

# Census-based reweighting of the LFS: Summary of detailed impact assessment

Labour Market Division, Office for National Statistics, June 2013

## Summary

A detailed impact assessment of how the population estimates based on the 2011 Census affect the published Labour Force Survey aggregates has been carried out. The assessment helps determine whether an interim reweighting of the aggregates should be implemented or whether we should wait until the full reweighting of the microdata is completed, currently envisaged to be May 2014.

The assessment indicates that the impact is relatively small overall with the headline rates showing revisions that are well within the sampling variability and with no differences in the annual changes. ONS has recommended that interim reweighting should not be implemented.

## The impact assessment

A revised time series of detailed population estimates for England and Wales has been published by the ONS. These comprise revised mid-year estimates for 2002 to 2010 at subnational level. From this dataset the bespoke extracts of the detailed population estimates required for LFS weighting were produced for four periods, i.e. May-Jul 2010; Feb-Apr 2011; May-Jul 2011; and May-Jul 2012.

Those figures were used to reweight the LFS microdata for the chosen periods, using the actual full reweighting methodology (rather than an approximation as used in the analysis produced in July 2012, see link below). The reweighting used the existing estimates for Scotland and Northern Ireland, so the full UK effect cannot be determined. However, this is unlikely to affect the outcome of the impact assessment significantly. The main LFS tables currently produced for the monthly Bulletin have been produced (on a non-seasonally adjusted basis only) and have been compared with the existing figures. This includes comparisons of the published regional totals.

In July 2012, an initial impact assessment of Census population figures on employment, unemployment and inactivity from the LFS on England and Wales was carried out. This analysis considered how the Census population totals would impact the LFS population totals and estimated the likely effect on levels of employment, unemployment and inactivity.

<http://www.ons.gov.uk/ons/about-ons/what-we-do/publication-scheme/published-ad-hoc-data/labour-market/july-2012/assessment-of-census-population-figures-on-the-lfs-for-england-and-wales.pdf>

Findings from this paper are broadly in line with the expectations highlighted from the analysis in July 2012.

This assessment focuses on the effect of the revised population estimates in 2010 to 2012, for which the cumulative revisions to the mid-year estimates are greatest. The revised population estimates for 2002 to 2011 (see table in Appendix) indicated that the revisions were not distributed evenly over those ten years. The upward revisions were stronger in 2005 to 2008 than in other years.

However the sizes of those revisions do not appear to be large enough to alter the basic path of the main LFS time series over the period. Also note that the revisions shown for 2011 in that table do not reflect the changes to the population figures that were actually used for the LFS estimates. A key determinant of the need for interim reweighting is the extent of the revisions to the headline rates, rather than levels. As the revised population figures indicate, the largest revisions to annual movements in the *levels* will be seen in 2007 and 2008 but this unlikely to be so for the *rates*. The revisions to the rates arise from changes to the *distribution* of population by age, gender and region. In 2010-12 we should be seeing the full cumulative effect of any such distributional changes. In earlier years those distributional effects should be smaller, so impacting on the rates less. Also, due to the way the population estimates are produced, most of the distributional effects are phased in gradually between 2001 and 2011.

### **Main indications**

The comparisons in Table 1 overleaf show that the 16-64 employment rates for the periods covered are revised down between 0.1 and 0.2 percentage points, e.g. May-Jul 2011 is revised from 70.4 to 70.2. The revisions to the annual changes in the employment rates are -0.1 for the year to May-Jul 2011 and zero for the year to May-July 2012.

The unemployment rates are all unchanged. The 16-64 inactivity rate is revised up by between 0.1 and 0.2, with the change over the year to May-July 2011 up by 0.1.

In terms of levels, the total 16+ population has generally been revised up by 350-450,000; with employment up 190-210,000; unemployment up 20-30,000 and inactivity up 130-215,000.

The revisions by region are highly varied and are disproportionately large in London which sees a relatively large increase in its unemployment and inactivity rates with a fall in its employment rate. Nevertheless, despite appearing to be quite marked, the revisions to the headline rates in London are within sampling variability.

The pattern of revisions by region has acted in tandem with the revisions by age group to produce the overall revisions to the LFS aggregates. The revisions by gender and age group alone do not explain the overall pattern of revisions.

