
**A review of the continuing
compliance with the *Code of Practice
for Official Statistics*:**

**The quality of Labour Force Survey
estimates produced by the Office for
National Statistics**



Office for
Statistics Regulation

June 2017

Office for Statistics Regulation

We provide independent regulation of all official statistics produced in the UK. Statistics are an essential public asset. We aim to enhance public confidence in the trustworthiness, quality and value of statistics produced by government.

We do this by setting the standards they must meet in the Code of Practice for Official Statistics. We ensure that producers of government statistics uphold these standards by conducting assessments against the Code. Those which meet the standards are given National Statistics status, indicating that they meet the highest standards of trustworthiness, quality and value. We also report publicly on system wide issues and on the way statistics are being used, celebrating when the standards are upheld and challenging publicly when they are not.

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A review of the continuing compliance with aspects of the *Code of Practice for Official Statistics*: the quality of LFS statistics produced by the Office for National Statistics

Summary conclusions and recommendations

1. Labour market statistics are among the highest profile and most closely monitored official statistics for the UK. The Labour Force Survey (LFS) is the primary source of labour market data in the UK. It is a continuous household survey providing data on employment, unemployment and economic inactivity according to international definitions. The Office for National Statistics (ONS) runs this survey and produces the official labour market statistics, mainly based on the LFS but also supplemented with other data sources.
2. The employment and unemployment estimates for non-UK citizens and nationals contribute to the pool of information about international migration, along with migration-related statistics published by ONS, Home Office and Department for Work and Pensions.
3. Following concerns raised with the UK Statistics Authority about the robustness of employment statistics for foreign workers, the Office for Statistics Regulation conducted a review of the quality issues associated with the survey.
4. We conclude that the main headline estimates remain sufficiently robust, despite falling response, to continue to meet the highest standards of quality required of National Statistics. However, the quality of the estimates of employment for non-UK nationals and non-UK born workers is not made sufficiently clear. The Office for Statistics Regulation is further concerned that these estimates are more prone to the impact of falling response. Given the current public debate around international migration, the lack of context and clarity over the degree of uncertainty of these employment estimates should be addressed urgently by ONS.

Recommendation 1:

ONS should:

- a. clarify and make more prominent the degree of uncertainty in the non-UK estimates (for example, by including 95% confidence intervals alongside the estimates)
- b. provide appropriate guidance to their interpretation and use, alongside the statistics [paragraphs 19-21]

Recommendation 2:

ONS should:

- a. make clear the potential biases that may impact these statistics in the light of falling response
- b. set out the steps it is taking to address the decline in response more generally
- c. publish the reasons why it is confident in the robustness of the LFS estimates, and engage with users about their views of that reassurance [paragraph 26]

Recommendation 3:

We recommend that ONS provide greater context about the patterns of employment and migration by drawing on information such as National Insurance Number allocations to overseas nationals and related international migration statistics, to support the appropriate interpretation of the statistics. [paragraphs 24- 26]

Introduction

5. An expert user contacted the UK Statistics Authority in September 2016 raising a concern about the reliability of the statistics on employment for EEA/EU nationals living and working in the UK which are based on Labour Force Survey data. The regulatory team in the Office for Statistics Regulation undertook a compliance check that focused on the quality of these LFS statistics. We investigated the long-term decline in response and the possibility of bias impacting headline estimates. We considered whether the degree of precision is sufficient to support the use of the LFS in describing the trend in employment for workers who are

non-UK born or for non-UK nationals. We examined the way in which ONS communicates the quality of the LFS statistics and, in particular, the scale of uncertainty in the labour market estimates.

6. In the following sections, we describe the variety of ways that ONS monitors the quality of the LFS statistics and its presentation of quality information. We examine the available evidence about the impact of falling response rates and potential biasing of the statistics. We also examine the precision of the non-UK workers' employment estimates to conclude whether or not these statistics are sufficiently robust to meet the standards of the *Code of Practice for Official Statistics*.

Investigation and analysis

Monitoring the robustness of Labour Force Survey estimates

7. ONS monitors and reports on the quality of the LFS using survey quality indicators and comparisons with other data sources (see Table A1 in Annex A, below). It publishes the survey indicators in the quarterly Performance and Quality Reports¹ (PQRs). ONS regularly publishes a comparison of job estimates from Workforce Jobs² with estimates from the LFS, as well as a comparison of unemployment and the Claimant Count in *UK Labour Market Statistics*³.
8. The LFS User Guide⁴ describes the strengths and limitations of the survey. Some notable limitations are that the sample design provides no guarantee of adequate coverage of any industry, as the survey is not industrially stratified. The LFS coverage also omits communal establishments, except students in halls of residence and at boarding schools. Members of the armed forces are only included if they live in private accommodation. Also, workers under 16 are not covered (they are covered in the survey but automatically coded as inactive). The

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<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyperformanceandqualitymonitoringreports>

2

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/reconciliationofestimatesofjobs/latest>

3

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/jan2017#comparison-between-unemployment-and-the-claimant-count>

