		Bangladesh		India		Pakistan		
	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment	Employment
	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels	Rates	Levels
Jan-Mar 97	26,245	72.2	24,323	73.1	1,921	62.5	565	56.9	26	31.9	103	46.8	217	53.6	234	54.5	315	59.8	54	71.1	78	73.5	42	33.8	197	52.2	80	37.4	
Apr-Jun 97	26,444	72.6	24,468	73.5	1,975	63.2	568	55.3	29	35.3	118	53.7	238	58.5	236	55.1	325	61.8	58	76.4	80	75.4	43	34.7	198	52.4	74	34.7	
Jul-Sep 97	26,707	73.3	24,715	74.2	1,991	63.7	575	57.1	28	33.6	115	52.3	229	57.5	245	57.3	326	62.1	58	76.8	80	75.9	44	35.4	201	53.0	77	36.2	
Oct-Dec 97	26,895	73.3	24,681	74.2	2,013	63.7	571	57.1	34	41.7	110	50.1	241	60.6	248	58.0	320	60.9	59	78.8	79	75.0	46	37.1	218	57.0	76	35.5	
Jan-Mar 98	26,546	72.8	24,505	73.7	2,041	63.7	592	60.2	33	40.0	105	47.6	232	57.6	269	62.8	328	62.5	55	72.4	77	72.9	44	34.8	224	59.1	75	35.4	
Apr-Jun 98	26,642	73.0	24,567	74.0	2,073	63.3	611	62.2	33	39.8	110	49.9	242	60.2	265	62.0	346	65.8	54	72.1	78	73.6	45	35.7	218	57.7	67	31.7	
Jul-Sep 98	26,969	73.9	24,902	74.9	2,065	63.7	606	61.7	35	42.3	99	45.1	237	58.4	253	59.1	345	65.6	71	93.8	83	78.5	45	36.1	217	57.4	68	32.1	
Oct-Dec 98	27,017	73.9	24,877	74.8	2,140	64.4	626	65.3	33	40.2	101	45.8	249	65.2	259	60.4	357	67.9	73	96.2	88	82.8	44	35.5	216	57.0	87	40.7	
Jan-Mar 99	26,909	73.5	24,777	74.4	2,130	64.0	634	66.0	31	37.6	103	46.8	236	61.1	258	60.2	359	68.2	68	90.8	87	82.7	55	44.0	210	55.5	80	37.5	
Apr-Jun 99	27,023	73.6	24,922	74.6	2,100	63.7	598	62.1	32	38.4	109	49.4	239	63.2	236	55.1	359	68.3	74	98.2	95	89.7	54	43.3	206	54.3	91	42.7	
Jul-Sep 99	27,351	74.5	25,236	75.4	2,114	64.9	594	63.4	30	36.4	113	51.3	241	62.5	237	55.5	352	66.9	78	103.8	106	100.7	51	40.6	205	54.1	97	45.7	
Oct-Dec 99	27,385	74.4	25,263	75.4	2,120	63.9	606	66.5	34	41.8	116	52.5	237	62.6	237	55.3	342	65.0	75	99.6	106	100.6	50	39.7	209	55.2	102	47.9	
Jan-Mar 00	27,239	73.8	25,102	74.9	2,135	63.2	599	69.3	45	71.6	87	60.6	244	57.7	251	65.5	332	65.9	69	79.1	106	84.8	44	32.6	209	64.0	100	46.2	
Apr-Jun 00	27,399	74.2	25,199	75.3	2,198	63.6	602	70.0	40	67.5	79	58.0	265	59.0	272	67.8	340	63.5	75	79.3	113	85.7	55	39.1	207	63.1	103	47.1	
Jul-Sep 00	27,685	74.9	25,447	76.0	2,237	64.7	610	74.8	32	59.4	86	57.9	261	58.7	273	68.5	369	64.4	85	82.6	111	87.4	57	39.0	212	65.5	101	46.4	
Oct-Dec 00	27,611	74.6	25,340	75.6	2,270	64.7	639	74.8	35	59.0	77	55.7	253	57.9	280	68.6	375	65.1	92	87.1	115	85.9	58	38.3	203	65.9	105	45.1	
Jan-Mar 01	27,505	74.2	25,229	75.2	2,272	64.4	633	74.0	37	56.4	77	56.1	278	59.5	279	66.9	378	65.2	89	82.2	106	85.3	59	39.2	202	66.3	97	44.0	
Apr-Jun 01	27,643	74.3	25,350	75.4	2,286	64.0	626	73.3	42	60.2	89	62.8	277	59.2	283	66.6	376	65.5	91	84.8	102	83.8	60	41.0	200	62.5	100	42.9	
Jul-Sep 01	27,839	74.7	25,511	75.8	2,327	64.7	613	72.4	41	59.2	93	64.9	283	62.0	296	68.5	391	67.3	93	79.8	101	81.8	65	40.3	203	63.9	106	44.2	
Oct-Dec 01	27,855	74.5	25,493	75.6	2,359	64.8	618	72.5	43	60.1	100	64.6	286	61.9	306	67.8	374	64.1	92	81.1	110	82.9	61	40.4	210	63.3	108	46.4	
Jan-Mar 02	27,675	74.0	25,313	75.1	2,360	63.9	617	72.2	45	60.4	104	58.9	307	63.1	284	67.2	375	62.9	90	81.0	113	83.2	59	38.6	203	62.9	110	45.7	
Apr-Jun 02	27,852	74.3	25,414	75.4	2,435	64.8	611	73.4	40	62.8	110	61.5	326	62.0	286	69.0	402	63.7	95	81.7	129	88.5	59	37.8	213	63.9	105	44.5	