# 1 Summary of LFS main aggregates

		<b>REWEIGHTED</b>				United Kingdom (thousands) NOT SEASONALLY ADJUSTED			
		All aged 16 & over	Total in employment 16+	Unemployed 16+	Economically inactive 16+	Employment rate 16-64 (%)	Unemployment rate 16+ (%)	Economic inactivity rate 16-64 (%)	
<b>People</b>									
	May-Jul 2010	50,153	29,306	2,520	18,327	70.6	7.9	23.2	
	Feb-Apr 2011	50,474	29,332	2,409	18,733	70.3	7.6	23.8	
	May-Jul 2011	50,581	29,317	2,585	18,679	70.2	8.1	23.5	
	May-Jul 2012	50,984	29,776	2,641	18,567	71.0	8.1	22.5	
	<i>Change on quarter FA11 to MJ11</i>	107	-16	177	-54	-0.1	0.5	-0.3	
	<i>Change %</i>	0.2	-0.1	7.3	-0.3				
	<i>Change on year to May-Jul 2011</i>	428	10	66	352	-0.4	0.2	0.3	
	<i>Change %</i>	0.9	0.0	2.6	1.9				
	<i>Change on year to May-Jul 2012</i>	403	459	56	-112	0.8	0.0	-1.0	
	<i>Change %</i>	0.8	1.6	2.2	-0.6				
<b>ORIGINAL</b>									
		All aged 16 & over	Total in employment 16+	Unemployed 16+	Economically inactive 16+	Employment rate 16-64 (%)	Unemployment rate 16+ (%)	Economic inactivity rate 16-64 (%)	
<b>People</b>									
	May-Jul 2010	49,804	29,110	2,501	18,193	70.6	7.9	23.1	
	Feb-Apr 2011	50,077	29,134	2,387	18,556	70.4	7.6	23.7	
	May-Jul 2011	50,168	29,127	2,555	18,486	70.4	8.1	23.3	
	May-Jul 2012	50,532	29,567	2,613	18,352	71.2	8.1	22.4	
	<i>Change on quarter FA11 to MJ11</i>	91	-7	168	-70	0.0	0.5	-0.4	
	<i>Change %</i>	0.2	0.0	7.0	-0.4				
	<i>Change on year to May-Jul 2011</i>	363	16	54	292	-0.3	0.2	0.2	
	<i>Change %</i>	0.7	0.1	2.2	1.6				
	<i>Change on year to May-Jul 2012</i>	365	440	58	-134	0.8	0.1	-1.0	
	<i>Change %</i>	0.7	1.5	2.3	-0.7				
<b>REVISIONS</b>									
		All aged 16 & over	Total in employment 16+	Unemployed 16+	Economically inactive 16+	Employment rate 16-64 (%)	Unemployment rate 16+ (%)	Economic inactivity rate 16-64 (%)	
<b>People</b>									
	May-Jul 2010	349	196	19	134	-0.1	0.0	0.1	
	Feb-Apr 2011	398	198	22	178	-0.1	0.0	0.1	
	May-Jul 2011	413	190	30	193	-0.2	0.0	0.2	
	May-Jul 2012	452	209	28	214	-0.1	0.0	0.1	
	<i>Change on quarter FA11 to MJ11</i>	16	-8	9	16	0.0	0.0	0.0	
	<i>Change %</i>	0.0	0.0	0.3	0.1				
	<i>Change on year to May-Jul 2011</i>	65	-6	12	59	-0.1	0.0	0.1	
	<i>Change %</i>	0.1	0.0	0.4	0.3				
	<i>Change on year to May-Jul 2012</i>	38	19	-2	21	0.0	0.0	0.0	
	<i>Change %</i>	0.1	0.1	-0.1	0.1				

## Gender breakdown

As Table 2 shows, the revisions in terms of levels are much larger for women than for men, as expected given the nature of the differences between the 2011 Census estimates and population estimates rolled forward from the 2001 Census, documented in the reconciliation report:

<http://www.ons.gov.uk/ons/guide-method/census/2011/census-data/2011-census-data/2011-first-release/first-release--quality-assurance-and-methodology-papers/differences-between-2011-census-est-and-rolled-forward-pop-est.pdf>

