

Impact of reweighting on Labour Force Survey key indicators in Wales

On 5 February 2024, the Office for National Statistics (ONS) published an article exploring the [Impact of reweighting on Labour Force Survey key indicators: 2024](#).

This article outlines the latest reweighting exercise that has taken place, which ONS implemented as part of the publication of labour market statistics on 13 February 2024. We explore the indicative impacts on headline labour market estimates for Wales over the last 15 months, and explain how ONS will be making further adjustments to ensure the long-term comparability of these headline series.

The Labour Force Survey (LFS) is a household survey, which is the basis for producing estimates of employment, unemployment, and economic inactivity across the UK. Given that the LFS is a sample, its responses must be weighted to the latest estimates of the UK population to produce representative estimates of the labour market.

LFS reweighting

Typically, the LFS would be reweighted every two years to reflect the updated population estimates and projections, which would incorporate any changes to the level and composition of the UK population.

However, the coronavirus (COVID-19) pandemic led to practical challenges for all national statistical institutes in collecting survey information (including a change from face to face interviewing to telephone interviewing and an increase in non-response bias in survey responses). Given this, the weighting approach for the LFS needed to incorporate methodological changes, to reflect these challenges in conducting household surveys and measuring population change through a pandemic. However, these changes to the LFS weighting were not envisaged to be long-term solutions and the longer these changes to the LFS weighting were left in place, the more likely that this would lead to some bias, as underlying demographic changes were not being fully reflected in estimates of the rates of employment, unemployment and economic inactivity in the UK labour market.

ONS have also [faced challenges recently around the falling number of responses to the LFS](#), which led to increased sampling variability. This increase in the volatility in the estimates of employment, unemployment, and economic inactivity led to the suspension of the usual suite of LFS-based labour market statistics from October 2023 through to January 2024, while further improvements were implemented to tackle some of these challenges in addition to a review of the LFS weighting approach.

In November 2023, ONS published updated 2022 mid-year population estimates for England and Wales and have combined these with population estimates for Scotland and Northern Ireland to produce updated UK population projections, following on from the 2021 Census of

Date of Publication: 13/02/2024

Author: Joe Davies, Labour Market Statistics, Knowledge and Analytical Services

E-mail: labourmarket.stats@gov.wales

Telephone: 0300 025 5050

Twitter: www.twitter.com/statisticswales | www.twitter.com/ystadegaucymru

England and Wales. Weighting the LFS against these projections brings the benefits of using the most up-to-date data. ONS have also used other data from the 2021 Census of England and Wales to update and improve the assumptions underlying some of their weighting methods and calibration.