Jul-Sep 02	28,026	74.7	25,526	75.8	2,499	65.2	623	73.2	51	64.5	103	63.5	335	63.7	274	69.3	414	63.3	108	82.0	128	87.9	58	38.3	237	65.2	107	44.4	
Oct-Dec 02	28,136	74.9	25,602	76.0	2,533	65.2	639	73.1	52	65.4	97	62.3	342	62.1	298	71.1	415	63.2	108	82.1	121	86.7	63	42.3	236	66.5	108	43.6	
Jan-Mar 03	27,970	74.3	25,445	75.4	2,524	64.2	648	72.9	49	58.3	94	62.4	323	57.7	280	68.7	441	65.4	114	81.0	119	86.4	57	37.7	230	67.2	107	43.6	
Apr-Jun 03	28,132	74.6	25,555	75.7	2,575	65.0	657	74.5	44	58.1	95	62.6	333	58.4	290	68.9	431	63.0	128	83.0	125	89.5	61	37.7	237	69.0	106	45.1	
Jul-Sep 03	28,331	74.9	25,738	76.0	2,591	65.7	631	73.2	47	61.6	86	59.1	341	61.3	305	70.1	441	65.7	139	85.6	128	87.4	72	40.5	227	67.4	103	44.1	
Oct-Dec 03	28,321	74.7	25,758	75.9	2,561	64.8	621	71.9	61	60.7	104	63.1	338	60.3	290	69.4	417	63.4	137	83.0	117	89.5	78	43.0	235	70.1	101	43.1	
Jan-Mar 04	28,331	74.6	25,742	75.7	2,589	65.0	619	70.2	63	63.8	100	62.4	355	63.7	297	70.2	426	64.5	134	81.7	115	91.3	83	44.9	233	67.5	104	43.4	
Apr-Jun 04	28,365	74.5	25,685	75.6	2,680	65.5	618	71.1	76	79.6	114	64.9	350	61.5	312	71.4	452	63.5	125	80.2	120	91.3	87	43.7	247	68.0	108	45.8	
Jul-Sep 04	28,583	75.0	25,852	76.0	2,728	66.4	616	73.2	97	75.3	115	70.1	343	59.6	301	71.7	455	64.4	132	81.8	134	91.7	94	47.5	256	68.3	118	48.3	
Oct-Dec 04	28,675	75.0	25,862	76.1	2,811	66.5	628	75.0	118	76.1	123	69.2	361	59.4	340	73.3	471	65.2	128	80.5	138	89.3	78	43.3	257	66.0	100	44.0	
Jan-Mar 05	28,641	74.6	25,814	75.6	2,826	66.7	627	73.6	117	74.2	127	71.1	376	61.2	337	70.7	475	66.7	134	78.2	150	90.2	72	40.4	258	67.9	92	42.6	
Apr-Jun 05	28,865	74.5	25,823	75.7	2,837	65.5	600	72.7	155	80.1	138	71.4	375	59.6	326	70.4	476	62.7	129	78.7	122	84.6	70	39.2	277	70.5	106	42.5	
Jul-Sep 05	28,960	75.1	26,022	76.2	2,935	66.7	629	74.5	191	81.0	141	72.5	364	60.2	325	72.7	497	65.3	134	78.5	128	87.6	71	39.8	287	70.2	117	43.2	
Oct-Dec 05	28,850	74.6	25,840	75.6	3,008	66.9	634	72.8	221	81.9	126	65.5	382	60.1	333	74.6	502	66.0	135	79.7	131	85.3	76	41.4	294	69.8	112	43.4	
Jan-Mar 06	28,869	74.4	25,767	75.4	3,100	67.4	635	75.2	254	82.7	132	64.7	409	59.9	330	70.9	509	65.7	135	80.3	129	84.2	86	45.2	315	71.7	106	44.0	
Apr-Jun 06	28,926	74.4	25,718	75.3	3,207	67.8	635	75.1	264	82.2	152	72.9	396	56.8	354	72.9	538	65.6	136	78.9	136	86.5	91	44.6	336	73.5	104	44.7	
Jul-Sep 06	29,178	74.9	25,919	75.8	3,254	68.3	618	77.0	304	81.5	154	72.9	417	61.8	354	70.3	526	64.3	151	83.9	135	84.8	85	43.0	326	69.8	120	48.5	
Oct-Dec 06	29,154	74.6	25,830	75.6	3,318	68.2	631	75.5	356	81.0	141	72.6	417	58.6	345	68.3	540	67.2	143	85.5	137	84.4	83	44.2	320	69.8	132	49.9	
Jan-Mar 07	28,978	74.1	25,622	75.1	3,350	67.2	654	75.2	377	80.8	185	63.9	427	57.4	333	68.1	522	65.5	132	82.4	127	82.1	93	48.0	324	69.1	149	49.1	
Apr-Jun 07	29,100	74.3	25,616	75.3	3,474	68.0	677	74.4	445	81.8	195	64.3	443	58.2	345	70.2	517	64.9	143	83.8	140	85.2	79	44.8	313	71.2	153	49.8	
Jul-Sep 07	29,382	74.8	25,825	75.8	3,549	68.9	680	75.5	442	83.1	179	63.8	469	63.3	372	71.7	543	66.6	136	84.8	135	86.6	85	49.2	302	68.8	167	47.2	
Oct-Dec 07	29,488	75.0	25,878	76.0	3,607	68.7	670	75.2	486	84.0	206	67.4	481	60.3	354	71.4	553	67.3	139	82.4	135	84.6	72	45.4	316	69.4	160	46.8	
Jan-Mar 08	29,438	74.6	25,755	75.5	3,682	69.3	696	76.5	510	82.8	224	68.4	478	61.9	344	71.0	539	66.9	154	86.1	133	86.0	66	46.1	326				