**Table 2: Revisions by gender**

	REVISIONS					Employment rate 16-64 (%)	Unemployment rate 16+ (%)	Economic inactivity rate 16-64 (%)
	All aged 16 & over	Total in employment 16+	Unemployed 16+	Economically inactive 16+				
<b>People</b>								
May-Jul 2010	349	196	19	134		-0.1	0.0	0.1
Feb-Apr 2011	398	198	22	178		-0.1	0.0	0.1
May-Jul 2011	413	190	30	193		-0.2	0.0	0.2
May-Jul 2012	452	209	28	214		-0.1	0.0	0.1
Change on quarter FA11 to MJ11	16	-8	9	16		0.0	0.0	0.0
Change %	0.0	0.0	0.3	0.1				
Change on year to May-Jul 2011	65	-6	12	59		-0.1	0.0	0.1
Change %	0.1	0.0	0.4	0.3				
Change on year to May-Jul 2012	38	19	-2	21		0.0	0.0	0.0
Change %	0.1	0.1	-0.1	0.1				
<b>Men</b>								
May-Jul 2010	63	39		24		0.0	0.0	0.0
Feb-Apr 2011	102	48	3	51		-0.1	0.0	0.1
May-Jul 2011	115	43	8	64		-0.2	0.0	0.2
May-Jul 2012	136	49	9	78		-0.2	0.0	0.2
Change on quarter FA11 to MJ11	13	-5	5	13		-0.1	0.0	0.1
Change %	0.1	0.0	0.4	0.2				
Change on year to May-Jul 2011	52	4	8	40		-0.2	0.0	0.1
Change %	0.2	0.0	0.6	0.5				
Change on year to May-Jul 2012	21	6	1	14		0.0	0.0	0.0
Change %	0.1	0.0	0.1	0.2				
<b>Women</b>								
May-Jul 2010	286	158	19	109		0.0	0.0	0.0
Feb-Apr 2011	295	150	19	126		-0.1	0.1	0.1
May-Jul 2011	299	147	22	129		-0.1	0.1	0.1
May-Jul 2012	316	160	19	137		-0.1	0.0	0.1
Change on quarter FA11 to MJ11	3	-3	4	3		0.0	0.0	0.0
Change %	0.0	0.0	0.2	0.0				
Change on year to May-Jul 2011	12	-11	3	19		-0.1	0.0	0.1
Change %	0.0	-0.1	0.2	0.2				
Change on year to May-Jul 2012	17	13	-3	8		0.0	0.0	0.0
Change %	0.1	0.1	-0.4	0.1				

In terms of rates though the revisions for men are slightly higher than those for women, although still small and within the ranges of sampling variability (see Appendix). This appears to be because the extent of the shift from employment to inactivity is slightly higher for men than it is for women, partly reflecting the patterns in the population revisions by age group and region, specifically London.

As Table 3 shows, the distribution of the revisions to the male population, although smaller overall, were skewed more towards older age groups than the revisions to the female population. The downward revisions to the number of men aged 18-24 in 2010 and 2011 - and also those 25-34 in 2012 - are also highly noteworthy. For women the upward revisions to population aged 25-34 were the most significant.

**Table 3: Revisions to population**

<b>REVISIONS TO LFS POPULATION</b>									
									United Kingdom (thousands)
		All aged 16 & over	16-64	16-17	18-24	25-34	35-49	50-64	65+
<b>People</b>									
	May-Jul 2010	349	307	22	-49	193	96	45	41
	Feb-Apr 2011	398	346	38	-13	119	111	91	52
	May-Jul 2011	413	358	43	-1	94	115	107	55
	May-Jul 2012	452	364	43	70	38	120	93	88
<b>Men</b>									
	May-Jul 2010	63	51	10	-78	34	42	43	12
	Feb-Apr 2011	102	86	19	-42	-3	44	68	16
	May-Jul 2011	115	97	22	-31	-16	45	76	18
	May-Jul 2012	136	100	24	19	-51	39	70	36
<b>Women</b>									
	May-Jul 2010	286	257	13	29	159	54	2	30
	Feb-Apr 2011	295	260	18	30	122	66	23	36
	May-Jul 2011	299	261	20	30	110	70	31	38
	May-Jul 2012	316	263	19	51	90	81	23	52

