

2011 Census-based reweighting of Labour Force Survey estimates: indicative historical revisions, mid-2001 to end 2013

23 September 2014

Office for National Statistics

1. Introduction

A major project to reweight LFS aggregates and microdata, using revised UK and sub-national population estimates consistent with the 2011 Census and updated population projections, is nearing completion. The primary outcome, on 15 October 2014, will be a revised set of LFS aggregates, as published in the monthly Labour Market Statistical Bulletin, covering the period mid-2001 onwards.

This article describes the reweighting and provides a summary of the impact on the main LFS aggregates as published in Table 1 of the monthly bulletin. Table 1 comprises time series of estimates of employment, unemployment and economic inactivity for the populations aged 16+ and aged 16-64, by gender.

The revised aggregates in this article cover the period June-August 2001 up to and including October-December 2013. Reweighted estimates for periods in 2014 will not be provided until the October release, which will include estimates up to and including the period June-August 2014.

The estimates in this article are *indicative* in that they do not show the final effects from updating the seasonal adjustment to take account of all the available reweighted data, including that for the latest periods in 2014. All of the reweighted time series are subject to a seasonal adjustment review, in accordance with the established practice. Any changes to seasonal adjustment methods will be implemented in the 15 October release. At present, no methodological changes affecting the series in Table 1 are envisaged.

This article will be updated on 15 October to reflect the final figures and will include additional details relating to the other LFS-based tables in the monthly statistical bulletin.

2. Key points

- The LFS aggregate estimates in the *Labour Market Statistical Bulletin* are now consistent with the 2011 Population Census estimates for the UK and its regions and the subsequently updated mid-year estimates and population projections.
- There are revised aggregates for all series from the period June-August 2001 onwards.
- In addition to the reweighting the revisions reflect updated seasonal adjustment for the period open to revision.
- With regard to the headline employment and unemployment *rates*, there are no significant changes to the main stories portrayed over the period 2001 to 2013.
- The revisions to the *levels* are more substantial in absolute terms, e.g. for some periods the employment total has been revised up by over 200,000 (0.7%). However, the trends in the main aggregates over the period are very similar to those currently published.
- A notable effect is the slightly stronger rate of employment growth between mid-2004 and mid-2008. This mainly reflects the impact of the upwardly revised estimates of net international migration in the revised population figures.
- The revisions arising from the reweighting are very similar to those indicated by the impact assessment report published in 2013:

<http://www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/articles-and-reports/census-based-reweighting-of-the-lfs--summary-of-detailed-impact-assessment.pdf>

A summary of the revisions to the main series is contained in the Annex. In the main summary table (Table 1) just the May-July period is shown for each year, which is the period that corresponds directly to the revised mid-year population estimates.

3. Background to the Labour Force Survey (LFS)

The LFS is a continuous UK household sample survey, which collects information from approximately 45,000 households each quarter (around 100,000 people of all ages). Since those responses reflect only a sample (approximately 1 in 650) of the total population, they are weighted on the basis of subnational population totals by age and sex to give estimates for the entire UK household population.

A “calibration” weighting method is used. This is an iterative algorithm designed to produce individuals’ weights that are consistent with three sets of population totals, or “partitions”. These partitions are:

- Local authority totals for people aged 16+, by gender;
- Great Britain and Northern Ireland totals by gender and by single year of age for 16-24s and totals for 0-15 and 25+; and
- Regional totals by quinary age bands and by gender.

In order to remain consistent with the LFS sample the population estimates are adjusted to exclude those outside the coverage of the survey. Consequently people in communal establishments, apart from those living in National Health Service accommodation and students in halls of residence who have a UK-resident parent, are excluded from the LFS household population estimates. The LFS household population estimates are derived from the mid-year estimates (MYEs) and the latest

population projections based on those MYEs. A fuller description of the history of the LFS and its methodology can be found in the Labour Force Survey User Guide Volume One.

<http://www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/labour-market-statistics/volume-1---2011.pdf>

4. The population estimates

The revised population estimates used for this latest LFS reweighting project are consistent with:

- mid-2011 and mid-2012 population estimates for the UK, as published by ONS in August 2013;
- mid-2001 to mid-2010 revised population estimates for the UK based on the 2011 Census, as published in Dec 2013; and
- 2012-based national population projections for the UK, published Nov 2013.

The derivation of these population estimates have been documented in detail in specific ONS releases and articles.

The data comprise population estimates for local authorities in England, Wales, Scotland and Northern Ireland, by sex and age. All estimates are based on consistent 2011 Census based mid-year estimates series produced by the ONS, NRS (National Records of Scotland) and NISRA (Northern Ireland Statistics and Research Agency).

The national population projections covered the period mid-2013 to mid-2015 for each constituent country of the UK (England, Scotland, Wales, and Northern Ireland), by age and gender. All projections were based on the mid-2012 (Census-based) UK population estimates. These national projections were then combined with subnational population projections to provide the detailed LFS population estimates required. Subnational population projections for 2013 to 2015 were based on projecting forward observed growth rates from the preceding 6 years (2007-2012) of mid-year population estimates by local authority. This series of estimates is based on the latest mid-year population estimates for mid-2012 and then constrained to the published national projections for each year of the series.

Each mid-year estimate of the LFS household population series is used for the May-July LFS reporting period, or quarter, of that year. Population estimates for the eleven intervening quarters (or the "rolling three-monthly" periods June-August, July-September, August-October, etc.) are calculated by taking the difference between two consecutive mid-year figures, dividing by 12 and incrementing each period by that amount. In effect it is a straight line interpolation between each consecutive pair of mid-year estimates.

The communal establishments excluded from the LFS sample, as described above, represent about 1.5% of the total resident population. Communal establishment adjustment factors were derived from both 2001 Census and 2011 Census data at a local area level. The factors are applied to the total resident population to produce the required LFS household population estimates. To provide a smooth transition between the conversion factors derived from the 2001 Census and 2011 Census, interpolated series of the factors were created. These series were generated between the end points (mid-2002 and mid-2011) in equal intervals using the mid-year points. Conversion factors were estimated for each local authority area, by age and gender.

It should be noted that the mid-2013 population estimates for the UK, published by the ONS on 26 June 2014, have not been incorporated into the household population estimates used for this reweighting project. The established practice for the LFS is to use the latest mid-year estimates

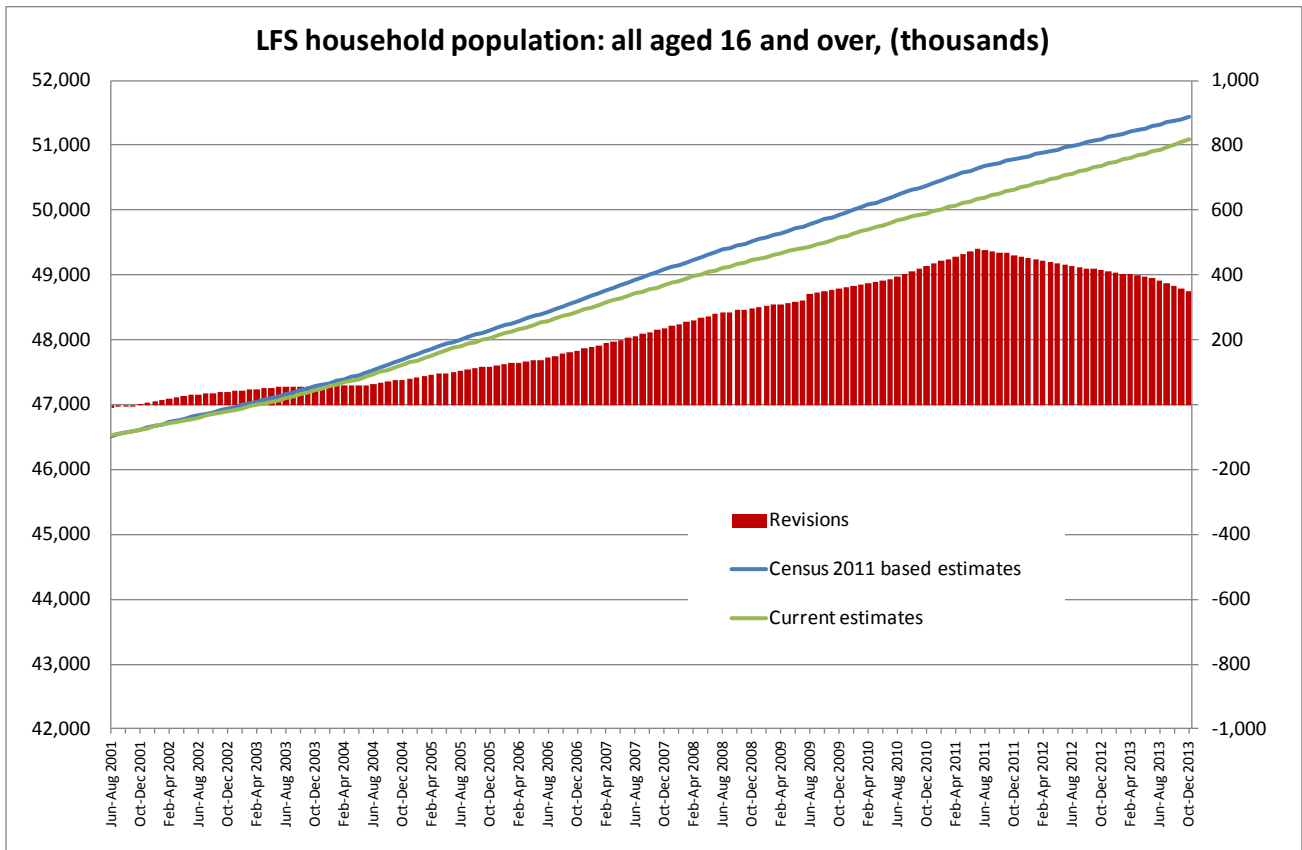
(MYEs) in the following year's LFS calculations, along with updated population projections, after generating a revised set of population estimates at the level of detail required.

As indicated above, the mid-2013 estimates used in this reweighting are 2012-based projections published in 2013. Comparisons of these estimates with the latest official MYEs for 2013 indicate that the differences between them are very small and that the population growth between 2012 and 2013 is the same in both cases. Consequently the impact of using the previous year's projections in place of the recently available, actual MYEs for 2013 can be regarded as negligible.