Constraints on reweighting

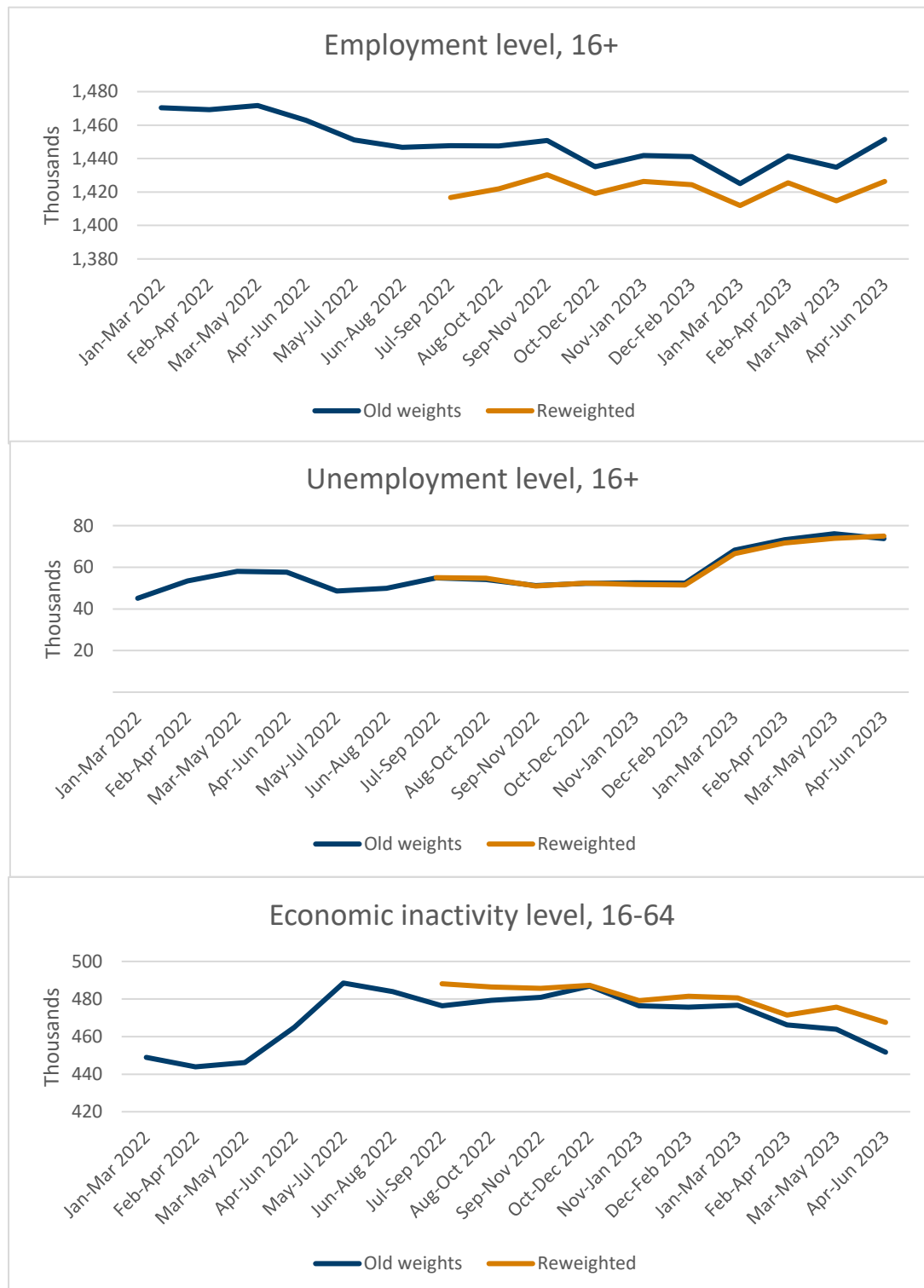
Given recent challenges and time constraints, ONS have only been able to reweight the last 15 months of LFS data for Wales which means that between June to August 2022 and July to September 2022 this reweighting exercise creates a discontinuity where there will effectively be a step change in LFS estimates. This step change will also feed through into other labour market outputs which make use of LFS estimates, principally Workforce Jobs and the public and private sector split in Public Sector Employment.

Indicative impacts of reweighting on labour market estimates

We would expect there to be changes to the levels of employment, unemployment, and economic inactivity from a reweighting exercise. In this section we look at the indicative impacts of reweighting on these measures.

For example, the population of Wales is now estimated to have decreased in mid-2022 by more than originally assumed in the LFS. Demographic changes in the composition of the population will also have an impact. For instance, older people are typically more likely to be economically inactive. If the new population estimates show that there are relatively more older people, this would lead estimates of the level and rate of economic inactivity to be higher.