<b>% REVISIONS TO LFS POPULATION</b>									
		All aged 16 & over	16 - 64	16 - 17	18 - 24	25 - 34	35 - 49	50 - 64	65+
<b>People</b>									
	May-Jul 2010	0.7%	0.8%	1.5%	-0.8%	2.4%	0.7%	0.4%	0.4%
	Feb-Apr 2011	0.8%	0.9%	2.5%	-0.2%	1.4%	0.8%	0.8%	0.5%
	May-Jul 2011	0.8%	0.9%	2.9%	0.0%	1.1%	0.9%	0.9%	0.6%
	May-Jul 2012	0.9%	0.9%	2.9%	1.2%	0.5%	0.9%	0.8%	0.9%
<b>Men</b>									
	May-Jul 2010	0.3%	0.3%	1.2%	-2.6%	0.8%	0.6%	0.8%	0.3%
	Feb-Apr 2011	0.4%	0.4%	2.5%	-1.4%	-0.1%	0.7%	1.2%	0.4%
	May-Jul 2011	0.5%	0.5%	2.9%	-1.0%	-0.4%	0.7%	1.4%	0.4%
	May-Jul 2012	0.6%	0.5%	3.2%	0.7%	-1.2%	0.6%	1.3%	0.8%
<b>Women</b>									
	May-Jul 2010	1.1%	1.3%	1.7%	1.0%	4.0%	0.8%	0.0%	0.5%
	Feb-Apr 2011	1.2%	1.3%	2.5%	1.0%	3.0%	1.0%	0.4%	0.6%
	May-Jul 2011	1.2%	1.3%	2.8%	1.0%	2.7%	1.0%	0.5%	0.7%
	May-Jul 2012	1.2%	1.3%	2.6%	1.8%	2.1%	1.2%	0.4%	0.9%

The percentage revisions are significantly stronger for women aged 25-34 than for any other category. Note that the percentage revisions for women aged 35-49, where the employment rate is the highest, are less than the overall uplift in women's population (except in May-Jul 2012).

**Table 4: Revisions by age**

	All aged 16 & over	16 - 64	16 - 17	18 - 24	25 - 34	35 - 49	50 - 64	65+
	1	2	3	4	5	6	7	8
<b>In Employment</b>								
<b>People</b>								
May-Jul 2010	196	196	0	-47	138	75	29	0
Feb-Apr 2011	198	193	6	-32	87	81	51	5
May-Jul 2011	190	183	6	-31	65	82	60	7
May-Jul 2012	209	200	4	20	23	91	60	9
<b>Unemployment</b>								
<b>People</b>								
May-Jul 2010	19	19	3	-4	11	5	3	0
Feb-Apr 2011	22	21	4	1	4	8	4	0
May-Jul 2011	30	30	6	7	4	9	5	0
May-Jul 2012	28	28	5	12	-1	7	5	0
<b>Economically inactive</b>								
<b>People</b>								
May-Jul 2010	134	93	19	3	43	16	13	41
Feb-Apr 2011	178	131	28	18	28	22	36	46
May-Jul 2011	193	145	31	23	26	24	42	48
May-Jul 2012	214	136	33	37	16	21	28	79
<b>Employment rates (%)</b>								
<b>People</b>								
May-Jul 2010	0.0	-0.1	-0.3	-0.3	-0.2	0.0	0.0	0.0
Feb-Apr 2011	-0.1	-0.1	-0.2	-0.4	-0.1	-0.1	-0.1	0.0
May-Jul 2011	-0.1	-0.2	-0.2	-0.5	-0.1	-0.1	-0.1	0.0
May-Jul 2012	-0.1	-0.1	-0.4	-0.3	-0.1	0.0	0.0	0.0
<b>Unemployment rates (%)</b>								
<b>People</b>								
May-Jul 2010	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0
Feb-Apr 2011	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
May-Jul 2011	0.0	0.0	0.2	0.3	0.0	0.0	0.0	0.0
May-Jul 2012	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0
<b>Economic inactivity rates (%)</b>								
<b>People</b>								
May-Jul 2010	0.0	0.1	0.3	0.3	0.2	0.0	0.0	0.0
Feb-Apr 2011	0.1	0.1	0.2	0.4	0.1	0.0	0.1	0.0
May-Jul 2011	0.1	0.2	0.2	0.4	0.1	0.1	0.1	0.0
May-Jul 2012	0.1	0.1	0.4	0.3	0.1	0.0	0.0	0.0

## **Employment by age group**

The patterns in the revisions to levels are quite similar to those shown by the revisions to the population figures.

The largest revisions to employment rates were among 18-24s, the maximum for all people being -0.5 percentage points in May-Jul 2011 (from 57.6 to 57.1). The revisions for men and women were similarly large for 18-24s. The revisions to employment rates for 35-49s, 50-64s and 65+ (for people, men and women) were all less than 0.2 percentage points in size.

## **Unemployment by age group**

The relatively small revisions to the total are spread across most age groups. The only noticeable effects in terms of rates are for 16-17s and 18-24s but they are still relatively insignificant.

The revisions to the youth unemployment levels (16-24) range from -1,000 in May-Jul 2010 to +17,000 in May-Jul 2012. The revised total in May-Jul 2012 is 1.065 million, up from 1.048m (not seasonally adjusted of course and this period tends to have a large positive seasonal factor). The youth unemployment rate, like the level, is showing the largest revision of all age groups.