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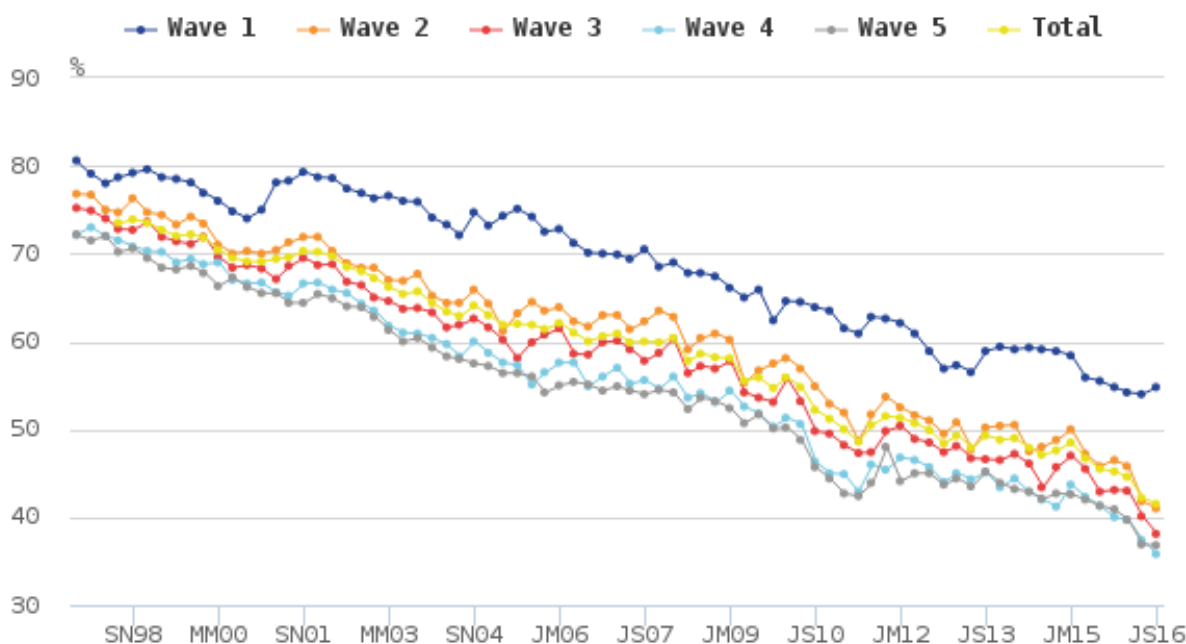
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance>

LFS includes long-term residents of the UK but interviewers do not in practice check that the person has lived (or intends to live) in the UK for a year. The LFS is not able to provide estimates of the numbers of short-term migrants, such as seasonal workers in the agriculture and food processing sector.

Falling response and potential impact on bias

- Response rates have fallen substantially over the past 20 years – the overall rate has nearly halved since late 1993. Figure 1 (reproducing Chart 4.2 in *PQR* for July to September 2016⁵) illustrates the fall in response in each wave since the March-May 2002 quarter.

Figure 1: Wave specific response rates
Great Britain, excluding imputed households, March to May 2002 to July to September 2016



Source: Figure 4.2 – ONS, Labour Force Survey, *Performance and Quality Report*, July to September 2016

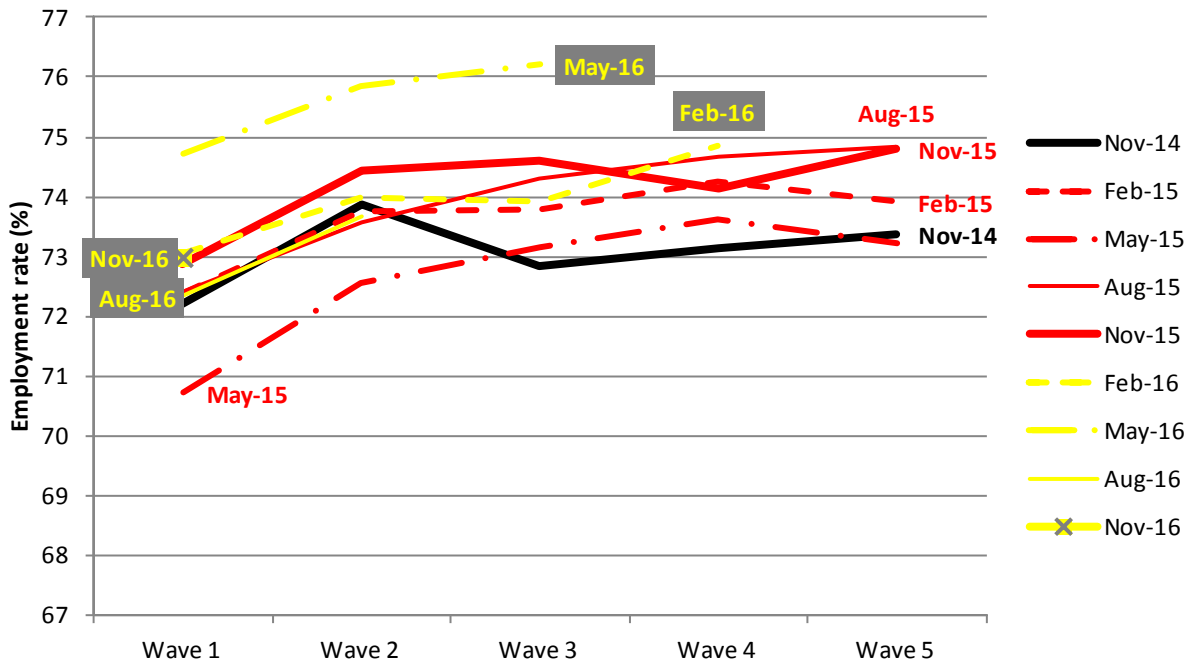
- Labour Market and Households Division in ONS monitors the pattern of response overall and by wave and in relation to the main variables. It does this through a

