2011 Census-based reweighting of Labour Force Survey estimates

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Introduction

• A major project to reweight LFS microdata, using revised UK and sub-national population estimates consistent with the 2011 Census and updated population projections.

• The LFS aggregate estimates in the Labour Market Statistical Bulletin are consistent with the reweighted microdata.

• There are revised microdata and aggregates from the period July-September 2001 onwards.
Key points

• 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.
Population estimates and the LFS

• 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

• 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.
Chart 1: Revisions to LFS household population age 16+
• 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.

• 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.
LFS household population (thousands), mid-2011, UK

Revised = shaded pyramid
Previous = outline pyramid

Males

Females
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 shows:

- The number of men in their 20s is lower on the new figures

- 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 +131,000 for men at the same time.
On a regional basis 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”):
Summary of revisions to headline LFS indicators from mid-2001 onwards

• 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.

• In mid-2011 the revisions to the headline regional 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.
Other reweighted outputs

• 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.
Summary of key points

• The LFS microdata are now consistent with the 2011 Population Census estimates for the UK.

• 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%).

• 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.

• 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.

• For more information, please see the article published on the ONS website:
Questions?