## **Unemployment by duration**

Generally about half the (upward) revisions to unemployment were among those unemployed up to 6 months, which is in line with expectations given the usual breakdown of the totals by duration. No significant changes to the overall picture.

## **Economic inactivity by age group**

The strongest revisions to levels were among younger people, up by 2-3 per cent generally. Inactivity rates were largely unchanged for all age groups over 25. The changes to the rates for young people were mainly +0.3 to +0.5 percentage points.

## **By reason for inactivity (16-64)**

The biggest revisions (which were all upwards) were to inactive students, consistent with the main revisions to inactivity being among young people – generally comprising between a third and a half of the total change in the level of inactivity. The next largest changes were for women looking after family/home, up by 30-40,000. The revisions to all other categories were insignificant.

## Revisions by region

As Table 5 shows, the revisions by region in May-July 2011 are highly varied and are disproportionately large in London (where population was revised up by 3.6% compared with 0.8% for England and Wales overall). The pattern of revisions by region has acted in tandem with the revisions by age group to produce the overall revisions to the LFS aggregates. The revisions by gender and age group alone do not explain the overall pattern of revisions.

**Table 5: Revisions by region, May-July 2011**

May-Jul 2011	REVISIONS TO LEVELS (16+)				% REVISIONS TO LEVELS			
	Population aged 16+	In employment	Unemployed	Economically inactive	Population aged 16+	In employment	Unemployed	Economically inactive
<b>People</b>								
North East	-23,168	-18,716	-3,250	-1,202	-1.1%	-1.6%	-2.3%	-0.1%
North West	85,721	47,615	1,340	36,766	1.4%	1.4%	0.3%	1.6%
Yorks/Humbs	-62,378	-52,376	-6,939	-3,063	-1.5%	-2.2%	-2.8%	-0.2%
East Midlands	17,395	5,363	610	11,422	0.5%	0.2%	0.3%	0.9%
West Midlands	98,669	57,975	6,572	34,122	2.3%	2.4%	2.7%	2.0%
East of England	-16,790	-19,966	-305	3,481	-0.4%	-0.7%	-0.2%	0.2%
London	228,609	116,463	29,116	83,030	3.6%	3.1%	7.2%	3.9%
South East	47,722	30,178	1,957	15,587	0.7%	0.7%	0.8%	0.6%
South West	3,717	44	-1,385	5,058	0.1%	0.0%	-0.8%	0.3%
Wales	33,803	23,704	2,170	7,929	1.4%	1.8%	1.8%	0.8%
<b>Men</b>								
North East	-18,359	-13,913	-2,829	-1,617	-1.8%	-2.3%	-3.3%	-0.5%
North West	31,765	17,556	-570	14,779	1.1%	1.0%	-0.5%	1.6%
Yorks/Humbs	-40,224	-31,981	-5,357	-2,886	-1.9%	-2.5%	-3.4%	-0.4%
East Midlands	706	-1,152	-197	2,055	0.0%	-0.1%	-0.2%	0.4%
West Midlands	50,966	32,460	3,601	14,905	2.4%	2.5%	2.5%	2.1%
East of England	-23,948	-22,427	-1,077	-444	-1.0%	-1.5%	-1.0%	-0.1%
London	79,326	35,751	13,665	29,910	2.6%	1.7%	6.3%	3.7%
South East	23,481	16,880	935	5,666	0.7%	0.8%	0.7%	0.6%
South West	-8,301	-5,023	-2,025	-1,253	-0.4%	-0.4%	-2.0%	-0.2%
Wales	19,420	15,220	1,323	2,877	1.6%	2.2%	1.6%	0.7%
<b>Women</b>								
North East	-4,809	-4,803	-421	415	-0.4%	-0.9%	-0.8%	0.1%
North West	53,956	30,059	1,910	21,987	1.8%	2.0%	1.5%	1.6%
Yorks/Humbs	-22,154	-20,395	-1,582	-177	-1.0%	-1.8%	-1.7%	0.0%
East Midlands	16,689	6,515	807	9,367	0.9%	0.7%	0.9%	1.2%
West Midlands	47,703	25,515	2,971	19,217	2.1%	2.3%	2.9%	1.9%
East of England	7,158	2,461	772	3,925	0.3%	0.2%	0.9%	0.4%
London	149,283	80,712	15,451	53,120	4.7%	4.9%	8.2%	4.0%
South East	24,241	13,298	1,022	9,921	0.7%	0.7%	0.9%	0.7%
South West	12,018	5,067	640	6,311	0.5%	0.4%	0.8%	0.7%
Wales	14,383	8,484	847	5,052	1.1%	1.3%	2.2%	0.9%

The regional revisions also show a large upwards revision to the level of unemployment in London, by 7.2 per cent. This is partly caused by the pattern of population changes at local authority level within London. In particular, the very large revision to the population total in Newham (up 60,000)



where the unemployment rate is the highest (around 15%). There was a large upward revision to Brent as well which also has a well above average unemployment rate. These changes to population estimates for London borough have been fully documented in recently published articles by ONS.