Figure 1: LFS employment, unemployment, and economic inactivity levels in Wales before and after reweighting, three months to March 2022 to the three months to June 2023



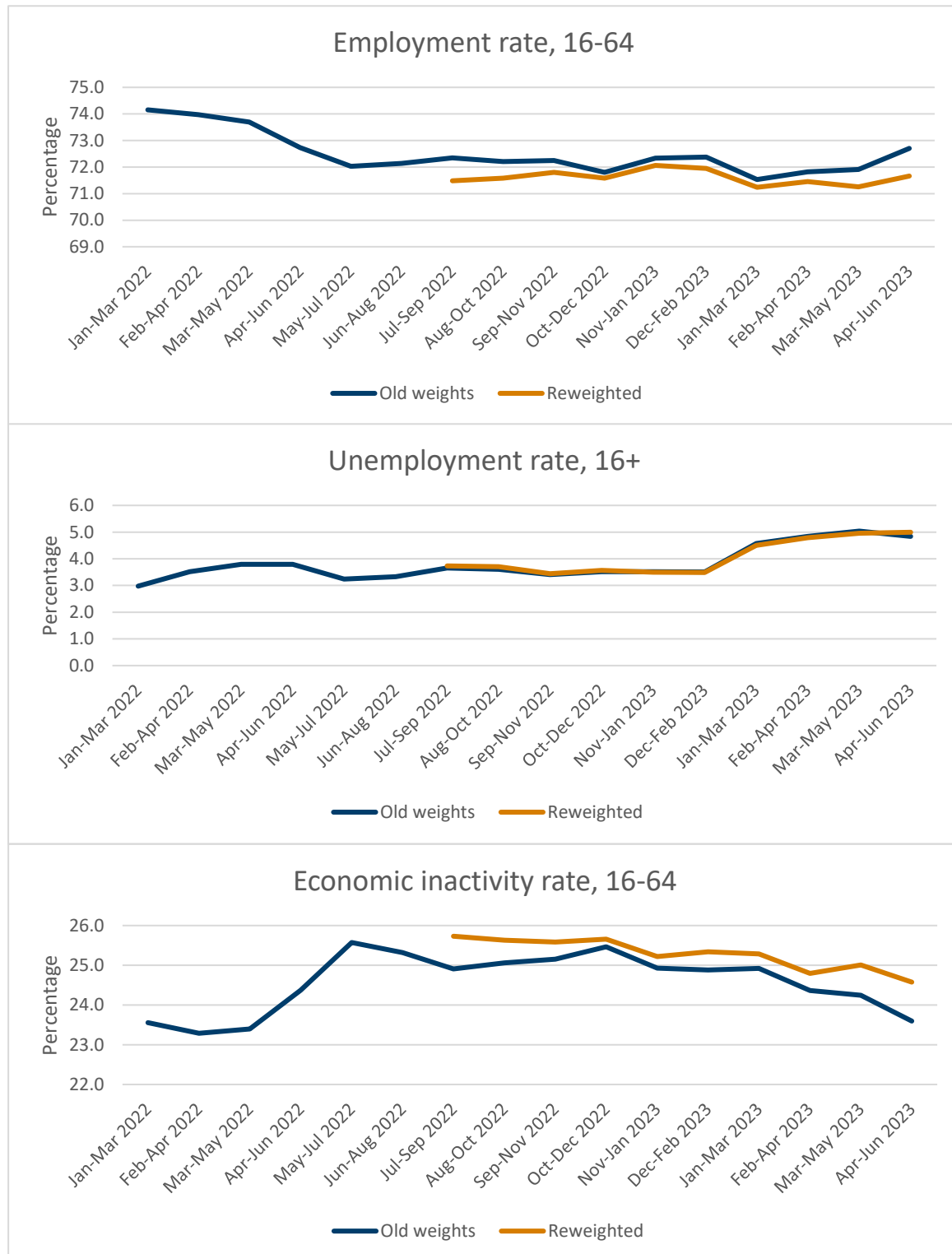
Description of Figure 1: Three charts showing the LFS employment, unemployment, and economic inactivity levels in Wales, before and after reweighting. Compared to the old weights, the reweighted levels are lower for employment, relatively unchanged for unemployment, and higher for economic inactivity. Reweighted data for Wales begins from July to September 2022.

