Analysis of the Impact of LFS Data Revisions

February 2019

1. Introduction

There have been revisions to estimates derived from the Labour Force Survey (including estimates of employment, unemployment and economic inactivity) between June - August 2011 and October – December 2018. The revisions result from

- using the latest population estimates and projections
- a seasonal adjustment review
- inclusion of a larger sample in NI

This paper summarises the impact of these revisions on Labour Force Survey headline estimates.

2. Background to the Labour Force Survey (LFS)

The LFS is a continuous household sample survey, which collects information from households each quarter. It is based on a systematic random sample of addresses drawn each quarter from a list of domestic addresses maintained by Land & Property Services (LPS). Households are contacted in five consecutive quarters. Those completing their first interviews are referred to as Wave 1, and those completing their fifth and final interview are referred to as Wave 5.

Responses reflect only a sample of the total population and are weighted on the basis of subnational population totals by age and sex to give estimates for the entire household population.

The LFS household population estimates are derived from the mid-year estimates (MYEs) and the latest population projections based on those MYEs. The population estimates are adjusted to exclude those outside the coverage of the survey. A fuller description of the LFS and its methodology can be found in the Labour Force Survey User Guide Volume One.

3. Description of revisions

Population Estimates

The population estimates used for the LFS reweighting are derived from:

- mid-2011 to mid-2017 population estimates for NI, as published in June 2018, for LFS data 2011 – 2017
- 2016-based national population projections for NI, published in October 2017, for LFS data 2017 to date

Sample Boost

In 2017 the average sample size in each quarter was 2,500 households. The NI sample has been increased so that the sample size in the second quarter of 2019 will be approximately 3,900 households.

From January 2018 (Q1) the number of households selected to participate in Wave 1 was increased from around 780 per quarter to 1,300.

2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1
Wave 1	Wave 1	Wave 1	Wave 1	Wave 1	Wave 1
Wave 2	Wave 2	Wave 2	Wave 2	Wave 2	Wave 2
Wave 3	Wave 3	Wave 3	Wave 3	Wave 3	Wave 3
Wave 4	Wave 4	Wave 4	Wave 4	Wave 4	Wave 4
Wave 5	Wave 5	Wave 5	Wave 5	Wave 5	Wave 5

The sample size of Wave 1 in each quarter of 2018 and the first quarter of 2019 was increased in the same way. The adjacent table highlights in yellow how the larger Wave 1 moves through the sample into subsequent waves. By the end of January – March 2019 (Q1), all five waves will have an increased sample size, approximately 3,900 households per quarter.

The first quarter of data that includes the extra sample is November – January 2018.

Seasonal Adjustment
Labour market data can be affected by events throughout the year, some work may be seasonal (for example shops may recruit more staff during the Christmas period) or there can be changes to the workforce that coincide with academic years. ONS seasonally adjust UK and sub-national LFS estimates and periodically review the methodology they use to seasonally adjust LFS data. Current estimates now reflect the revised methodology

4. Impact of revisions

The graphs below show the combined impact of reweighting, boosted sample and seasonal adjustment on the published headline rates.

Data between 2011 and end of 2017 are affected by the reweighting and the seasonal adjustment review only. Data from end of 2017 onwards are affected by the increased sample (sampling variability), reweighting and the seasonal adjustment review.

Employment rate

- The changes mostly resulted in an increase in the employment rate
- The largest revision to the employment rate was an increase of 1.0pps in July – September 2018 estimate
- None of the differences were statistically significant. The error bars showing a 95% confidence for the previously published Jul-Sept estimate has been added for illustration purposes.

Seasonally Adjusted Employment Rate 16-64 July-September 2011 - July-September 2018(Calendar Quarters)
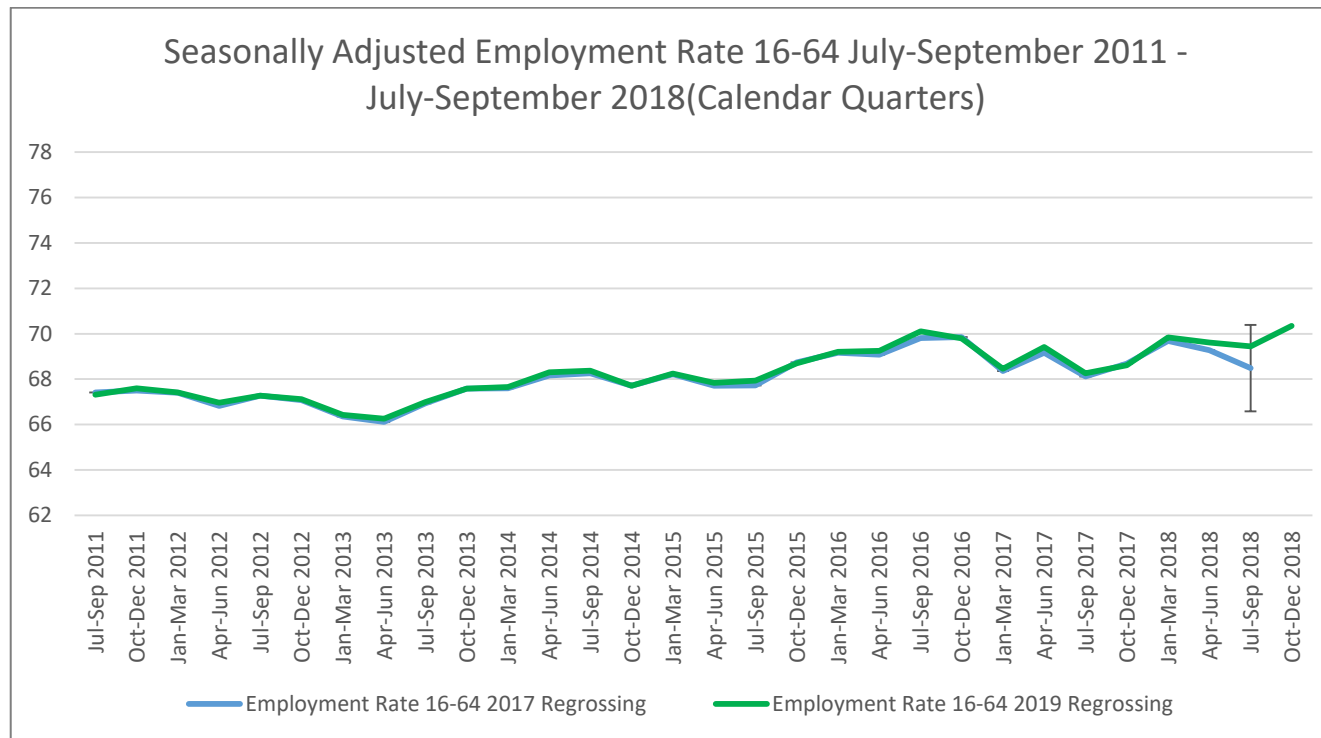
Unemployment rate