5. The revisions to the LFS household population estimates

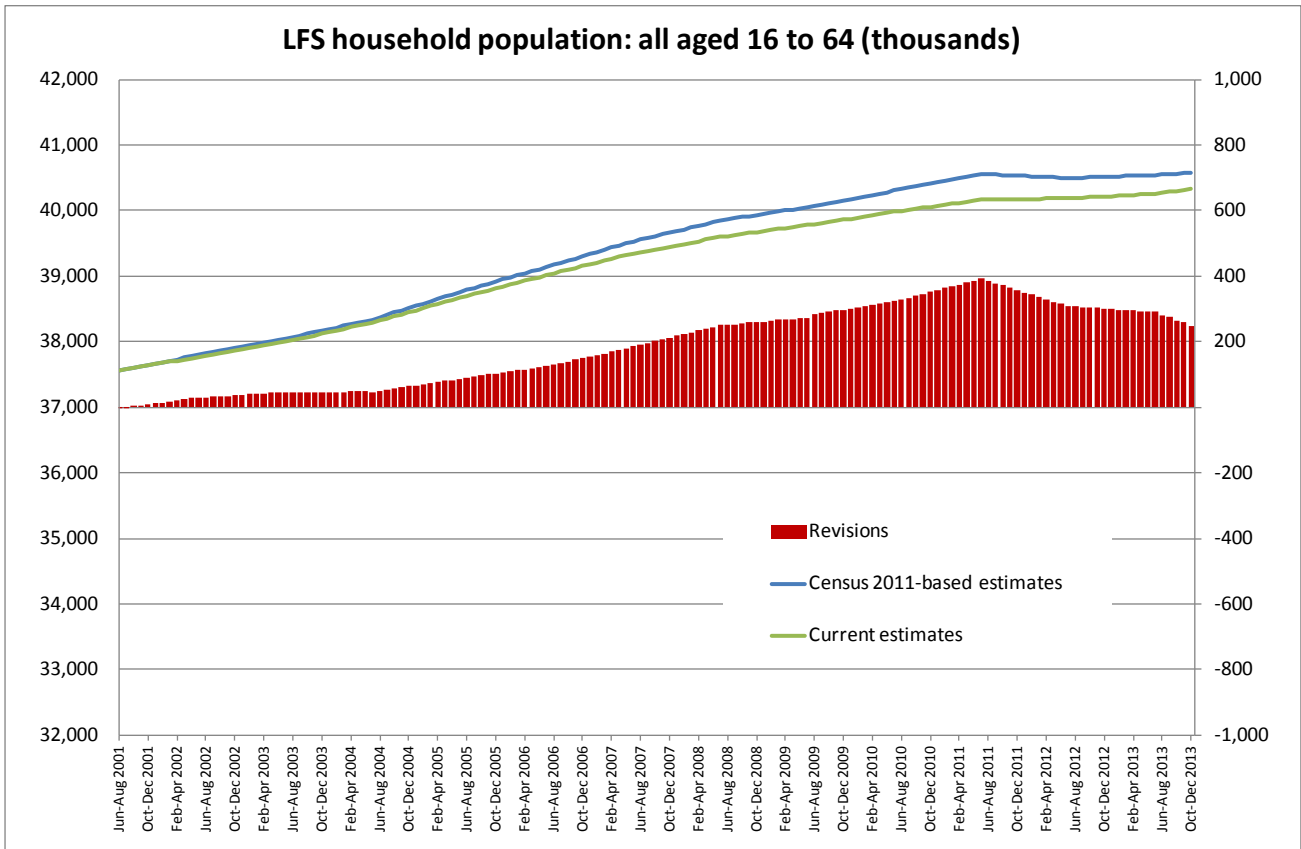
The revisions to the total 16+ population over the period are nearly all upwards and are most apparent from mid-2005 onwards. The cumulative effect of the revised Census-based series occurs in mid-2011 with an upward revision of just under half a million people (+1.0%). Revisions from then on are not quite as large, due to the revised population growth in more recent years being slightly slower than previously estimated.

Chart 1: Revisions to LFS household population age 16+



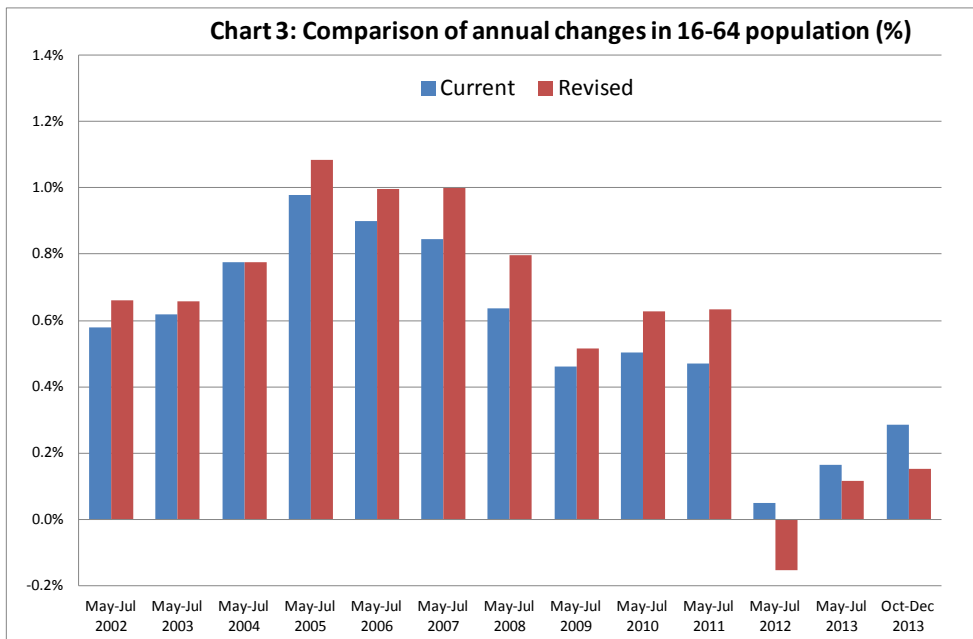
The pattern of revisions to the population aged 16-64 is similar to that of the population aged 16+, although generally slightly smaller (see Chart 2). The 16-64 population growth slows down suddenly in 2012 and the effect is slightly bigger in the revised estimates. This effect mainly relates to the “baby boomers”, i.e. people born just after the Second World War who attained the age of 65 in 2012 and 2013. The number of such people is higher in the revised estimates and so the baby boomer effect is slightly bigger, slowing the growth in 16-64 population even more dramatically as they pass into the 65+ age group.

Chart 2: Revisions to LFS household population aged 16-64



The revisions to annual growth in population are contained in Table 2 of the Annex. Annual growth in 16+ population has been revised up by 0.1 of a % point for the years 2005 to 2010, by 0.2 in 2011 and down by 0.1 in 2012 and 2013.

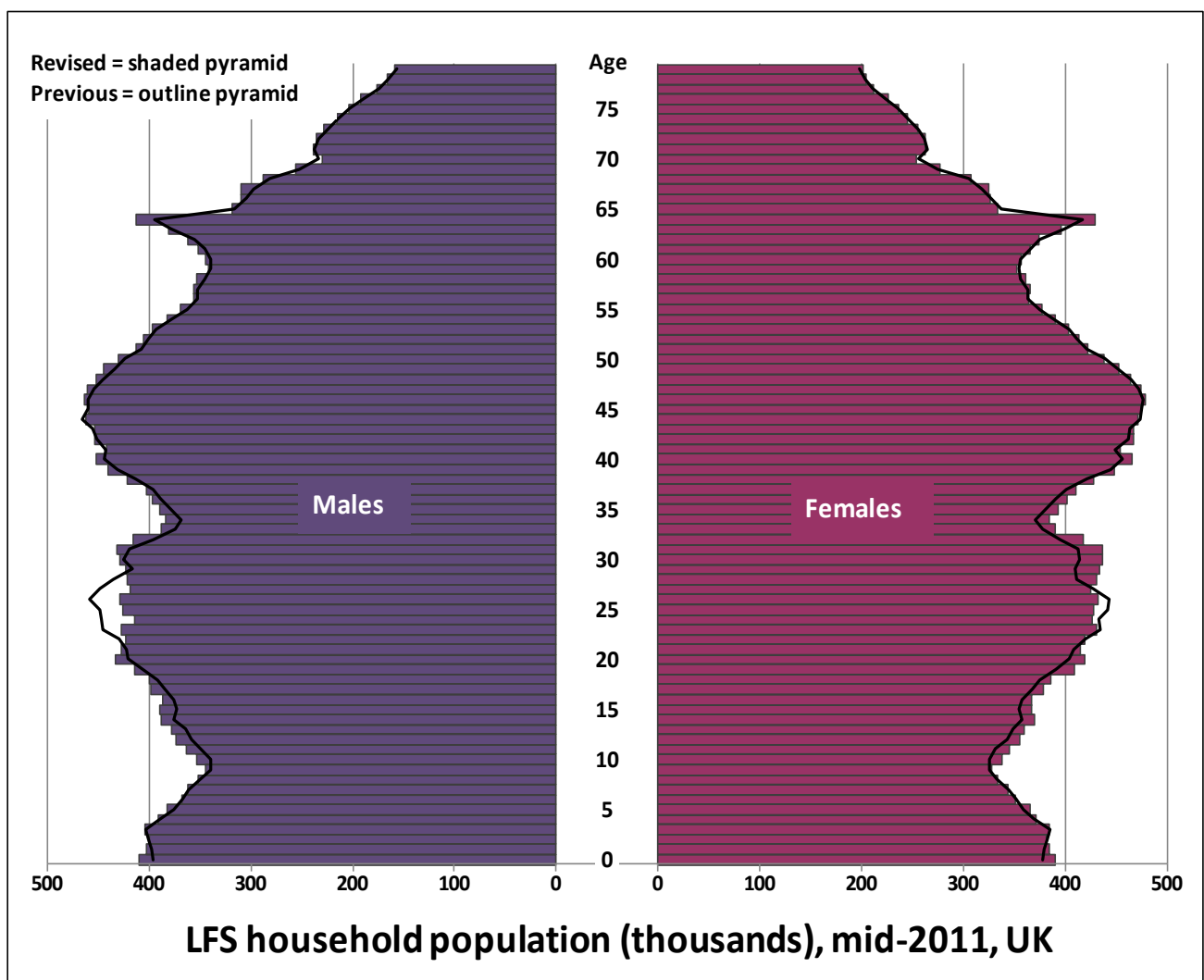
The annual changes in 16-64 population are slightly different and are affected by the larger “baby-boomers” effect in 2012-13. This causes annual growth in 16-64 population in mid-2012 to be revised down from +0.1% to -0.2%, as illustrated in Chart 3 below:



As suggested previously, the revisions to the total population are not distributed evenly by age and gender. For example, as the LFS population pyramid for mid-2011 (Chart 4) shows, the number of men in their 20s is lower on the new figures whereas we see higher totals in other age groups. We also see strong upward revisions to women in their mid-20s to 30s. The reasons for these revisions have been documented by the ONS population estimates articles and releases in recent years. The revised estimates of migration since mid-2005 are the most prominent factor.