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<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyperformanceandqualitymonitoringreports>

longitudinal data set based on five consecutive quarters of LFS data to give a cohort perspective on economic activity (published in *Table X02* and *Labour Market Flows*⁶). The figures below are an example of cohort pattern monitoring. Figure 2a shows the employment rates for selected recent cohorts, while Figure 2b shows the response rates for the same cohorts. ONS identifies anomalous trends for individual cohorts and then reviews the response rates to determine whether there is a risk that the group is not representative of the people in employment at that point in time.

Figure 2a: Wave-specific weighted employment rates (seasonally adjusted) for selected cohorts of working age, joining the Labour Force Survey from November 2015

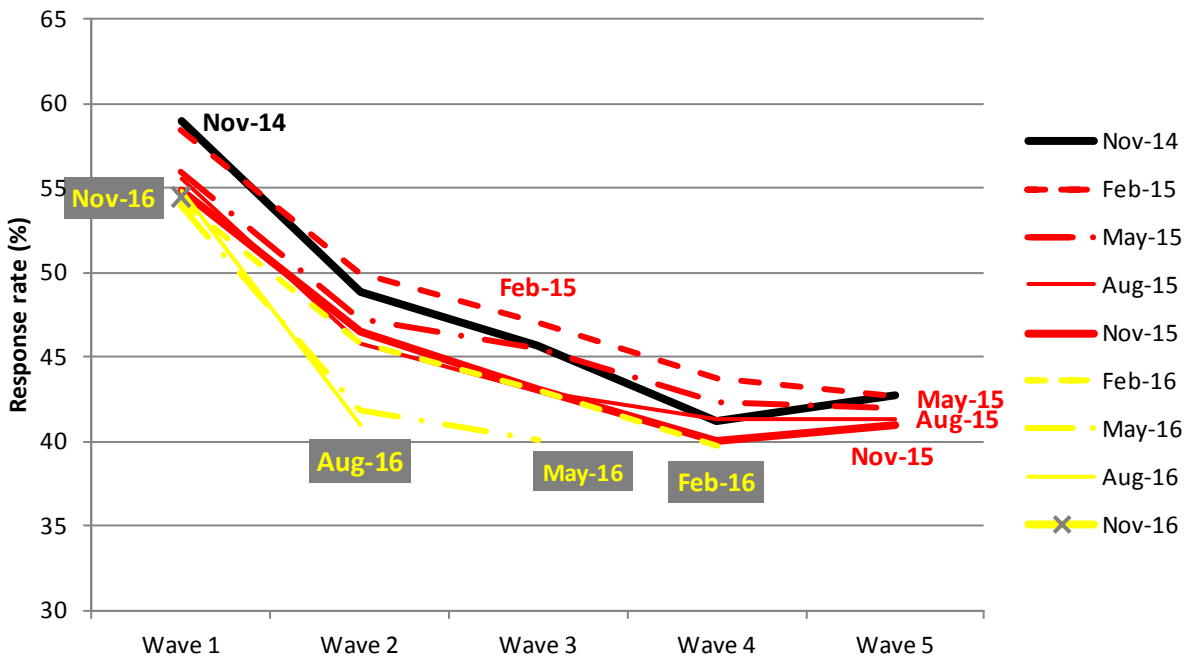


Source: Produced by the Regulatory Team using data supplied by ONS

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<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/labourmarketflows/julytoseptember2016>

Figure 2b: Wave-specific response rates for selected cohorts of working age, joining the Labour Force Survey from November 2015



Source: Produced by the Regulatory Team using data supplied by ONS

11. ONS told us that it has not found evidence that demonstrates an impact of increased bias on the headline estimates, resulting from the fall in response. However, it has identified differential declines in response by region. It observed wave 1 response rates ranging from below 50% in inner London to over 70% in West Yorkshire.
12. ONS told us that falling response has affected the level of precision in LFS estimates of regional employment and unemployment, especially in regions with smaller populations. ONS illustrated the difficulty in analysing short-term changes in LFS estimates of employment and unemployment using figures for Wales (see Table 1), with the greater sampling variability compared with the annual and quarterly change:

Table 1: Changes and variability in employment rates for Wales

Employment rate	Change on year	Sampling variability	Change on quarter	Sampling variability
72.9	2.3	2.8	-0.8	2.6
Unemployment rate	Change on year	Sampling variability	Change on quarter	Sampling variability
4.3	-1.4	1.6	0.1	1.4

