

Analysis of QES Furlough Estimates

Theme: Labour Market

June 2022

1 Introduction

In June 2020 a question on furlough was included to the Quarterly Employment Survey (QES).

In the same month HMRC began to publish statistics on [‘furloughed employments’ from the CJRS](#), including breakdowns for Northern Ireland. HMRC data are the official source of statistics on uptake of the furlough scheme.

The [Code of Practice for Statistics](#) states that “producers must demonstrate that they do not simply publish a set of numbers, but that they explain how they relate to other data on the topic.” This report compares the estimates obtained from both sources and presents findings on the reasons for differences.

The following analysis aims to:

- Provide a measure of the proportion of furlough jobs against estimates of total employee jobs from the QES.
- Investigate the coherence between QES estimates and those provided by HMRC CJRS.

2 Background

2.1 Quarterly Employment Survey

The [Northern Ireland Quarterly Employment Survey \(QES\)](#) is conducted by Economic & Labour Market Statistics (ELMS), Northern Ireland Statistics & Research Agency (NISRA). The QES has a sample size of approximately 6,000 businesses/organisations and provides short-term employee jobs estimates for Northern Ireland. The QES covers all employers with 25 or more employees; all public sector employers; all businesses with more than one industry activity and a representative sample of smaller firms. The QES excludes the self-employed, HM Armed Forces, private domestic servants, homeworkers and Training for Success trainees without a contract of employment (non-employed status).

2.2 Coronavirus Job Retention Scheme

The first case of Covid-19 in NI was reported on 27th February 2020. A nationwide ‘Stay at Home’ order was announced on 23rd March – known as the UK lockdown. The majority of businesses (except those deemed to be ‘essential’) closed or operated on a restricted basis throughout the Covid-19 period. In order to support employers and help keep people in employment, the government announced the Coronavirus Job Retention Scheme (CJRS) on 20th March 2020. The scheme was based around HMRC’s Pay As You Earn (PAYE) system and worked by providing grants to employers of up to a maximum 80% of salary to a maximum value of £2,500 per employee. From 1st July 2020 onwards, employees could be put on furlough under the CJRS for part of their hours and work the remainder. This was called flexible furlough. The furlough scheme ended on 30th September 2021.

In March 2020, it was unclear if furlough statistics for NI would be published via any other source, therefore the following furlough question was added to the QES from June 2020.

If your business has availed of the Coronavirus Job Retention Scheme (furlough), please record the number of employees working for the business named on the front of the questionnaire who were furloughed on 1 June 2020.

This question remained on the QES throughout the period of the furlough scheme. In addition, the following question was added from Quarter 3 (September) 2020.

Has the named business availed of the Coronavirus Job Retention Scheme (furlough) since its introduction in April 2020.

3 QES Furlough Estimates

This is a one-off methodology paper containing estimates produced from the QES in relation to furlough employee jobs throughout the period of the furlough scheme. These should not be considered as official statistics on the up-take of the CJRS, and users should instead be directed to [HMRC's CJRS Statistics](#). Various statistical techniques were considered and investigated in order to produce the most robust estimates of furlough jobs from the QES. The sections below describe the methodologies used to produce the QES furlough estimates contained in this paper.

3.1 Imputation

QES response rates were adversely affected by the pandemic (particularly in the early pandemic quarters) as businesses closed. On average, furlough estimates were imputed for 30% of businesses each quarter.

Within the QES, a business/organisation is classified according to their [Standard Industrial Classification \(SIC\) 2007](#). The highest level of the SIC hierarchy is industry section (A-S), followed by two-digit SIC, three-digit SIC, four-digit SIC and down to the most granular five-digit SIC level. When carrying out imputation for furloughed jobs on the QES, the majority of imputations could be carried out using the average proportion of furloughed jobs in responding five-digit SIC businesses. However, where there were not at least five responding businesses in that SIC, imputation was based on the next level up in the hierarchy which satisfied the 'minimum number of responses' criteria.