Overall, the population revisions for women are much higher than for men. The peak revision for women is in mid-2011 at +351,000 and this compares with +131,00 for men at the same time.

Chart 4: Revisions to LFS household population estimates by single year of age, mid-2011



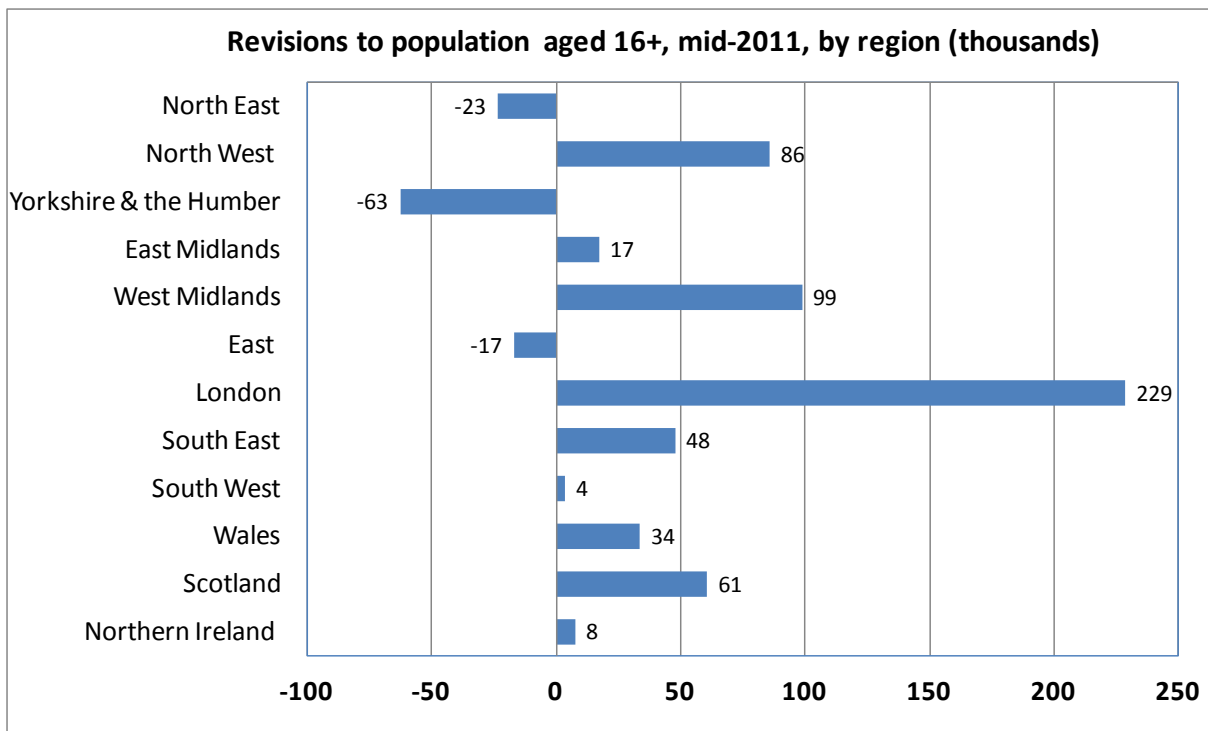
Note: Data are only shown for ages 0 to 79 inclusive

On a regional basis (see Chart 5) the revisions to the population estimates vary considerably. The 16+ population for London in mid-2011 has been revised up by 229,000 (3.6%) out of 482,000 (1.0%) for the UK as a whole. In contrast, the populations for Yorkshire and the Humber, the North East and the East of England all show downward revisions for the same period.

The population in London was revised up particularly strongly in the boroughs of Newham and Brent. This was due mainly to significantly revised estimates of net migration in those areas. Details of these revisions were included in the ONS article on the subnational estimates published in April 2013 (“Methods used to revise the subnational population estimates for mid-2002 to mid-2010”):

<http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/population-statistics-research-unit--psru-/methods-used-to-revise-the-subnational-population-estimates-for-mid-2002-to-mid-2010.pdf>

Chart 5: LFS household population revisions by region:



5. Summary of revisions to headline LFS indicators from mid-2001 onwards

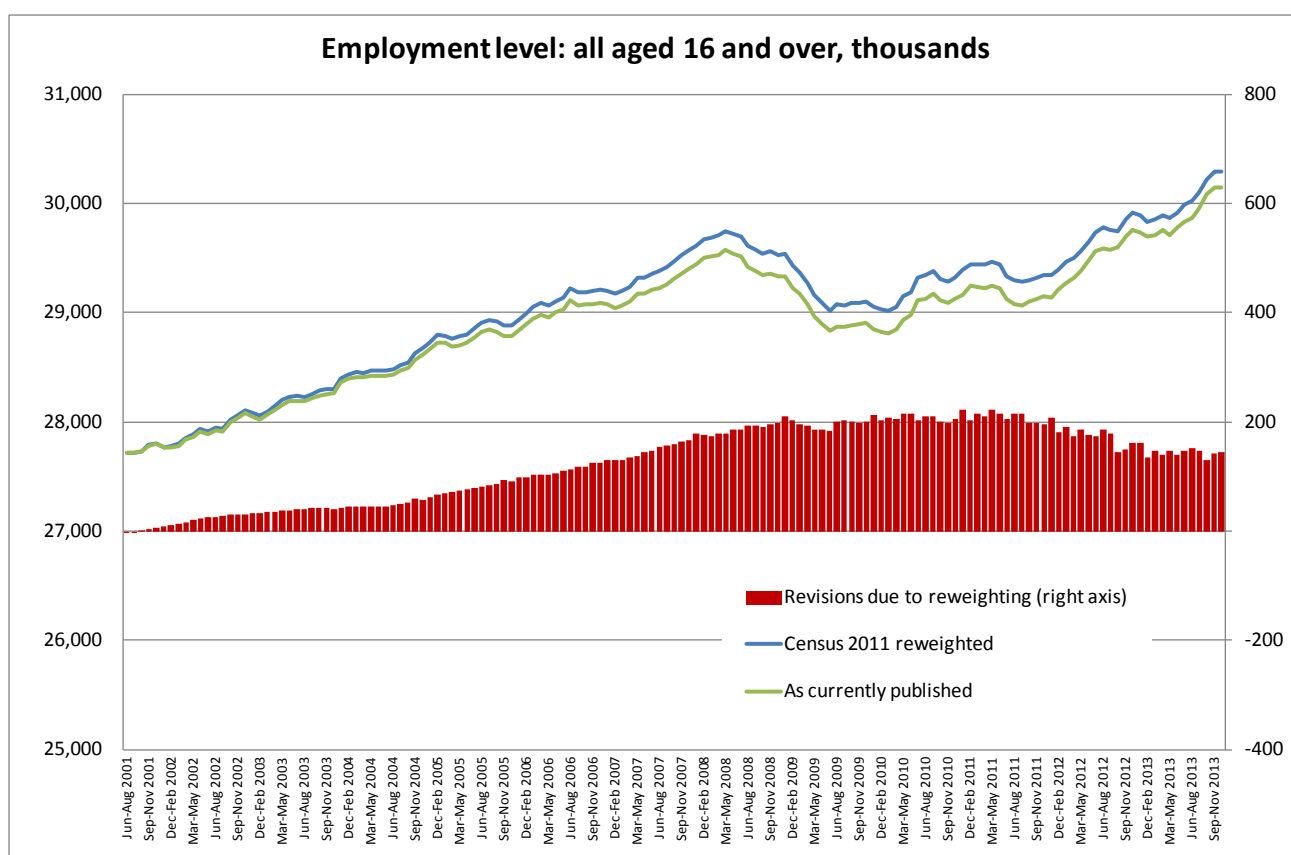
Tables that summarise the reweighted main LFS aggregates and how they compare with the current estimates are provided in the Annex.

5.1 Employment

The revisions to the employment level (Chart 6) generally grow in size over the period 2001 to 2010, peaking at 220,000 (0.8% higher than the current estimates) in spring 2011. The +0.8% revision in employment at that time compares with a +0.9% revision in the population aged 16+.