Source: ONS, Labour Force Survey

13. ONS decided in 2008 to use the LFS for the regional presentation of the headline labour market statistics only and use the Annual Population Survey for the detailed regional estimates, due to the associated sampling variability.
14. Bias is measured as a function of how different respondents are from non-respondents in their outcome measures and by the amount of non-response. The NS Quality Review (NSQR) of the LFS⁷ noted that the impact of non-response on the precision of estimates can be reduced by increasing the initial sample, but that this solution may have little impact on reducing bias if there is systematic non-response. The usual approach is to adjust for bias by using weights based on an external data source such as the census. ONS conducted census link⁸ studies using 1991, 2001 and 2011 data, to compare LFS responders and non-responders and determine the degree of bias. The NSQR in 2014 reviewed the results of these studies to identify if ONS should apply additional census-based weights. It concluded that despite the increased levels of non-response that the degree of bias in the results is quite low.
15. ONS told us that it continues to have this view that the impact of bias is relatively low, based on its ongoing monitoring of survey quality indicators and comparisons with other published series, such as comparisons with Workforce Jobs (WFJ) (see Annex A). WFJ is compiled mainly from surveys of businesses and is the preferred source of statistics on jobs by industry, since it provides a more reliable industry breakdown than the LFS. Figure 3 below shows the comparison of LFS-based estimates of jobs with those from WFJ. ONS has identified around 30 factors that can explain the differences between the two series. The estimates in the chart were adjusted to take account of those factors that it can measure. ONS says that the difference between these adjusted estimates is unlikely to be due to chance. It noted an approximate sampling variability (95% confidence interval) of around $\pm 300,000$ to $\pm 400,000$. These adjustments themselves are subject to a margin of uncertainty and they do not account for all known factors – a further 20 factors can explain the remaining differences. The chart appears to show a gradual divergence between the adjusted series – the reason for this is not clear.

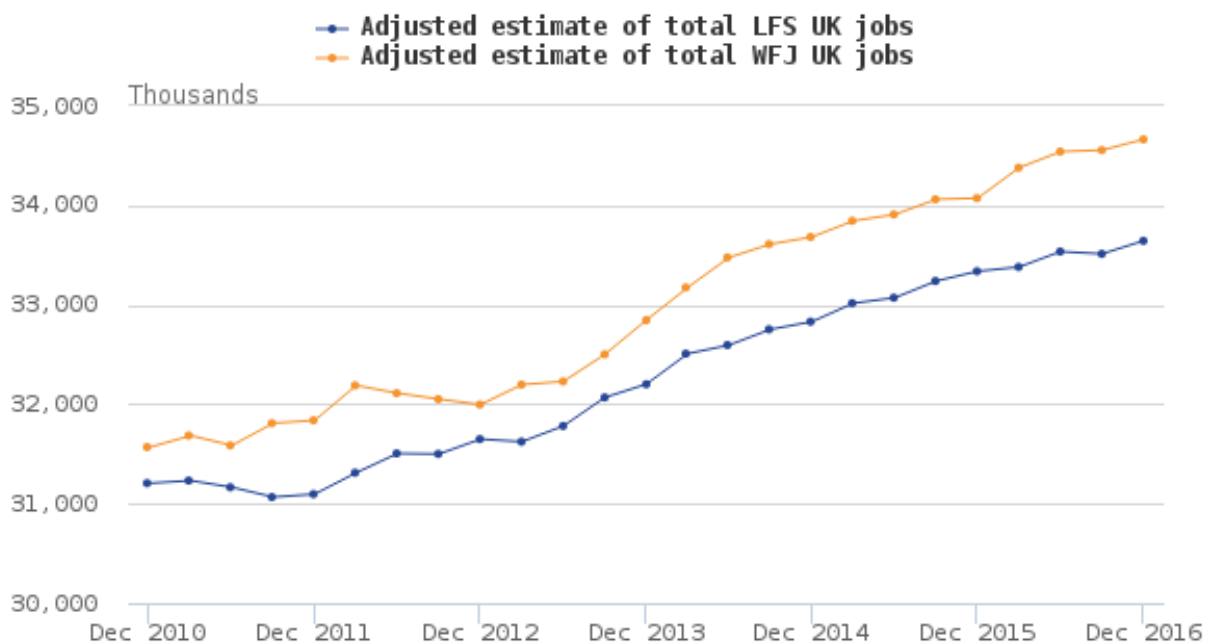
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<https://www.ons.gov.uk/methodology/methodologytopicsandstatisticalconcepts/qualityinofficialstatistics/qualityreviews>

⁸ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/labour-force-survey-quality-measures/index.html>

Figure 3: Labour Force Survey and workforce Jobs estimates of jobs adjusted for measurable differences, seasonally adjusted, UK⁹

December 2010 to December 2016



Source: *Figure 2, UK Labour Market Statistics*, ONS. Published 15th March 2017

16. We welcome the regular monitoring undertaken by ONS and awareness of the potential risks posed by falling response. It is important that these checks are not overly trusted in providing confidence – maintaining a challenging perspective in seeking reassurance of the quality of the data is vital. The variability in response regionally, combined with some of the limitations of the LFS sampling, raises some concern about the potential impact on more disaggregated estimates such as non-UK workers. Survey limitations include excluding communal establishments, small numbers in some industry sectors such as food processing as not stratified by industry, and a higher non-response for non-English speaking households. The survey weighting does not account for any over- or under-representation of the sample of foreign nationals. We look into the impact of this area of concern further in the following analysis.