Table 6 shows the revisions to the main rates in May-July 2011 by region and gender. Most revisions are 0.2 percentage points or less, with London being the exception. For London:

- the employment rate is revised down by 0.8 (67.9 to 67.1);
- the unemployment rate up by 0.3 (9.8 to 10.1); and
- the inactivity rate up by 0.6 (24.7 to 25.3).

All revisions to rates are well within the sampling variability of the estimates, as shown in the Appendix. The annual changes are not affected significantly.

**Table 6: Revisions to regional rates**

May-Jul 2011	REVISIONS TO RATES		
	Employment (16-64)	Unemployment (16+)	Inactive (16-64)
<b>People</b>			
North East	-0.2%	-0.1%	0.2%
North West	0.0%	-0.1%	0.1%
Yorks/Humbs	-0.1%	-0.1%	0.2%
East Midlands	-0.1%	0.0%	0.1%
West Midlands	-0.1%	0.0%	0.1%
East of England	-0.2%	0.0%	0.2%
London	-0.8%	0.3%	0.6%
South East	0.0%	0.0%	0.0%
South West	0.0%	0.0%	0.0%
Wales	0.1%	0.0%	-0.1%
<b>Men</b>			
North East	-0.2%	-0.1%	0.3%
North West	0.0%	-0.1%	0.1%
Yorks/Humbs	-0.1%	-0.1%	0.2%
East Midlands	-0.1%	0.0%	0.1%
West Midlands	-0.1%	0.0%	0.1%
East of England	-0.2%	0.0%	0.2%
London	-0.9%	0.4%	0.6%
South East	0.0%	0.0%	0.0%
South West	0.1%	-0.1%	0.0%
Wales	0.2%	-0.1%	-0.1%
<b>Women</b>			
North East	-0.1%	0.0%	0.1%
North West	0.0%	0.0%	0.0%
Yorks/Humbs	-0.1%	0.0%	0.1%
East Midlands	-0.1%	0.0%	0.1%
West Midlands	0.0%	0.0%	0.0%
East of England	-0.1%	0.0%	0.0%
London	-0.5%	0.3%	0.3%
South East	0.0%	0.0%	0.0%
South West	0.0%	0.0%	0.0%
Wales	0.0%	0.0%	-0.1%