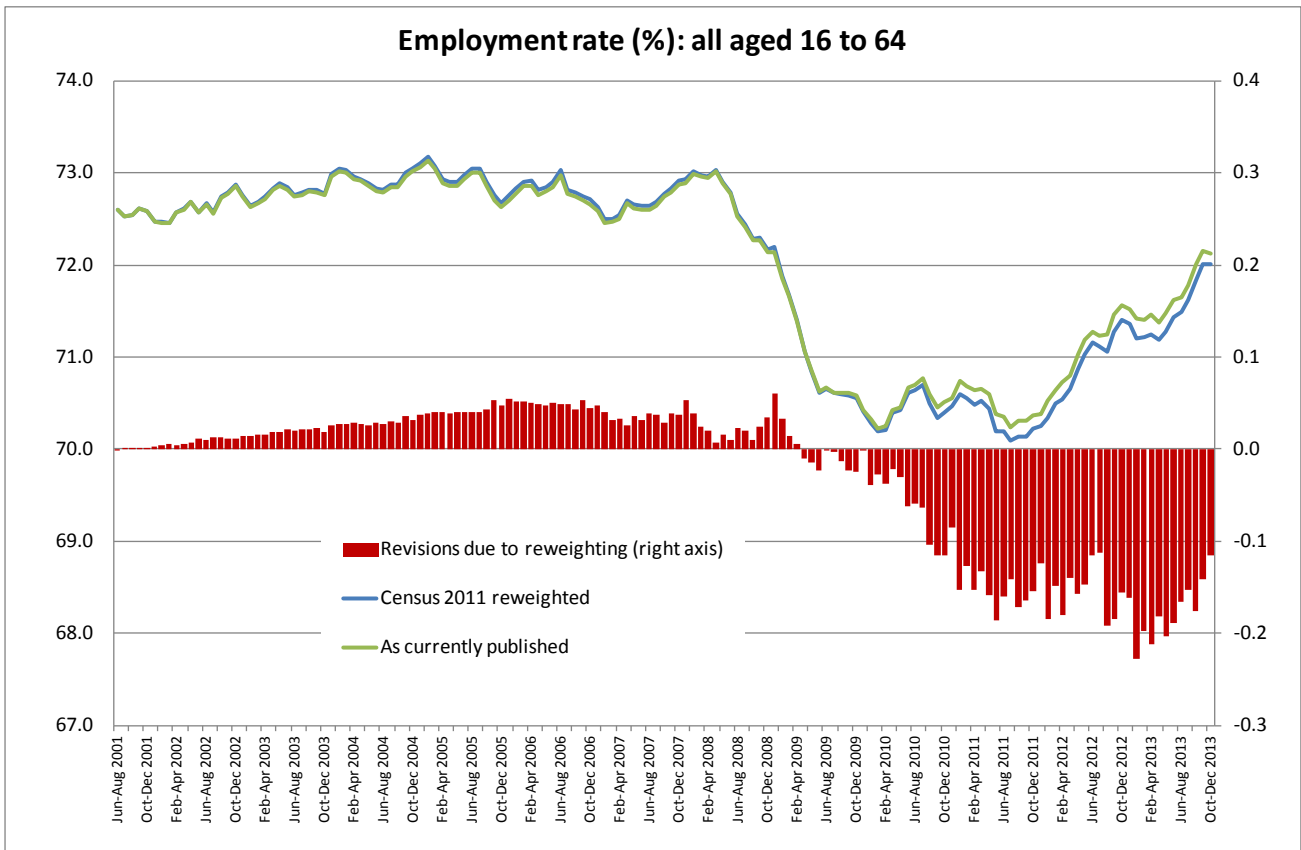
The impact of the recession from spring 2008 to early 2010 is about the same on the reweighted figures as it was previously, i.e. a fall of about 750,000.

Chart 6: Revisions to total employment level (seasonally adjusted)



The revisions to the headline employment rate (that for people aged 16-64), as shown in Chart 7, are no larger than 0.2 percentage points (when rounded) and are almost negligible up to 2010. From autumn 2010 onwards the revised employment rate is consistently lower than that previously published and there is a slightly lower trough in summer 2011. Overall though the picture is very similar to that currently published.

Chart 7: Revisions to employment rate (for 16-64s) (seasonally adjusted)



The pattern of the revisions to the population estimates by age, gender and region has resulted in a slight shift overall from economic activity to economic inactivity, from 2009 onwards. In other words, the population estimates for 2009 to 2012 have tended to be revised upwards more strongly in those areas and those age and gender categories where economic inactivity is higher.

Annual growth in 16+ employment, as show in Table 2 of the Annex, has been revised up by between 0 and 0.1% between 2002 and 2011, then down by 0.1% in 2012 and 2013. The annual changes in the 16-64 employment rate are virtually unaffected by the reweighting.

5.2 Unemployment

Revisions to the total unemployment level, as shown in Chart 8, are relatively small in absolute terms. The largest is in summer 2011 at just under 40,000 (+1.4%). The peak in September-November 2011 has been revised up slightly to just over the 2.7 million mark.

The revisions to the headline unemployment rate, as in Chart 9, are all less than 0.1 with most periods showing no change at all.

The overall unemployment picture over the period 2001 to 2013 is virtually unchanged. Also, the revisions to the annual changes are negligible.

Chart 8: Revisions to total unemployment level (seasonally adjusted)

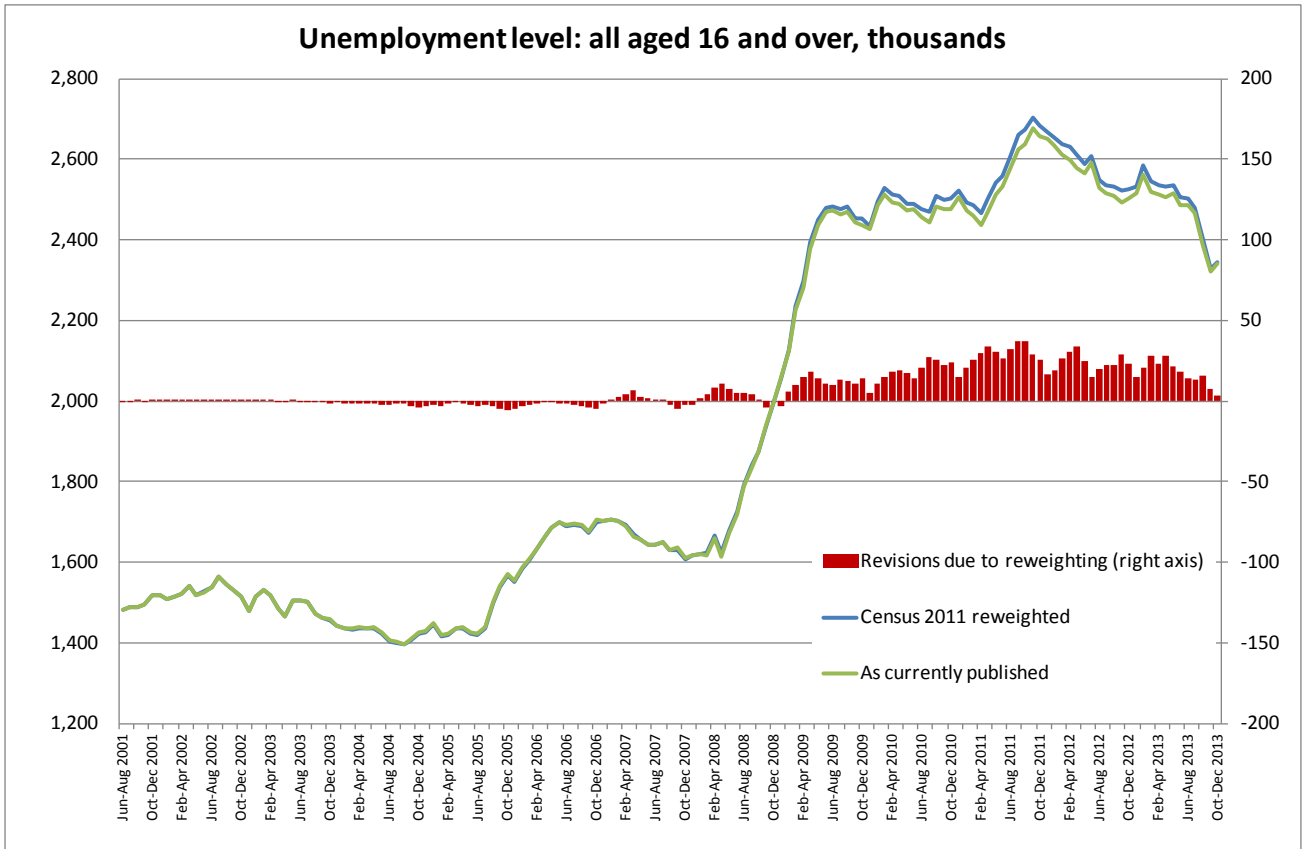
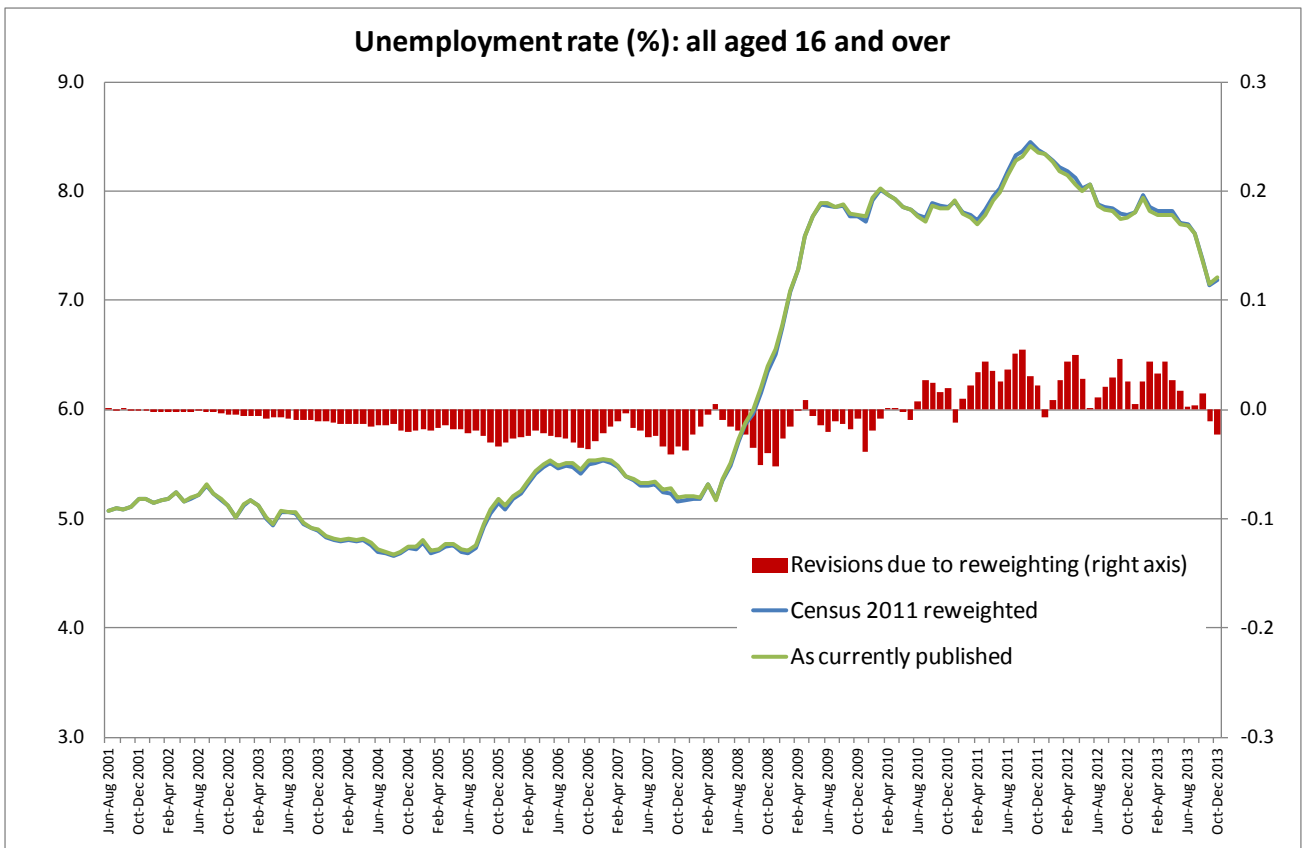