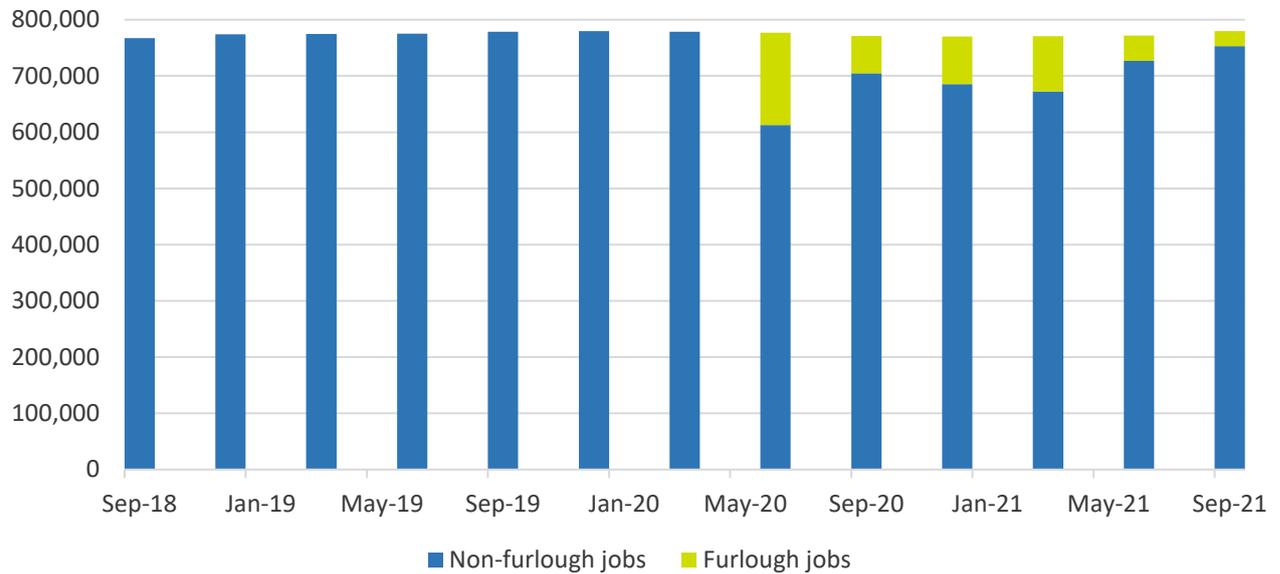
3.2 Weighting

As the QES is a sample survey, it was necessary to weight the data in order to make it representative of the entire business population. As the QES has full coverage of all employers with 25 or more employees, all public sector employers, and all businesses with more than one industry activity, it was not necessary to weight the data for these strata.

The QES includes a sample of smaller businesses, and these are considered under two strata – businesses with 0-9 employees, and businesses with 10-24 employees. When carrying out weighting on furloughed employees, the weights are defined as N/n , where 'N' is the total number of businesses in each strata (0-9 or 10-24 employees) by two-digit SIC from the NI business survey sample frame; and 'n' is the total number of businesses in each survey sample by strata and two-digit SIC.

3.3 QES Furlough Estimates over Time

Figure 1: QES Seasonally Adjusted Employee Jobs, Sep 2018 - Sep 2021¹



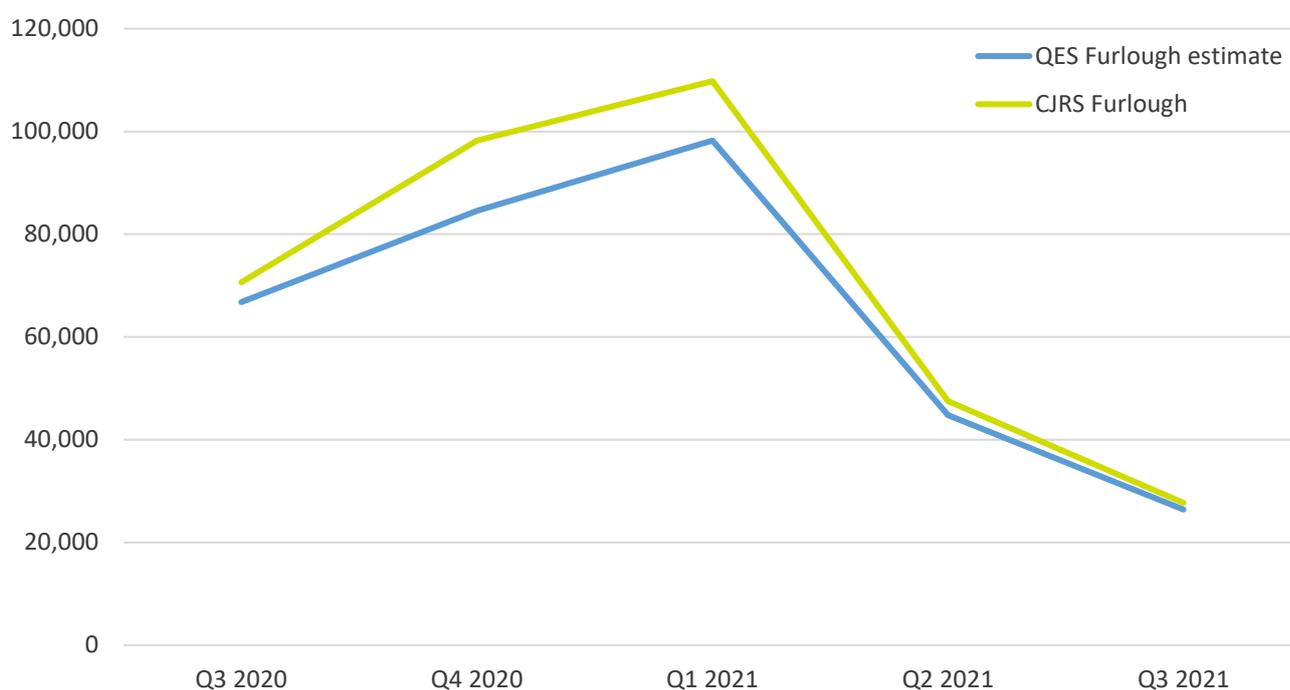
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¹Figure 1 shows estimates of QES furlough jobs relative to total seasonally adjusted employee jobs since the introduction of the furlough question to the QES in Q2 (June) 2020. The levels of furlough seen in these figures reflect the changes to restrictions on individuals, households and businesses across NI over time. Whilst consecutive quarterly decreases in the overall numbers of employee jobs can be seen from March to December 2020, the preservation of jobs through the furlough scheme is evident. In June 2020, estimates showed that furlough jobs made up more than a fifth (21%) of total employee jobs. The proportions of furlough jobs to total jobs were greater than 10% in both December 2020 (11%) and March 2021 (13%).