**Table 7: Revisions by region, May-July 2012**

May-Jul 2012	REVISIONS TO LEVELS (16+)				% REVISIONS TO LEVELS			
People	Population aged 16+	In employment	Unemployed	Economically inactive	Population aged 16+	In employment	Unemployed	Economically inactive
North East	-25,764	-20,931	-3,460	-1,373	-1.2%	-1.8%	-2.5%	-0.2%
North West	87,012	50,060	1,172	35,780	1.6%	1.6%	0.4%	1.7%
Yorks/Humbs	-60,153	-49,949	-7,695	-2,509	-1.4%	-2.0%	-2.7%	-0.2%
East Midlands	29,683	9,905	1,770	18,008	0.8%	0.5%	0.9%	1.4%
West Midlands	110,940	67,289	8,825	34,826	2.5%	2.7%	3.7%	2.1%
East of England	-22,216	-26,445	-1,524	5,753	-0.5%	-0.9%	-0.7%	0.4%
London	266,405	150,062	28,781	87,562	4.2%	3.9%	7.7%	4.1%
South East	46,437	25,437	1,784	19,216	0.7%	0.6%	0.6%	0.8%
South West	9,086	522	-1,458	10,022	0.2%	0.0%	-0.9%	0.6%
Wales	10,561	3,738	369	6,454	0.4%	0.3%	0.3%	0.7%
Men	Population aged 16+	In employment	Unemployed	Economically inactive	Population aged 16+	In employment	Unemployed	Economically inactive
North East	-19,168	-15,043	-2,693	-1,432	-1.8%	-2.4%	-3.2%	-0.4%
North West	32,739	16,751	-245	16,233	1.2%	1.0%	-0.1%	1.9%
Yorks/Humbs	-38,177	-31,203	-5,669	-1,305	-1.8%	-2.4%	-3.3%	-0.2%
East Midlands	6,920	553	451	5,916	0.4%	0.0%	0.4%	1.1%
West Midlands	57,150	36,857	5,109	15,184	2.7%	2.8%	3.7%	2.3%
East of England	-27,580	-27,234	-1,381	1,035	-1.2%	-1.7%	-1.3%	0.2%
London	102,831	57,944	14,260	30,627	3.3%	2.7%	6.9%	3.9%
South East	22,847	14,187	273	8,387	0.7%	0.6%	0.2%	0.9%
South West	-5,005	-4,728	-1,302	1,025	-0.2%	-0.3%	-1.4%	0.2%
Wales	3,644	1,369	250	2,025	0.3%	0.2%	0.3%	0.5%
Women	Population aged 16+	In employment	Unemployed	Economically inactive	Population aged 16+	In employment	Unemployed	Economically inactive
North East	-6,596	-5,888	-767	59	-0.6%	-1.1%	-1.4%	0.0%
North West	54,273	33,309	1,417	19,547	1.9%	2.2%	1.2%	1.6%
Yorks/Humbs	-21,976	-18,746	-2,026	-1,204	-1.0%	-1.6%	-1.9%	-0.1%
East Midlands	22,763	9,352	1,319	12,092	1.2%	1.0%	1.5%	1.5%
West Midlands	53,790	30,432	3,716	19,642	2.4%	2.7%	3.6%	2.0%
East of England	5,364	789	-143	4,718	0.2%	0.1%	-0.1%	0.5%
London	163,574	92,118	14,521	56,935	5.1%	5.4%	8.7%	4.3%
South East	23,590	11,250	1,511	10,829	0.7%	0.6%	1.1%	0.8%
South West	14,091	5,250	-156	8,997	0.6%	0.4%	-0.3%	0.9%
Wales	6,917	2,369	119	4,429	0.5%	0.4%	0.2%	0.8%

As with the revisions by region in May-July 2011, the revisions in May-July 2012 are greatest in London (4.1%). Revisions in West Midlands and the North West were also large, at 2.1 and 1.7 per cent respectively.

**Table 8: Revisions to Employment by Country of Birth & Nationality**

	Total <sup>1</sup>	UK	Non UK	European Union (EU)				Countries not in the European Union (non-EU)							
				Total EU (EU26) <sup>2</sup>	Of which: EU14 <sup>3</sup>	Of which: EUA8 <sup>4</sup>	Of which: Romania and Bulgaria	Total non-EU	Africa excluding South Africa	South Africa	Australia and New Zealand	India	Pakistan and Bangladesh	USA	Rest of the world
<b>Levels (aged 16 and over)</b>															
<b>By country of birth</b>															
May-Jul 2010	196	135	61	15	2	9	4	46	10	1	1	11	5	1	18
May-Jul 2011	190	115	75	23	7	13	3	52	14	1	1	12	10	-1	14
May-Jul 2012	209	130	78	21	4	11	5	57	13	2	1	15	10	0	17
<b>By nationality</b>															
May-Jul 2010	196	156	40	16	3	9	4	24	4	1	1	7	2	-1	11
May-Jul 2011	190	140	49	23	8	13	2	26	5	1	1	7	6	-1	9
May-Jul 2012	209	161	48	22	6	11	4	27	4	1	1	9	4	0	8
<b>Rates (aged 16 to 64)</b>															
<b>By country of birth</b>															
May-Jul 2010	-0.1	0.0	-0.2	-0.1	-0.2	-0.1	-0.6	-0.1	-0.2	-0.2	0.3	-0.1	-0.3	0.4	-0.1
May-Jul 2011	-0.2	-0.1	-0.3	-0.1	-0.1	-0.2	0.3	-0.3	-0.4	-0.2	0.3	-0.3	-0.2	-0.3	-0.2
May-Jul 2012	-0.1	-0.1	-0.2	-0.2	-0.3	-0.2	0.2	-0.2	-0.4	0.0	0.0	-0.2	-0.1	0.1	-0.2
<b>By nationality</b>															
May-Jul 2010	-0.1	0.0	-0.2	-0.1	-0.1	-0.1	-0.7	-0.2	-0.4	-0.1	0.2	0.0	-0.5	-0.3	0.0
May-Jul 2011	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	0.2	-0.1	-0.3	0.0	0.1	0.0	0.3	-0.4	-0.1
May-Jul 2012	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	0.0	0.0	-0.2	0.3	0.0	-0.1	0.4	0.2	-0.1

As documented by the ONS, the Census indicated a higher number of people born outside the UK than previously estimated, including 250,000 more A8 migrants. Much of this was concentrated on the years 2004-07, just after the Accession countries (EUA8) joined the EU. This extra growth can be seen in the mid-year population estimates table in the Appendix.