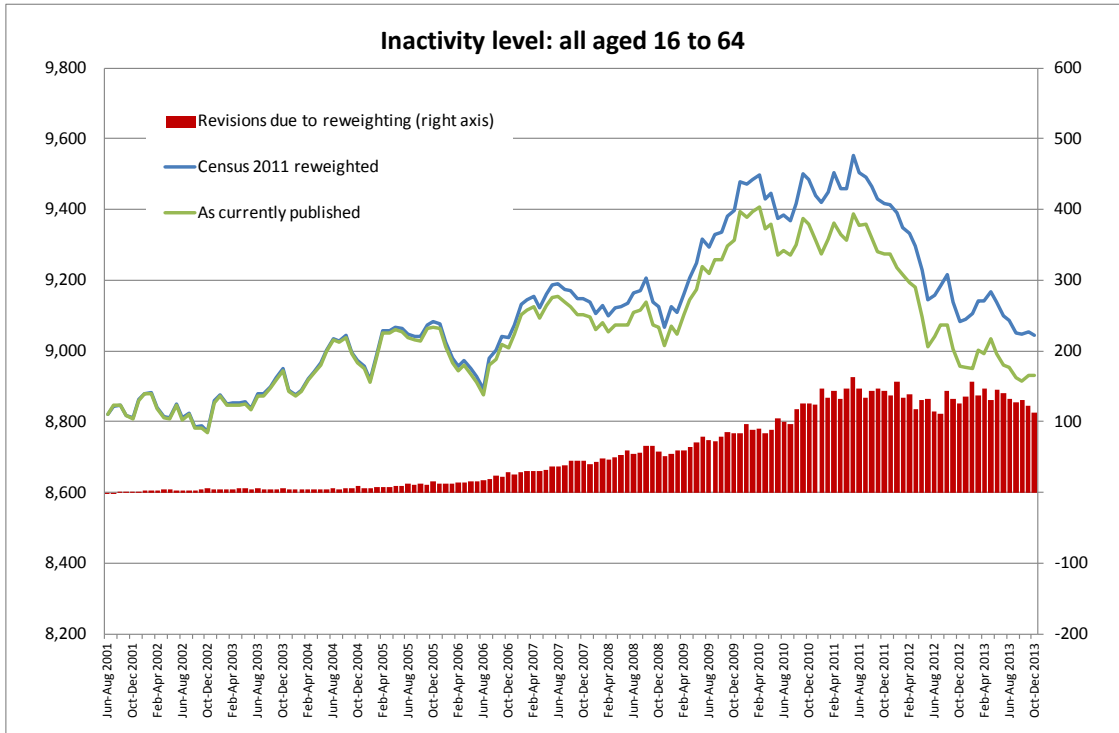
Chart 9: Revisions to the unemployment rate (seasonally adjusted)



5.3 Economic Inactivity

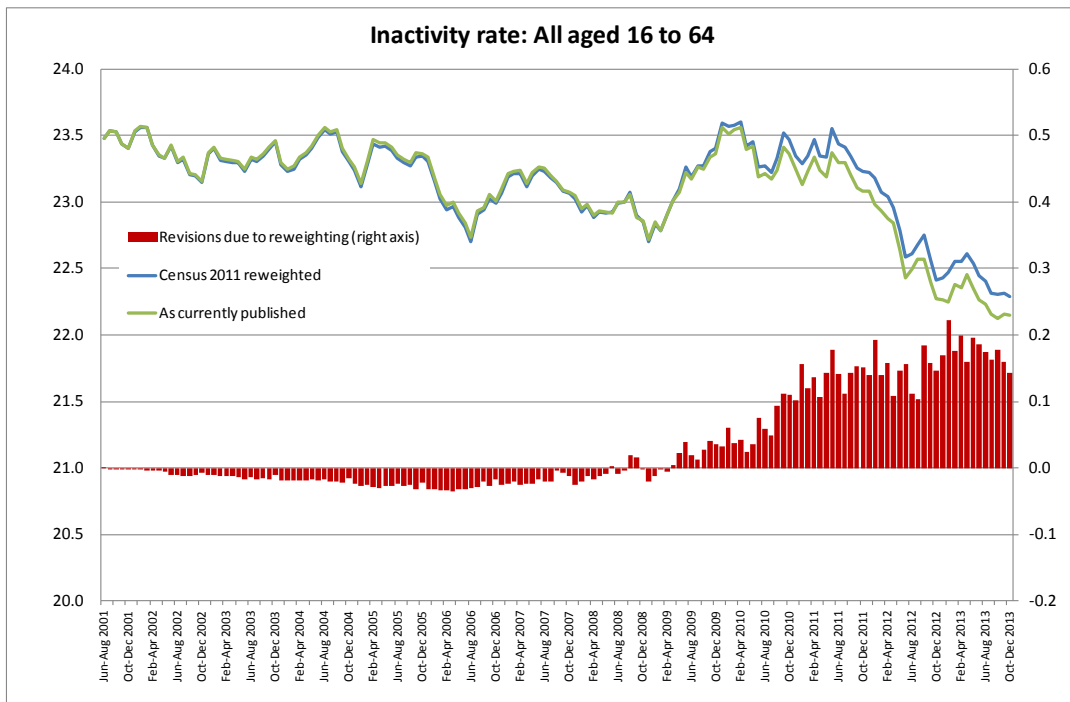
The revisions to the 16-64 inactivity level (Chart 10) are almost all positive and peak at just over 160,000 (+1.7%) in mid-2011.

Chart 10: Revisions to the economic inactivity level (seasonally adjusted)



The revisions to the 16-64 inactivity rate (as in Chart 11) tend to mirror those of the employment rate, reflecting the general slight shift from employment into inactivity.

Chart 11: Revisions to the economic inactivity rate



5.4 Regional aggregates (Table 3 of Annex)

The revisions to *levels* by region are quite varied and are disproportionately large in London. For regions other than London, the revisions to headline rates in mid-2011 are all 0.2 percentage points or less (when rounded).

In mid-2011 (which reflects the main cumulative effect of the Census-based population revisions) the revisions to the headline *rates* are generally small, except for London. For London there is relatively large decrease in its employment rate of 0.8 percentage points and increases in its unemployment rate (+0.3 % pts) and its inactivity rate (+0.6 % pts). Nevertheless, the revisions to the headline rates in London are still within the sampling variability of those estimates. The population in London was revised up very strongly in the boroughs of Newham and Brent where the unemployment and inactivity rates are much higher than the rest of London. These London revisions contribute to the revisions seen for the UK overall.