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<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/reconciliationofestimatesofjobs/latest>

Quality of non-UK labour market estimates

17. *UK Labour Market Statistics* regularly publishes sampling variability for UK levels and rates of employment, unemployment and economic inactivity in Table A11. Each quarter ONS updates the data table in Table A11 spreadsheet for the UK versus non-UK employment by country of birth and nationality with confidence intervals for the headline estimates.
18. ONS described the annual change in the October-December quarters in 2015 and 2016 in the numbers of workers employed by nationality and country of birth in *UK Labour Market Statistics* (section 6). Table 2 below summarises the latest estimates by nationality in *UK Labour Market Statistics*:

Table 2: Employment levels by nationality, people aged 16 and over (not seasonally adjusted)

Thousands

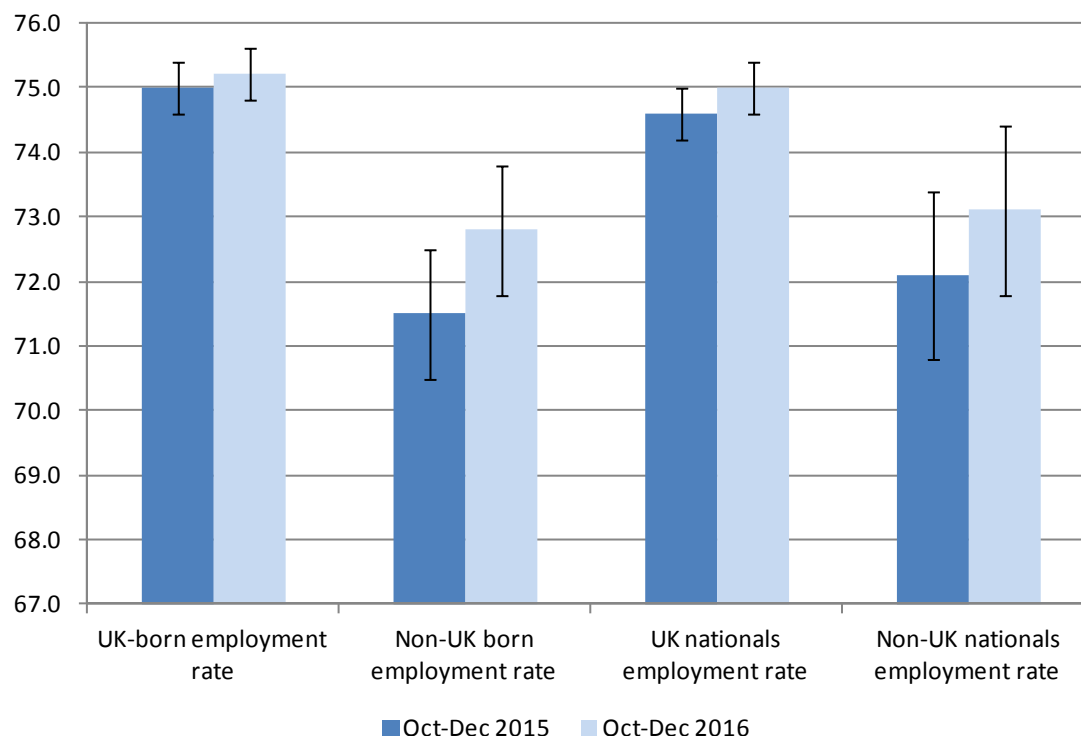
Quarter	Total number ¹	UK nationals	Non-UK nationals
Oct-Dec 2015	31,617	28,365	3,245
Oct-Dec 2016	31,916	28,435	3,478
<i>Difference</i>	299	70	233

1. The total series includes people who do not state their country of birth or nationality. The total levels series does not therefore equal the sum of the "UK" and "Non-UK" series.

Source: Table EMP06, ONS. Published 15th February 2017

19. ONS does not convey the level of precision or uncertainty in the non-UK worker employment estimates in the narrative. It implies that the changes are statistically significant by the way that it presents and describes the figures. However, when applying the 95% confidence intervals to the estimates for the UK and non-UK nationals in Table A11, it appears that neither change may be significant.
20. Figure 4 below shows the estimates for UK and non-UK employment by country of birth and nationality with the respective 95% confidence intervals (published in Table A11). This chart illustrates the difference in precision between UK and non-UK employment rates.