- The largest revision was a decrease in the unemployment rate of 0.3 pps in July – September 2018 estimate
- None of the differences were statistically significant. The error bars showing a 95% confidence for the previously published Jul-Sept estimate has been added for illustration purposes.

Seasonally Adjusted Unemployment Rate 16+ July-September 2011 - July-September 2018(Calendar Quarters)
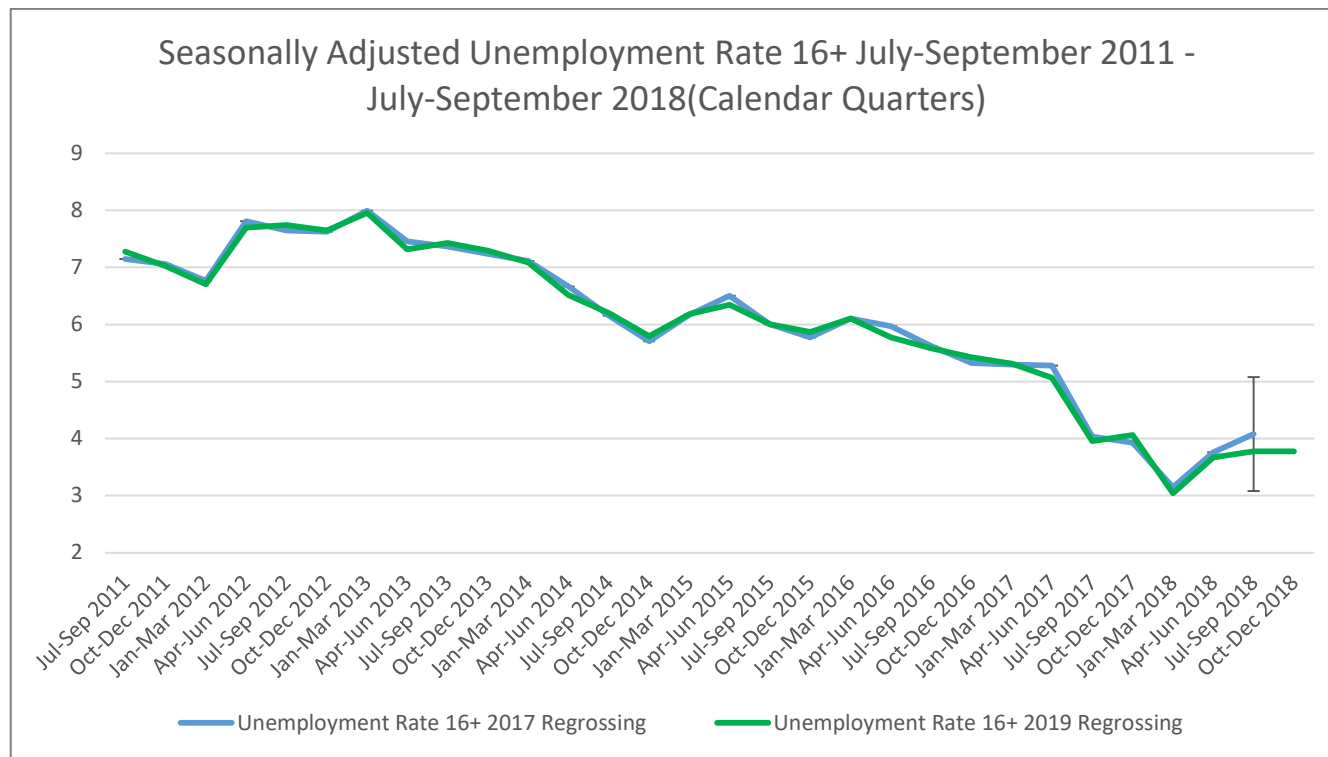
Inactivity rate

- The largest revision was a decrease in inactivity of 0.8pps in July-September 2018 estimate
- None of the differences were statistically significant. The error bars showing a 95% confidence for the previously published Jul-Sept estimate has been added for illustration purposes.

Seasonally Adjusted Inactivity Rate 16-64 July-September 2011 - July-September 2018 (Calendar Quarters)