Chart 12: Employment rate revisions by region, May-July 2011

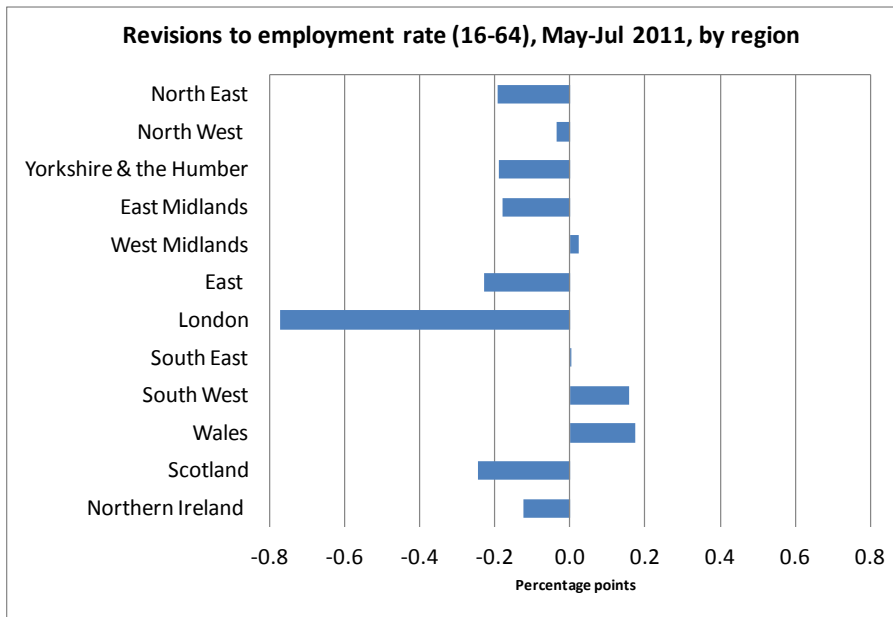


Chart 13: Unemployment rate revisions by region, May-July 2011

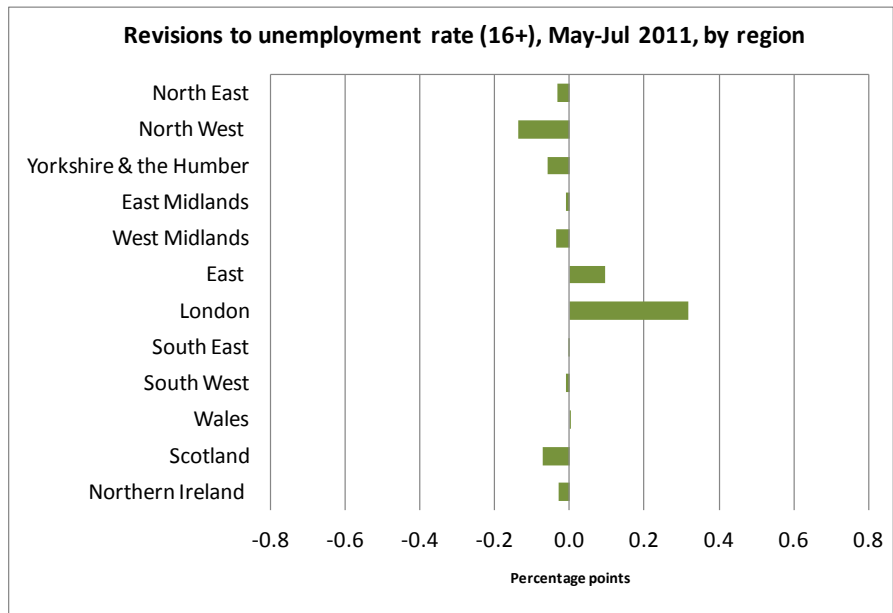
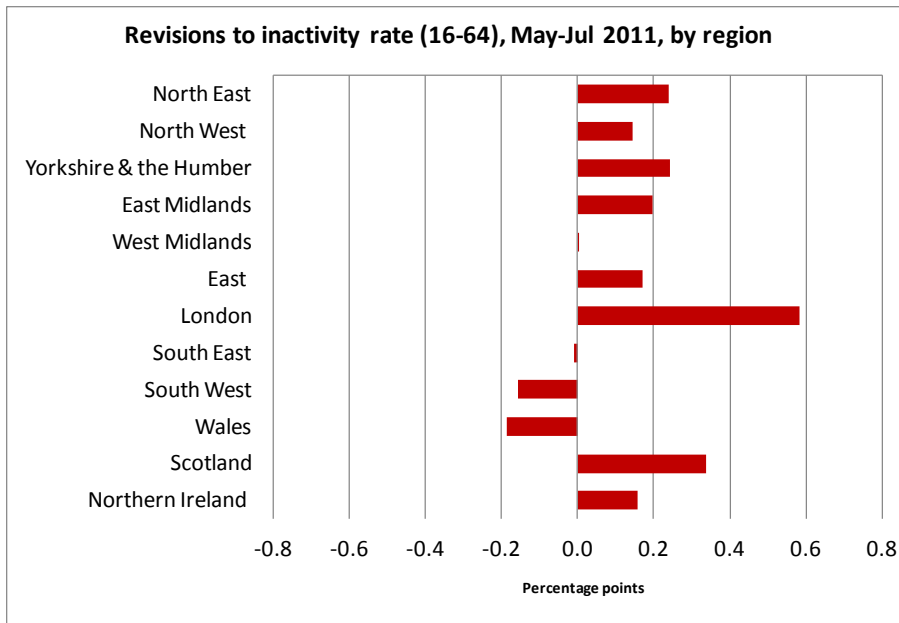


Chart 14: Inactivity rate revisions by region, May-July 2011



6. LFS microdata and other reweighted outputs

Rewighted sets of historical LFS microdata, up to and including Oct-Dec 2013, are also being made available from 23 September 2014. The reweighted LFS aggregates are entirely consistent with these microdata.

The reweighting project also includes the Annual Population Survey (APS), the household-based data sets for both the LFS and APS and the LFS Longitudinal datasets. Reweighted versions of these data sets will be produced for publication over the next 6 months. Regular outputs dependent on these sources will be published on a reweighted basis soon after, e.g. the detailed regional labour market bulletins (based on the APS) and the labour market flows release (based on the Longitudinal data sets).

The revised LFS aggregates and microdata will also feed into other ONS outputs such as official estimates of Workforce Jobs and Productivity in the near future.

Labour Market Division

ONS

23 September 2014

ANNEX

Table 1 part 1

Reweighted headline LFS indicators		United Kingdom (thousands) seasonally adjusted							
		LFS household population		Headline indicators					
				Employment		Unemployment		Inactivity	
				Level	Rate (%)	Level	Rate (%)	Level	Rate (%)
		All aged 16 & over	All aged 16 to 64	All aged 16 & over	All aged 16 to 64	All aged 16 & over	All aged 16 & over	All aged 16 to 64	All aged 16 to 64
People									
	May-Jul 2002	46,808	37,795	27,908	72.6	1,527	5.2	8,851	23.4
	May-Jul 2003	47,125	38,044	28,236	72.8	1,506	5.1	8,838	23.2
	May-Jul 2004	47,488	38,339	28,464	72.8	1,423	4.8	9,003	23.5
	May-Jul 2005	47,972	38,755	28,855	73.0	1,424	4.7	9,064	23.4
	May-Jul 2006	48,400	39,140	29,140	72.9	1,698	5.5	8,929	22.8
	May-Jul 2007	48,883	39,531	29,351	72.6	1,645	5.3	9,188	23.2
	May-Jul 2008	49,354	39,846	29,694	72.8	1,725	5.5	9,134	22.9
	May-Jul 2009	49,745	40,052	29,014	70.6	2,479	7.9	9,316	23.3
	May-Jul 2010	50,192	40,303	29,320	70.6	2,489	7.8	9,375	23.3
	May-Jul 2011	50,650	40,558	29,336	70.2	2,557	8.0	9,551	23.5
	May-Jul 2012	50,963	40,497	29,733	71.0	2,607	8.1	9,145	22.6
	May-Jul 2013	51,293	40,544	29,982	71.4	2,505	7.7	9,101	22.4
	Oct-Dec 2013	51,436	40,578	30,292	72.0	2,345	7.2	9,045	22.3
Men									
	May-Jul 2002	22,597	18,727	15,078	78.9	920	5.7	3,033	16.2
	May-Jul 2003	22,767	18,849	15,306	79.4	906	5.6	2,980	15.8
	May-Jul 2004	22,955	18,990	15,389	79.2	830	5.1	3,120	16.4
	May-Jul 2005	23,206	19,191	15,539	79.1	835	5.1	3,180	16.6
	May-Jul 2006	23,434	19,380	15,683	79.0	973	5.8	3,116	16.1
	May-Jul 2007	23,693	19,578	15,846	78.8	935	5.6	3,218	16.4
	May-Jul 2008	23,942	19,737	15,986	78.7	1,008	5.9	3,199	16.2
	May-Jul 2009	24,144	19,833	15,462	75.7	1,523	9.0	3,306	16.7
	May-Jul 2010	24,386	19,965	15,630	75.7	1,457	8.5	3,407	17.1
	May-Jul 2011	24,637	20,105	15,647	75.2	1,469	8.6	3,530	17.6
	May-Jul 2012	24,802	20,073	15,861	76.1	1,489	8.6	3,320	16.5
	May-Jul 2013	24,991	20,109	15,954	76.2	1,437	8.3	3,364	16.7
	Oct-Dec 2013	25,071	20,131	16,141	77.0	1,318	7.5	3,338	16.6
Women									
	May-Jul 2002	24,211	19,069	12,829	66.3	607	4.5	5,818	30.5
	May-Jul 2003	24,358	19,194	12,930	66.4	601	4.4	5,859	30.5
	May-Jul 2004	24,533	19,350	13,075	66.5	593	4.3	5,883	30.4
	May-Jul 2005	24,765	19,564	13,316	66.9	589	4.2	5,884	30.1
	May-Jul 2006	24,965	19,760	13,457	66.9	725	5.1	5,813	29.4
	May-Jul 2007	25,190	19,953	13,505	66.5	710	5.0	5,970	29.9
	May-Jul 2008	25,412	20,109	13,708	66.9	716	5.0	5,934	29.5
	May-Jul 2009	25,601	20,219	13,552	65.6	957	6.6	6,010	29.7
	May-Jul 2010	25,806	20,337	13,690	65.6	1,032	7.0	5,968	29.3
	May-Jul 2011	26,013	20,453	13,689	65.3	1,088	7.4	6,021	29.4
	May-Jul 2012	26,161	20,424	13,872	66.0	1,119	7.5	5,825	28.5
	May-Jul 2013	26,302	20,435	14,028	66.7	1,068	7.1	5,737	28.1
	Oct-Dec 2013	26,365	20,446	14,151	67.1	1,027	6.8	5,707	27.9

ANNEX

Table 1 part 2

Current headline LFS indicators		United Kingdom (thousands) seasonally adjusted							
		LFS household population		Headline indicators					
				Employment		Unemployment		Inactivity	
				Level	Rate (%)	Level	Rate (%)	Level	Rate (%)
		All aged 16 & over	All aged 16 to 64	All aged 16 & over	All aged 16 to 64	All aged 16 & over	All aged 16 & over	All aged 16 to 64	All aged 16 to 64
People									
	May-Jul 2002	46,778	37,765	27,881	72.6	1,526	5.2	8,848	23.4
	May-Jul 2003	47,072	37,998	28,194	72.8	1,506	5.1	8,834	23.2
	May-Jul 2004	47,429	38,292	28,419	72.8	1,426	4.8	8,999	23.5
	May-Jul 2005	47,870	38,668	28,776	72.9	1,426	4.7	9,054	23.4
	May-Jul 2006	48,260	39,016	29,030	72.8	1,700	5.5	8,913	22.8
	May-Jul 2007	48,676	39,346	29,205	72.6	1,643	5.3	9,152	23.3
	May-Jul 2008	49,074	39,596	29,508	72.8	1,719	5.5	9,075	22.9
	May-Jul 2009	49,424	39,779	28,831	70.6	2,469	7.9	9,237	23.2
	May-Jul 2010	49,804	39,979	29,118	70.7	2,475	7.8	9,270	23.2
	May-Jul 2011	50,168	40,167	29,130	70.4	2,531	8.0	9,387	23.4
	May-Jul 2012	50,532	40,187	29,560	71.2	2,592	8.1	9,013	22.4
	May-Jul 2013	50,901	40,253	29,836	71.6	2,487	7.7	8,961	22.3
	Oct-Dec 2013	51,085	40,329	30,146	72.1	2,342	7.2	8,932	22.1
Men									
	May-Jul 2002	22,592	18,720	15,070	78.9	920	5.8	3,035	16.2
	May-Jul 2003	22,763	18,844	15,292	79.4	908	5.6	2,986	15.8
	May-Jul 2004	22,964	18,997	15,380	79.2	835	5.1	3,132	16.5
	May-Jul 2005	23,208	19,191	15,521	79.0	840	5.1	3,193	16.6
	May-Jul 2006	23,429	19,372	15,655	78.9	980	5.9	3,129	16.2
	May-Jul 2007	23,667	19,553	15,809	78.8	940	5.6	3,225	16.5
	May-Jul 2008	23,897	19,695	15,938	78.7	1,012	6.0	3,201	16.3
	May-Jul 2010	24,319	19,915	15,595	75.7	1,462	8.6	3,385	17.0
	May-Jul 2011	24,506	19,999	15,604	75.4	1,465	8.6	3,465	17.3
	May-Jul 2012	24,706	20,018	15,847	76.3	1,491	8.6	3,269	16.3
	May-Jul 2013	24,908	20,060	15,948	76.4	1,434	8.3	3,313	16.5
	Oct-Dec 2013	25,019	20,114	16,144	77.1	1,326	7.6	3,298	16.4
Women									
	May-Jul 2002	24,186	19,045	12,812	66.3	606	4.5	5,813	30.5
	May-Jul 2003	24,309	19,154	12,902	66.4	598	4.4	5,848	30.5
	May-Jul 2004	24,465	19,296	13,039	66.5	591	4.3	5,867	30.4
	May-Jul 2005	24,662	19,477	13,256	66.9	586	4.2	5,860	30.1
	May-Jul 2006	24,832	19,643	13,375	66.9	720	5.1	5,784	29.4
	May-Jul 2007	25,009	19,793	13,397	66.5	703	5.0	5,927	29.9
	May-Jul 2008	25,177	19,901	13,570	66.9	707	5.0	5,874	29.5
	May-Jul 2009	25,330	19,984	13,404	65.6	941	6.6	5,940	29.7
	May-Jul 2010	25,485	20,064	13,522	65.6	1,013	7.0	5,885	29.3
	May-Jul 2011	25,662	20,167	13,526	65.4	1,065	7.3	5,922	29.4
	May-Jul 2012	25,826	20,169	13,713	66.1	1,101	7.4	5,744	28.5
	May-Jul 2013	25,993	20,193	13,887	66.9	1,053	7.0	5,648	28.0
	Oct-Dec 2013	26,066	20,215	14,003	67.2	1,016	6.8	5,634	27.9