Figure 4: Employment rate of UK and non-UK workers by country of birth and nationality with 95% confidence intervals
October-December 2015 and October-December 2016



Source: Prepared by Regulatory Team from rates and confidence intervals for the Labour Force Survey published in *Table A11* for October-December 2015 and October-December 2016

21. The potentially greater increase in non-UK national (and non-UK born) workers over the year, compared with the UK nationals, is of high public interest and sensitivity. While these estimates are rounded, users may still infer a greater degree of precision than is appropriate. The crude presentation plays to this interest without providing additional statistical guidance to support the meaningful interpretation of the figures.
22. Focusing on the change in numbers may also contribute to the misinterpretation of these figures as indicating the immigration of non-UK nationals. While ONS provides some guidance on interpreting these statistics in the introductory paragraph of section 6 in *UK Labour Market Statistics*, it does not appear to have been sufficiently understood. The Times newspaper featured a front page story on the rise in non-UK nationals in response to the publication of *UK Labour*

Market Statistics in November 2016. The Times headline stated: “95% of new workers are foreigners”¹⁰.

23. The Times newspaper article reported:

‘The number of people in work increased by 454,000 between July and September last year and the same period this year. Workers born overseas made up nearly 95% of the increase – just over 430,000.’

‘The rise in foreign-born workers accounting for jobs growth is the largest since 2004 when eight eastern European states joined the EU, setting off one of the biggest waves of immigration in British history. In other years since then, however, a higher proportion of jobs growth went to workers born overseas.’

24. These excerpts highlight that the newspaper is conflating nationality and citizenship, and employment change with jobs growth. This story led to fact checking reports by Full Fact¹¹ and The Guardian newspaper¹². The Times subsequently retracted its headline and published a correction to its article. We spoke with the lead labour market statistician in ONS and recommended that they consider how to provide greater clarity in the statistics bulletin over this highly topical issue, and set out which comparisons can and cannot be made.

25. A letter¹³ from the Authority Chair in August 2014 (cited in the Full Fact report) highlighted aspects of the ONS labour market statistics that are important for informing appropriate use:

“i. The official statistics provide estimates of net change in the number of people in employment. This is not the same as the number of people who move into employment; rather, it is the difference between flows of people into employment (e.g. from unemployment, education, ill health, care for dependents, retirement, or from living in another country) and the flows of people out of employment (e.g. to unemployment, education, ill health, care for dependents, retirement or to move to another country).

ii. The number of people in employment and the number of jobs in the economy are not the same. One person may have more than one job, and some jobs may be shared by more than one person.”

¹⁰ <http://www.thetimes.co.uk/edition/news/95-of-new-workers-are-foreigners-6c3m3b7jd>

¹¹ <https://fullfact.org/economy/foreigners-working-uk/>

¹² <https://www.theguardian.com/news/reality-check/2016/nov/17/reality-check-new-workers-foreigners-times>

¹³ https://www.statisticsauthority.gov.uk/wp-content/uploads/2015/12/letterfromsirandrewdillnottojonathanportes1808201_tcm97-44032.pdf

26. ONS provides some guidance to support the interpretation of the statistics; however, these warnings appear to have been either insufficiently clear or ignored by the Times. *UK Labour Market Statistics* and the PQRs outline the general issues of interpreting the statistics in the context of uncertainty but neither of these reports specifically refers to ONS's current thinking on falling response in the survey, the potential impact of bias on the estimates, or the actions it is taking to address the fall.

Recommendations

27. As a result of our further analysis of the *UK Labour Market Statistics* presentation of the non-UK employment estimates, **we recommend that ONS**

a. **clarify and make more prominent the degree of uncertainty in the non-UK estimates (for example, by including 95% confidence intervals alongside the estimates)**

b. **provide appropriate guidance to their interpretation and use, alongside the statistics**
[paragraphs 19-21]

28. Given the potential biases impacting the representation of foreign workers within the LFS sample (such as the exclusion of communal establishments and the differential fall in response by regions), **we further recommend that ONS:**

a. **make clear the potential biases that may impact these statistics in the light of falling response**

b. **set out the steps it is taking to address the decline in response more generally**

c. **publish the reasons why it is confident in the robustness of the LFS estimates, and engage with users about their views of that reassurance**
[paragraph 26]

29. **We recommend that ONS provide greater context about the patterns of employment and migration by drawing on information such as National Insurance Number allocations to overseas nationals and related international migration statistics, to support the appropriate interpretation of the statistics.** [paragraphs 24-26]

Annex A: Detailed Findings

Presentation of quality information

Overview:

ONS publishes summary quality information to support the use of labour market statistics. This material is included *UK Labour Market Statistics*, plus supplementary quality documents such as the Quality and Method Information Note and the LFS User Guide. It also describes the findings of, and its response to, the latest NS Quality Review of the LFS from 2014.

Finding:

UK Labour Market Statistics and the PQRs outline the general issues of interpreting the statistics in the context of uncertainty but neither of these reports specifically refers to ONS's current thinking on falling response in the survey, the potential impact of bias on the estimates, or the actions it is taking to address the fall.

Detailed findings:

UK Labour Market Statistics Bulletin

UK Labour Market Statistics provides some guidance within the commentary to assist users in understanding and interpreting the LFS statistics. It includes an early section (section 3) outlining some important points about the nature of the estimates and where to find more information and about accuracy and reliability. *Section 4 Employment* highlights the reconciliation of the LFS estimate of numbers of jobs compared with Workforce Jobs (based on business surveys).