Source: Welsh Government analysis of Labour Force Survey

The variation in the size of changes reflects the compositional changes in the population between the old and new population projections. The trends in the levels and rates of employment, unemployment and economic inactivity, compared with the previous weights are largely unchanged by the reweighting, over the last 15 periods.

Despite trends remaining similar, the employment rate for those aged 16 to 64 years has been revised down in most periods by an average of 0.5 percentage points. This is reflected in increases to the rate of economic inactivity (for those aged 16 to 64 years), which has been revised up by an average of 0.5 percentage points over the periods that have been reweighted. Lastly the unemployment rate (for those aged 16 years and over) has remained relatively unchanged in most periods.

Figure 2: LFS employment, unemployment, and economic inactivity rates in Wales before and after reweighting, three months to March 2022 to the three months to June 2023



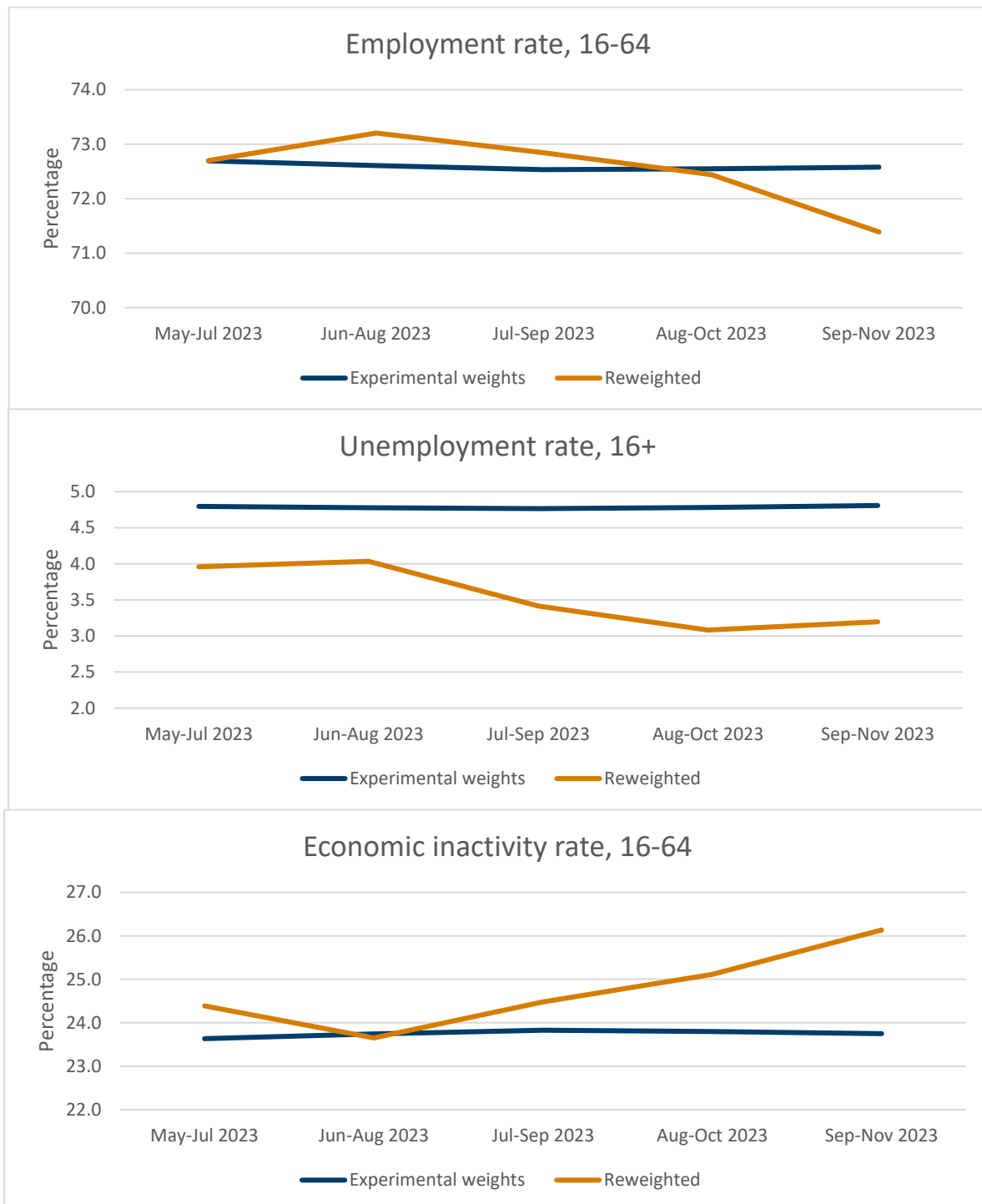
Description of Figure 2: Three charts showing the LFS employment, unemployment, and economic inactivity rates in Wales, before and after reweighting. Compared to the old weights, the reweighted rates are lower for employment, relatively unchanged for unemployment, and higher for economic inactivity. Reweighted data for Wales begins from July to September 2022.