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Table 1 part 3

Revisions to headline LFS indicators		LFS household population ¹		Headline indicators						United Kingdom (thousands) seasonally adjusted	
				Employment		Unemployment		Inactivity			
				Level	Rate (%)	Level	Rate (%)	Level	Rate (%)		
		All aged 16 & over	All aged 16 to 64	All aged 16 & over	All aged 16 to 64	All aged 16 & over	All aged 16 & over	All aged 16 to 64	All aged 16 to 64		
People											
	May-Jul 2002	30	30	26	0.0	1	0.0	3	0.0		
	May-Jul 2003	53	45	41	0.0	0	0.0	4	0.0		
	May-Jul 2004	60	47	45	0.0	-3	0.0	4	0.0		
	May-Jul 2005	101	87	78	0.0	-2	0.0	10	0.0		
	May-Jul 2006	139	125	110	0.1	-2	0.0	16	0.0		
	May-Jul 2007	207	186	146	0.0	2	0.0	36	0.0		
	May-Jul 2008	280	250	186	0.0	6	0.0	59	0.0		
	May-Jul 2009	321	273	182	0.0	11	0.0	79	0.0		
	May-Jul 2010	388	323	202	-0.1	14	0.0	105	0.1		
	May-Jul 2011	482	392	206	-0.2	27	0.0	164	0.2		
	May-Jul 2012	431	310	173	-0.1	15	0.0	133	0.2		
	May-Jul 2013	392	291	146	-0.2	18	0.0	140	0.2		
	Oct-Dec 2013	351	249	145	-0.1	3	0.0	113	0.1		
Men											
	May-Jul 2002	5	7	9	0.0	0	0.0	-2	0.0		
	May-Jul 2003	4	5	13	0.1	-2	0.0	-6	0.0		
	May-Jul 2004	-9	-7	9	0.1	-5	0.0	-12	-0.1		
	May-Jul 2005	-2	0	18	0.1	-5	0.0	-13	-0.1		
	May-Jul 2006	5	8	27	0.1	-7	0.0	-13	-0.1		
	May-Jul 2007	26	26	37	0.1	-5	0.0	-7	-0.1		
	May-Jul 2008	46	42	47	0.1	-4	0.0	-1	0.0		
	May-Jul 2009	50	38	35	0.0	-5	0.0	8	0.0		
	May-Jul 2010	67	50	35	0.0	-5	0.0	22	0.1		
	May-Jul 2011	131	106	43	-0.2	4	0.0	64	0.2		
	May-Jul 2012	96	55	13	-0.2	-2	0.0	51	0.2		
	May-Jul 2013	83	49	5	-0.2	3	0.0	51	0.2		
	Oct-Dec 2013	52	18	-3	-0.1	-8	0.0	40	0.2		
Women											
	May-Jul 2002	25	24	17	0.0	1	0.0	5	0.0		
	May-Jul 2003	50	40	28	0.0	2	0.0	10	0.0		
	May-Jul 2004	68	54	36	0.0	2	0.0	16	0.0		
	May-Jul 2005	103	87	60	0.0	3	0.0	23	0.0		
	May-Jul 2006	134	117	82	0.0	5	0.0	29	0.0		
	May-Jul 2007	181	160	109	0.0	7	0.0	43	0.0		
	May-Jul 2008	235	208	138	0.0	9	0.0	60	0.0		
	May-Jul 2009	271	235	148	0.0	16	0.0	71	0.0		
	May-Jul 2010	321	273	168	0.0	19	0.0	83	0.0		
	May-Jul 2011	351	286	163	-0.1	23	0.1	99	0.1		
	May-Jul 2012	335	255	159	-0.1	18	0.0	81	0.0		
	May-Jul 2013	309	241	141	-0.1	16	0.0	89	0.1		
	Oct-Dec 2013	299	231	148	0.0	11	0.0	73	0.0		

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Table 1 part 4

Revisions to headline LFS levels in % terms						
		LFS household population		Headline indicators		
				Employment	Unemployment	Inactivity
		Level	Level	Level	Level	Level
		All aged 16 & over	All aged 16 to 64	All aged 16 & over	All aged 16 & over	All aged 16 to 64
People						
	May-Jul 2002	0.1%	0.1%	0.1%	0.1%	0.0%
	May-Jul 2003	0.1%	0.1%	0.1%	0.0%	0.0%
	May-Jul 2004	0.1%	0.1%	0.2%	-0.2%	0.0%
	May-Jul 2005	0.2%	0.2%	0.3%	-0.1%	0.1%
	May-Jul 2006	0.3%	0.3%	0.4%	-0.1%	0.2%
	May-Jul 2007	0.4%	0.5%	0.5%	0.1%	0.4%
	May-Jul 2008	0.6%	0.6%	0.6%	0.3%	0.6%
	May-Jul 2009	0.6%	0.7%	0.6%	0.4%	0.9%
	May-Jul 2010	0.8%	0.8%	0.7%	0.6%	1.1%
	May-Jul 2011	1.0%	1.0%	0.7%	1.1%	1.7%
	May-Jul 2012	0.9%	0.8%	0.6%	0.6%	1.5%
	May-Jul 2013	0.8%	0.7%	0.5%	0.7%	1.6%
	Oct-Dec 2013	0.7%	0.6%	0.5%	0.1%	1.3%
Men						
	May-Jul 2002	0.0%	0.0%	0.1%	0.0%	-0.1%
	May-Jul 2003	0.0%	0.0%	0.1%	-0.2%	-0.2%
	May-Jul 2004	0.0%	0.0%	0.1%	-0.5%	-0.4%
	May-Jul 2005	0.0%	0.0%	0.1%	-0.6%	-0.4%
	May-Jul 2006	0.0%	0.0%	0.2%	-0.7%	-0.4%
	May-Jul 2007	0.1%	0.1%	0.2%	-0.5%	-0.2%
	May-Jul 2008	0.2%	0.2%	0.3%	-0.4%	0.0%
	May-Jul 2009	0.2%	0.2%	0.2%	-0.3%	0.3%
	May-Jul 2010	0.3%	0.3%	0.2%	-0.4%	0.6%
	May-Jul 2011	0.5%	0.5%	0.3%	0.3%	1.9%
	May-Jul 2012	0.4%	0.3%	0.1%	-0.2%	1.6%
	May-Jul 2013	0.3%	0.2%	0.0%	0.2%	1.6%
	Oct-Dec 2013	0.2%	0.1%	0.0%	-0.6%	1.2%
Women						
	May-Jul 2002	0.1%	0.1%	0.1%	0.2%	0.1%
	May-Jul 2003	0.2%	0.2%	0.2%	0.3%	0.2%
	May-Jul 2004	0.3%	0.3%	0.3%	0.3%	0.3%
	May-Jul 2005	0.4%	0.4%	0.5%	0.5%	0.4%
	May-Jul 2006	0.5%	0.6%	0.6%	0.7%	0.5%
	May-Jul 2007	0.7%	0.8%	0.8%	1.0%	0.7%
	May-Jul 2008	0.9%	1.0%	1.0%	1.3%	1.0%
	May-Jul 2009	1.1%	1.2%	1.1%	1.6%	1.2%
	May-Jul 2010	1.3%	1.4%	1.2%	1.9%	1.4%
	May-Jul 2011	1.4%	1.4%	1.2%	2.1%	1.7%
	May-Jul 2012	1.3%	1.3%	1.2%	1.6%	1.4%
	May-Jul 2013	1.2%	1.2%	1.0%	1.5%	1.6%
	Oct-Dec 2013	1.1%	1.1%	1.1%	1.1%	1.3%