Section 6 Employment by national and country of birth warns that the statistics are not a measure of the number of jobs but of people in employment (since people may have more than one job). It also provides advice about the estimates being quarterly and non-seasonally adjusted so that users should compare estimates with same quarter a year earlier, and clarifies the make-up of the EU time comparison being on current EU basis.

ONS provides additional quality information in sections at the rear of the report. *Section 19 Revisions* sets out about nature of revisions and that subsequent changes may indicate the reliability of estimates. *Section 20 Accuracy of the statistics* explains statistical significance and how to interpret confidence intervals. ONS publishes the LFS sampling variability in a standalone Excel spreadsheet, Table A11. The spreadsheet presents the confidence intervals for the main estimates, including: the headline employment and unemployment counts and rates, economic activity and inactivity rates,

employment by region, and employment for UK and non-UK groups for country of birth and nationality.

ONS also provides links to other relevant quality documents in *Section 21*, including the LFS Quality and Method Information note¹⁴ (QMI) and quarterly Performance and Quality Reports¹⁵ (PQR).

Quality and Method Information (QMI) Notes and LFS User Guides

The LFS QMI summaries key quality information in relation to European Statistical System quality dimensions: relevance, timeliness and punctuality, accuracy, coherence and comparability, and accessibility and clarity. It describes the survey design and explains in detail the weighting and imputation procedures. It also explains the basis for calculating the response rate, defines key concepts, and sets out the quality assurance approach. It is a central document for accessing a wide range of relevant information about the survey.

The LFS User Guide¹⁶ provides a detailed explanation of the survey design, including discussion of changes to the questionnaire and descriptions of derived variables. It sets out the strengths and limitations of the LFS.

Performance and Quality (PQR) Reports

PQR, released alongside the quarterly release of LFS statistics, presents total response rates over time (including (and excluding) imputed cases) and by wave and by region. *PQR* also presents attrition rates by wave. *PQR* highlights the issues associated with changes in the mode of the survey, such as changes in the number of interviews conducted over the telephone rather than face-to-face. ONS told us that expert users use *PQR* to monitor quality issues.

NS Quality Review (NSQR) of the LFS

The NSQR of the LFS was published in February 2014. It focused on the implications for the accuracy of the survey arising from its design, fieldwork and estimation procedures. It also examined the timeliness of results, in the light of interest in single

¹⁴

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/qmis/labourforcesurveyifsqmi>

¹⁵

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyperformanceandqualitymonitoringreports>

¹⁶

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance>

month estimates, and considered the international comparability of the UK LFS with other similar surveys.

The overall conclusion of the review was confidence that the LFS produces good quality statistics – acceptable in terms of their accuracy and timeliness and of comparable quality to the reviewed estimates produced in other countries.

Monitoring the robustness of Labour Force Survey estimates

Overview:

ONS monitors and reports on the quality of the LFS using survey quality indicators and comparisons with other data sources.

Finding:

The approaches provide sufficient insight into the quality issues to have confidence in the robustness of the main survey estimates. We welcome the steps planned by ONS to further investigate the potential bias of income and earnings estimates from the LFS through comparison with administrative data sources.

Detailed findings:

ONS monitors and reports on the quality of the LFS using survey quality indicators and comparisons with other data sources. Table A1 (below) includes a range of checks and comparisons that ONS routinely uses to monitor the coherence of the LFS estimates against other sources. These include the survey indicators presented in the PQRs.

Labour Market Division in ONS also monitors the pattern of response overall and by wave and in relation to the main variables. It does this through a longitudinal data set based on five consecutive quarters of LFS data to give a cohort perspective on economic activity (published in *Table X02* and the bulletin *Labour Market Flows*). It regularly publishes a comparison of job estimates from Workforce Jobs with those estimated using the LFS, as well as comparisons between unemployment and the Claimant Count.

ONS conducts a census link project, after each census as a check on the bias of the survey. The latest project was based on the 2011 Census in which addresses from certain ONS surveys (including the LFS) were linked to counterpart addresses on the census. This enables a comparison of survey respondents and non-respondents using the census data. It enables characteristics associated with non-response to be identified.

Table A1 includes some planned activities such as using the new ONS Data Science Campus to investigate new sources for producing a UK representative household profile as a comparator for the LFS sample. This could enable a more frequent check of bias in the survey.