The LFS does not weight according to country of birth, so these extra migrants will not appear directly in the estimates of 'Employment by Country of Birth & Nationality', demonstrated in Table 8 above. As the Table shows, the number of A8 people in employment is revised up by just 13,000 in mid-2011.

The relatively large upward revisions to the population of London, where one third of the population is non-UK born, will have indirectly increased the weight given to many people surveyed who were born outside the UK. This partly explains why about a third of the upward revision is among non-UK born when they represent only about one seventh of the total in employment.

## Appendix

### Sampling variability

May-July 2012 (thousands and per cent)	Confidence Interval (CI) of estimate	Quarterly Change CI	Annual Change CI
<b>UK</b>			
Rate Employed / 16-64	0.4	0.3	0.5
Rate Employed / 16-64 (Male)	0.5	0.4	0.6
Rate Employed / 16-64 (Female)	0.5	0.4	0.7
Rate Inactive / 16+	0.3	0.3	0.4
Rate Inactive / 16-64	0.3	0.3	0.5
Rate Unemployed / 16+	0.3	0.3	0.4
Total Employed 16+	159	135	214
Total Inactive 16-64	134	118	183
Total Unemployed 16+	85	89	119

Regional Confidence Interval (CI) of estimate	Employment (000s)	Employment Rate	Unemployment (000s)	Unemployment rate	Economically Inactive (000s)
East Midlands	37	1.4%	19	0.9%	45
East of England	45	1.2%	23	0.8%	49
London	64	1.2%	35	0.8%	67
North East	33	1.9%	18	1.4%	36
North West	53	1.1%	28	0.8%	55
South East	55	0.9%	27	0.6%	60
South West	46	1.3%	20	0.8%	51
Wales	34	1.7%	18	1.3%	39
West Midlands	46	1.3%	23	0.8%	51
Yorkshire & Humberside	44	1.2%	26	1.0%	49

### Mid-Year Population Estimates, 2001 to 2011

Table 1: Population estimates for England and Wales, revised, rolled-forward, size of revision and total (cumulative) size of revision, mid-2001 to mid-2011

Year	Revised MYE <sup>1</sup>	Rolled-forward MYE <sup>1</sup>	Size of revision	Total (cumulative) size of revision	Total (cumulative) size of revision as a % of rolled-forward estimate	Annual growth (revised MYE <sup>1</sup> )	Annual growth (revised MYE <sup>1</sup> ) %	Previous annual growth %	Change in annual growth % pts
Mid-01 <sup>2</sup>	52,360,000	52,360,000	-	-	-	-	-	-	-
Mid-02	52,602,000	52,567,000	35,000	35,000	0.07	242,000	0.46	0.40	0.07
Mid-03	52,863,000	52,792,000	36,000	71,000	0.13	261,000	0.50	0.43	0.07
Mid-04	53,152,000	53,053,000	28,000	99,000	0.19	289,000	0.55	0.49	0.05
Mid-05	53,575,000	53,416,000	60,000	159,000	0.30	423,000	0.80	0.68	0.11
Mid-06	53,951,000	53,726,000	66,000	225,000	0.42	376,000	0.70	0.58	0.12
Mid-07	54,387,000	54,082,000	80,000	305,000	0.56	437,000	0.81	0.66	0.15
Mid-08	54,842,000	54,455,000	82,000	387,000	0.71	454,000	0.84	0.69	0.15
Mid-09	55,235,000	54,809,000	39,000	426,000	0.78	394,000	0.72	0.65	0.07
Mid-10	55,692,000	55,240,000	26,000	452,000	0.82	457,000	0.83	0.79	0.04
Mid-11 <sup>3,4</sup>	56,171,000	55,707,000	12,000	464,000	0.83	479,000	0.86	0.85	0.01

1. MYE = Mid-year estimate.

2. Population estimates for mid-2001 have not been revised.

3. Population estimates for mid-2011 were published on 25 September 2012 and were based on the 2011 Census. Rolled-forward population estimates for mid-2011 have been produced for reconciliation purposes only.

4. The LFS have not taken on this MYE. The LFS household population estimates for 2011 are based on the 2010-based projections as published in 2011.

Source: Office for National Statistics