ANNEX

Table 2: Revisions to annual changes in LFS aggregates

	LFS household population				Headline indicators								
					Employment			Unemployment			Inactivity		
	Level		Level		Level		Rate (% pts)	Level		Rate (% pts)	Level		Rate (% pts)
	All aged 16 & over (000s)	% change	All aged 16 to 64 (000s)	% change	All aged 16 & over (000s)	% change	All aged 16 to 64	All aged 16 & over (000s)	% change	All aged 16 & over	All aged 16 to 64 (000s)	% change	All aged 16 to 64
REWEIGHTED													
May-Jul 2002	314	0.7%	248	0.7%	208	0.8%	0.0	55	3.7%	0.1	19	0.2%	-0.1
May-Jul 2003	318	0.7%	248	0.7%	328	1.2%	0.3	-21	-1.4%	-0.1	-13	-0.1%	-0.2
May-Jul 2004	363	0.8%	295	0.8%	228	0.8%	0.0	-83	-5.5%	-0.3	165	1.9%	0.3
May-Jul 2005	484	1.0%	416	1.1%	391	1.4%	0.1	1	0.0%	-0.1	61	0.7%	-0.1
May-Jul 2006	428	0.9%	386	1.0%	285	1.0%	-0.1	274	19.3%	0.8	-135	-1.5%	-0.6
May-Jul 2007	484	1.0%	391	1.0%	211	0.7%	-0.3	-53	-3.1%	-0.2	259	2.9%	0.4
May-Jul 2008	471	1.0%	315	0.8%	343	1.2%	0.1	80	4.8%	0.2	-54	-0.6%	-0.3
May-Jul 2009	391	0.8%	206	0.5%	-680	-2.3%	-2.2	755	43.8%	2.4	183	2.0%	0.3
May-Jul 2010	447	0.9%	251	0.6%	306	1.1%	0.0	10	0.4%	0.0	59	0.6%	0.0
May-Jul 2011	458	0.9%	256	0.6%	16	0.1%	-0.4	68	2.7%	0.2	176	1.9%	0.3
May-Jul 2012	313	0.6%	-62	-0.2%	397	1.4%	0.8	50	2.0%	0.0	-406	-4.2%	-1.0
May-Jul 2013	330	0.6%	47	0.1%	249	0.8%	0.4	-102	-3.9%	-0.4	-45	-0.5%	-0.1
Oct-Dec 2013	336	0.7%	62	0.2%	379	1.3%	0.6	-181	-7.2%	-0.6	-36	-0.4%	-0.1
CURRENT													
May-Jul 2002	284	0.6%	218	0.6%	182	0.7%	0.0	54	3.7%	0.1	15	0.2%	-0.1
May-Jul 2003	294	0.6%	233	0.6%	313	1.1%	0.3	-20	-1.3%	-0.1	-14	-0.2%	-0.2
May-Jul 2004	357	0.8%	294	0.8%	224	0.8%	0.0	-80	-5.3%	-0.3	165	1.9%	0.3
May-Jul 2005	442	0.9%	375	1.0%	358	1.3%	0.1	0	0.0%	-0.1	55	0.6%	-0.1
May-Jul 2006	390	0.8%	348	0.9%	254	0.9%	-0.1	274	19.2%	0.8	-141	-1.6%	-0.6
May-Jul 2007	416	0.9%	330	0.8%	175	0.6%	-0.2	-57	-3.3%	-0.2	239	2.7%	0.4
May-Jul 2008	398	0.8%	250	0.6%	303	1.0%	0.2	76	4.6%	0.2	-77	-0.8%	-0.3
May-Jul 2009	350	0.7%	183	0.5%	-677	-2.3%	-2.1	750	43.6%	2.4	162	1.8%	0.3
May-Jul 2010	380	0.8%	200	0.5%	286	1.0%	0.0	6	0.3%	-0.1	33	0.4%	0.0
May-Jul 2011	363	0.7%	188	0.5%	12	0.0%	-0.3	55	2.2%	0.2	117	1.3%	0.2
May-Jul 2012	365	0.7%	20	0.1%	431	1.5%	0.8	61	2.4%	0.1	-375	-4.0%	-0.9
May-Jul 2013	369	0.7%	66	0.2%	275	0.9%	0.4	-105	-4.0%	-0.4	-52	-0.6%	-0.2
Oct-Dec 2013	399	0.8%	114	0.3%	396	1.3%	0.6	-161	-6.5%	-0.6	-23	-0.3%	-0.1
REVISION													
May-Jul 2002	30	0.1%	30	0.1%	26	0.1%	0.0	1	0.1%	0.0	3	0.0%	0.0
May-Jul 2003	23	0.0%	15	0.0%	15	0.1%	0.0	-1	-0.1%	0.0	1	0.0%	0.0
May-Jul 2004	6	0.0%	1	0.0%	4	0.0%	0.0	-3	-0.2%	0.0	0	0.0%	0.0
May-Jul 2005	42	0.1%	40	0.1%	33	0.1%	0.0	1	0.0%	0.0	6	0.1%	0.0
May-Jul 2006	38	0.1%	38	0.1%	31	0.1%	0.0	0	0.1%	0.0	6	0.1%	0.0
May-Jul 2007	68	0.1%	61	0.2%	36	0.1%	0.0	4	0.2%	0.0	20	0.2%	0.0
May-Jul 2008	73	0.1%	65	0.2%	40	0.1%	0.0	3	0.2%	0.0	22	0.2%	0.0
May-Jul 2009	41	0.1%	23	0.1%	-3	0.0%	0.0	5	0.2%	0.0	20	0.2%	0.0
May-Jul 2010	67	0.1%	50	0.1%	20	0.1%	0.0	3	0.1%	0.0	26	0.3%	0.0
May-Jul 2011	94	0.2%	68	0.2%	4	0.0%	-0.1	13	0.5%	0.0	59	0.6%	0.1
May-Jul 2012	-51	-0.1%	-82	-0.2%	-33	-0.1%	0.0	-11	-0.5%	0.0	-31	-0.3%	0.0
May-Jul 2013	-38	-0.1%	-19	0.0%	-27	-0.1%	0.0	3	0.1%	0.0	7	0.1%	0.0
Oct-Dec 2013	-64	-0.1%	-53	-0.1%	-16	-0.1%	0.0	-19	-0.7%	0.0	-13	-0.1%	0.0

ANNEX

Table 3: Revisions to regional aggregates (thousands, seasonally adjusted)

May to July 2011 (reweighted)												
	Population			Economically active			Employment		Unemployment		Economically inactive	
	Age 16+	Age 16+	Age 16-64	Age 16+	Age 16-64	Age 16+	Age 16+	Age 16-64	Age 16-64	Age 16-64	Age 16-64	
	Level	Level	Rate (%) ²	Level	Rate (%) ²	Level	Rate (%) ³	Level	Rate (%) ³	Level	Rate (%) ²	
	1	2	3	4	5	6	7	8				
North East	2,103	1,262	73.9	1,128	65.8	135	10.7	436	26.1			
North West	5,654	3,475	74.9	3,187	68.5	288	8.3	1,136	25.1			
Yorkshire & the Humber	4,229	2,615	75.2	2,378	68.2	237	9.1	839	24.8			
East Midlands	3,643	2,343	78.0	2,155	71.7	187	8.0	636	22.0			
West Midlands	4,452	2,693	74.4	2,450	67.5	243	9.0	905	25.6			
East	4,684	3,026	79.8	2,828	74.5	199	6.6	746	20.2			
London	6,512	4,302	74.9	3,865	67.2	437	10.2	1,412	25.1			
South East	6,884	4,460	79.2	4,200	74.4	260	5.8	1,134	20.8			
South West	4,284	2,672	78.4	2,495	73.1	177	6.6	708	21.6			
England	42,446	26,848	76.6	24,685	70.3	2,163	8.1	7,952	23.4			
Wales	2,475	1,473	74.2	1,348	67.8	125	8.5	497	25.8			
Scotland	4,315	2,708	77.2	2,503	71.2	205	7.6	784	22.8			
Northern Ireland	1,414	864	72.6	800	67.1	64	7.4	318	27.4			
United Kingdom	50,650	31,893	76.5	29,336	70.2	2,557	8.0	9,551	23.5			
May to July 2011 (as currently published)												
	Population			Economically active			Employment		Unemployment		Economically inactive	
	Age 16+	Age 16+	Age 16-64	Age 16+	Age 16-64	Age 16+	Age 16+	Age 16-64	Age 16-64	Age 16-64	Age 16-64	
	Level	Level	Rate (%) ²	Level	Rate (%) ²	Level	Rate (%) ³	Level	Rate (%) ³	Level	Rate (%) ²	
	1	2	3	4	5	6	7	8	9	10		
North East	2,126	1,285	74.1	1,147	66.0	138	10.7	438	25.9			
North West	5,568	3,427	75.0	3,138	68.6	289	8.4	1,112	25.0			
Yorkshire & the Humber	4,291	2,674	75.4	2,430	68.4	244	9.1	849	24.6			
East Midlands	3,625	2,337	78.2	2,150	71.8	187	8.0	628	21.8			
West Midlands	4,354	2,630	74.4	2,392	67.5	239	9.1	883	25.6			
East	4,701	3,049	79.9	2,852	74.7	197	6.5	744	20.1			
London	6,284	4,155	75.5	3,746	68.0	409	9.8	1,321	24.5			
South East	6,837	4,429	79.2	4,171	74.4	258	5.8	1,127	20.8			
South West	4,281	2,669	78.3	2,492	72.9	177	6.6	714	21.7			
England	42,067	26,655	76.8	24,517	70.5	2,138	8.0	7,814	23.2			
Wales	2,441	1,446	74.0	1,324	67.6	123	8.5	493	26.0			
Scotland	4,254	2,697	77.5	2,491	71.5	207	7.7	765	22.5			
Northern Ireland	1,406	862	72.8	798	67.2	64	7.4	315	27.2			
United Kingdom	50,168	31,660	76.6	29,130	70.4	2,531	8.0	9,387	23.4			
Revisions												
	Population			Economically active			Employment		Unemployment		Economically inactive	
	Age 16+	Age 16+	Age 16-64	Age 16+	Age 16-64	Age 16+	Age 16+	Age 16-64	Age 16-64	Age 16-64	Age 16-64	
	Level	Level	Rate (%) ²	Level	Rate (%) ²	Level	Rate (%) ³	Level	Rate (%) ³	Level	Rate (%) ²	
	1	2	3	4	5	6	7	8	9	10		
North East	-23	-22	-0.2	-20	-0.2	-3	0.0	-2	0.2			
North West	86	48	-0.1	49	0.0	-1	-0.1	24	0.1			
Yorkshire & the Humber	-63	-60	-0.2	-53	-0.2	-7	-0.1	-9	0.2			
East Midlands	17	6	-0.2	5	-0.2	0	0.0	8	0.2			
West Midlands	99	63	0.0	58	0.0	5	0.0	23	0.0			
East	-17	-23	-0.2	-24	-0.2	1	0.1	3	0.2			
London	229	147	-0.6	119	-0.8	28	0.3	90	0.6			
South East	48	31	0.0	29	0.0	2	0.0	7	0.0			
South West	4	3	0.2	3	0.2	0	0.0	-5	-0.2			
England	380	194	-0.2	168	-0.2	26	0.0	138	0.2			
Wales	34	26	0.2	24	0.2	2	0.0	5	-0.2			
Scotland	61	11	-0.3	12	-0.2	-1	-0.1	18	0.3			
Northern Ireland	8	2	-0.2	2	-0.1	0	0.0	3	0.2			
United Kingdom	482	233	-0.2	206	-0.2	27	0.0	164	0.2			