Table A1

ONS's current and planned activities to monitor the quality of the Labour Force Survey

Activity/indicator	Frequency	Comment
<i>Sample survey indicators (figures reported quarterly in Performance & Quality Reports)</i>		
Achieved sample size, individuals and household	Monthly and quarterly	Tables of achieved samples by type of household
Response rates and nature of non-response, total and by wave, including/excluding imputed cases, and for main variables and by mode (telephone and face to face)	Monthly and quarterly	Plots trend in response rate by quarter and wave, tables and chart of composition of non-response
Regional sampling variation and response rates	Monthly and quarterly	Comparison of response rates by regions by waves has shown substantial differences for employment and unemployment particularly for regions with smaller populations
Attrition rates	Quarterly and ad hoc	ONS conducted a detailed study in Spring 2016, following a recommendation in the NS Quality Review to investigate the impact of attrition on key estimates
Monitoring changes in confidence intervals for key indicators	Quarterly	Table A11 in <i>UK Labour Market Statistics</i>
<i>ONS labour market analysis checks: comparisons with other sources – trends for these sources are published in UK Labour Market Statistics</i>		
Workforce Jobs reconciliation	Quarterly	A regular check of jobs estimates from Workforce Jobs (mainly from employer surveys) and the jobs estimate from the LFS, with a substantial difference

		<p>of over 1 million jobs in December 2016.</p> <p>The NSQR identified around 30 factors that explain the differences between the two sources – only a few of them can be quantified. In taking the measurable differences into account reduces the difference between the two sources – overall though LFS under-estimates jobs. The difference has been widening slightly over the past few years but the reasons are not clear.</p>
Claimant Count ¹⁷	Monthly	<p>Official statistics of the estimates of people claiming unemployment benefits from DWP's benefit data (marked as 'Experimental' while Universal Credit is rolled out).</p> <p>Up to March 2017, section 13 of <i>UK Labour Market Statistics</i> gave a comparison of unemployment and the Claimant Count. ONS routinely compared quarterly movements in unemployment with quarterly movements in the Claimant Count, as broadly comparable. In March 2017 ONS said: 'Estimates of the Claimant Count are no longer included in this statistical bulletin as they may now be providing a misleading representation of the UK labour market.'</p>
Annual Survey of Hours and Earnings	Annual	<p>Information about the levels, distribution and make-up of earnings and hours worked for employees in all industries and occupations across the UK.</p> <p>ASHE only covers employees and therefore excludes the self-employed. Information is provided by employers rather than being self reported by employees</p>
Average Weekly Earnings – from Monthly Wages and Salaries Survey	Monthly	<p>Lead indicator of short term changes in average earnings, reported in <i>UK Labour Market Statistics</i> bulletin. Only covers employees and therefore excludes the self-employed</p>
Labour Market Flows	Quarterly	<p>Longitudinal data set from five consecutive quarters of the LFS, to track respondents' characteristics and estimate the net change between the three main labour market statuses: employment,</p>

¹⁷

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/labourforcesurveysamplingvariabilitya11/current>

		<p>unemployment and economic inactivity. ONS monitors these patterns and response rates by waves:</p> <p>It compares estimates by wave using data from the Single month dataset Table X02, with response rates for those waves (published in the PQRs), for example:</p> <ul style="list-style-type: none"> • whether cohorts with relatively high employment rate have a higher or lower response rate • whether cohorts that show unusual movements in key indicators as they progress through the successive interviews in the waves have low response <p>ONS hasn't detected any significant changes in the patterns – it told us “the volatility is no greater than in the past. Cohorts that demonstrate strong or weak employment or unemployment characteristics relate more to the geographical coverage in that month, rather than any month or cohort having a lower response rate.”</p>
<p>Annual Population Survey (APS) - (unpublished) comparison of LFS and APS estimates</p>	<p>Annual release of estimates</p>	<p>APS is a continuous survey combining 2 waves of the LFS and local sample boosts.</p> <p>LFS estimates are typically slightly higher than APS estimates (by an average 0.1%-0.2%).</p> <p>It examined the patterns for Scotland as they had appeared to diverge</p>
<p>Comparison of flows of foreign workers in International Passenger Survey (IPS) and the APS</p>	<p>Ad hoc analysis</p>	<p>ONS uses the APS for producing Population by country of birth estimates. These figures have been used by some users to estimate the flow of foreign workers – against advice from ONS.</p> <p>ONS examined the difference in flow trends between APS and IPS to demonstrate the degree of coherence between the sources – and the particularly large confidence intervals when measuring change in the APS estimates compared with the IPS</p>

<i>Non-response bias checks</i>		
Census Non-Response Link study	Decennial since 1991 – last done following 2011 Census	<p>A check on bias in the LFS – comparing socio-demographic characteristics of the LFS sample and non-responders with census responses by linking census records for those sampled by the LFS.</p> <p>Despite increasing levels of non-response to the LFS, the evidence suggested that levels of bias were quite low</p>
<p><i>Planned activities:</i></p> <p><i>ONS notes that there is currently no identifiable alternative source for accurately measuring or quality assuring the key estimates apart from the Census Link studies. Cross referencing against other sources gives an indication that the levels and change are consistent. Consequently it is developing other means for checking non-response</i></p>		
Comparison of earnings estimates from admin sources with LFS estimates	Ad hoc - planned	<p>The comparison is being conducted by ONS having recently obtained the admin data from HMRC.</p> <p>It will compare responders with non-responders to gain an understanding of whether there is evidence that the profile of non-responders is different from that of responders (and so bias the estimates)</p>
Data Science Project	Ad hoc - planned	<p>A study to estimate how representative the profile of the LFS sample is by identifying a source that gives a representative profile of UK households and then comparing with the LFS sample profile to see which household types are possibly under-represented</p>