¹ Figures as published on 14th December 2021.

4 Comparison of QES and HMRC CJRS Furlough Estimates

Figure 2: Comparison of furlough estimates from the QES with HMRC CJRS²



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²Figure 2 shows the closely aligning trends of the furlough estimates produced via the QES and HMRC's CJRS statistics. Both series show furlough estimates rising to the high point in Q1 2021, proceeded by declines to Q3 2021. Both series show furlough estimates of approximately 27,000 at the QES Q3 2021 survey date (6th September 2021), which was three weeks prior to the cessation of the furlough scheme.

The biggest differences between the two sources can be seen in Q4 (December) 2020 and Q1 (March) 2021. Various factors affecting the coherence between the two sources have been investigated and are discussed in further detail below.

4.1 Source – survey compared to administrative sources

The QES estimates have been obtained via a survey of approximately 6,000 businesses, with full coverage of large businesses (25+ employees), public sector organisations and businesses carrying out more than one business activity, and a sample of smaller businesses. As there is a sample element, the estimates provided are subject to sampling variability. There

² Figures for NI for Q2 2020 unavailable from the CJRS. Daily furlough estimates from the CJRS are available from 1st July 2020.

is also the potential for respondent error – while there are a range of quality assurance checks carried out on the data, there will always be the potential for incorrect information or misinterpretation by respondents.

The CJRS statistics are derived from HM Revenue and Customs' CJRS claims database. It covers the whole population rather than a sample of people or companies, and therefore allows for detailed estimates of the population. The potential still exists for respondent error on CJRS claim forms.

4.2 Measure

QES measures the number of jobs rather than people – therefore someone with two jobs will be counted twice. Similarly, HMRC's CJRS statistics measure furlough employments – therefore an employee with jobs at two employers will be counted twice if both jobs are put on furlough.

4.3 Reference point

The QES asks for numbers of jobs on furlough on a specific date each quarter. CJRS produces statistics on the number of furlough employments on each day (from 1st July 2020). Equivalent dates from both sources have been used in this analysis for comparison.

4.4 Flexible furlough

HMRC's CJRS statistics include those on flexible furlough. The QES did not include a separate question on flexible furlough. It is therefore possible that some businesses included flexible furlough in their QES returns while others didn't.

4.5 Statistical methodologies

As detailed in sections 3.1 and 3.2, imputation for non-response and weighting of the survey data were required for QES estimates. As HMRC's CJRS statistics were derived from an administrative database, these techniques were not required; however some statistical methods and processes were still necessary. In some circumstances, HMRC holds incomplete information about employments, for example where a leaving date had not been submitted by employer. In this situation, an estimate of the probability that an individual was employed on the qualifying dates was used. Issues with amendments to claims and claims for overlapping or varying periods also had to be overcome in the CJRS statistics, and methods were employed to prevent over-counting employments as far as possible.

During the period of the furlough scheme, response rates for the QES were lower than usual. This meant that imputations were higher than usual. The imputation and weighting methodologies rest on the assumption that businesses completing the furlough question were similar to those not completing the question. This could impact the results.

4.6 Region allocated

The regional breakdowns provided by HMRC's CJRS are based on employees' residential address. Therefore, there is the potential that employees who live in NI but work outside of it are counted in CJRS statistics. The QES asks respondents to record employee jobs figures for only the jobs based in NI. CJRS regions were assigned via linking of National Insurance numbers to employees' addresses, however where the employer-submitted National Insurance numbers were not of sufficient quality to be matched with other HMRC data, the employments have been categorised under an 'unknown' region.

5 Conclusion

Whilst the HMRC CJRS statistics should be considered as the official source of furlough estimates, the sample size, design and methodology of the QES were effective in producing robust estimates of furlough jobs in NI. The estimates produced by both sources follow the same closely aligning trend, however various data collection and statistical processing differences exist, affecting the coherence of estimates from the two sources.

6 Further information

Further information on the QES can be found on [NISRA's QES webpage](#).

Further information on the collection and production of HMRC CJRS statistics can be found in the [CJRS statistics Background Quality Report](#).