Source: Welsh Government analysis of Labour Force Survey

Figure 3 shows a comparison between the reweighted data and the experimental data that has been published since October 2023. Employment, unemployment and economic inactivity all see differences in rates and trends to some extent over this period. The differences in the rates largely reflect that the starting point for experimental data is based on the old weighting approach. The trend differences are likely to have a range of causes including the drawbacks outlined previously, but also the elevated volatility of LFS data.

The newly published reweighted estimates suggest that over the last five months, employment and unemployment may have fallen more quickly than the experimental indicators suggested, offset by an increase in the rate of economic inactivity. However, there remains more uncertainty around these LFS estimates as outlined previously.

Figure 3: Reweighted and Experimental Adjusted LFS employment, unemployment and economic inactivity rates in Wales, three months to July 2023 to the three months to November 2023



Description of Figure 3: Three charts showing the reweighted and experimental adjusted LFS employment, unemployment, and economic inactivity rates in Wales. Compared to the experimental adjusted weights, the reweighted rates were initially higher for employment before decreasing below the experimental rate in August to October 2023; lower for unemployment; and generally higher for economic inactivity.

Source: Welsh Government analysis of Labour Force Survey; HMRC PAYE RTI and Claimant count data

Interpretation of LFS data

This reweighting exercise has improved the representativeness and reduced potential bias in the LFS estimates from the period July to September 2022. ONS also expect to see improvements to response levels and rates because of the reintroduction of face-to-face interviews and the sample boost in October 2023 and January 2024, respectively. However, the ongoing challenges with response rates and levels mean that LFS-based labour market statistics will be badged as [official statistics in development](#) until further review.

In September 2023, we published a Chief statistician's blog discussing [how the challenges ONS faced with response rates and levels impacted labour market statistics for Wales](#), and the approach we are taking to continue providing a robust and timely picture of the Welsh labour market. Even after reweighting, headline estimates from the LFS for Wales remain volatile and provide an uncertain view of the labour market when viewed in isolation. The LFS represents the primary data source, however we continue to recommend that consideration should be given to the trends exhibited by other sources, such as the [Annual Population Survey \(APS\)](#), [HMRC RTI](#), [Workforce Jobs](#), and [claimant count series](#).

We plan to reintroduce our [Labour Market Overview bulletin](#) this week and will continue to draw from an array of relevant labour market data sources, providing a timely and comprehensive picture of the Welsh labour market each month.

Longer-term solution

ONS's long-term solution remains the replacement of the LFS with the Transformed Labour Force Survey (TLFS). Their current plan is to publish initial findings of the TLFS in July 2024, allowing for the processing and analysis of six months of TLFS data on a consistent basis. The TLFS will then become the primary source of information on the labour market from the September 2024 Labour market publication.



All content is available under the [Open Government Licence v3.0](#), except where otherwise stated.