


Updated June 2024

Quarterly Employment Survey Background and Methodology Report

Methodology Background

Accredited official Statistic	These official statistics were independently reviewed by the Office for Statistics Regulation in August 2010. They comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics and should be labelled 'accredited official statistics'.	
What it measures	Estimates of the number of Northern Ireland Employee Jobs	
Frequency	Quarterly	
Geographic coverage	NI	
Sample size	Approx 6,000 businesses	
Periods available	1971 to 2023 (industry series not adjusted for seasonality) 1978 to 2023 (broad industry series not adjusted for seasonality) 2005 to 2023 (seasonally adjusted industry section series) 2007 to 2023 (seasonally adjusted public sector series)	
Sample frame	Inter Departmental Business Register	
Sample design	Full coverage element includes all public sector units, all private sector units with 25 or more employees and all private sector units with more than one industry activity. Sample element is a stratified random sample of businesses with less than 25 employees.	
Weighting	Employee jobs returns are weighted to employee jobs population totals on the Inter Departmental Business Register	
Imputation	Imputation carried out for non-responders	
Outliers	No outlier treatment; all validated values are used in estimates	
Last revised	11 June 2024	

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1 Overview

This background and methodology report relates to the Quarterly Employment Survey (QES), conducted by the Northern Ireland Statistics and Research Agency (NISRA), Department of Finance. The QES is a statutory survey issued under the Statistics of Trade and Employment (Northern Ireland) Order 1988 and is designed to collect information on employee jobs. The QES provides short-term employee jobs estimates for Northern Ireland and is used by the Office for National Statistics (ONS) to calculate quarterly workforce jobs estimates for the UK.

Each calendar quarter (Q1=Jan-Mar, Q2=Apr-Jun, Q3=Jul-Sep, Q4=Oct-Dec), QES has a sample size of approximately 6,000 businesses (drawn from the Inter Departmental Business Register) and comprises;

1. a census element which includes all public sector units, all private sector units with 25 or more employees and all private sector units with more than one industry activity.
2. a sample element which is a stratified random sample of businesses with fewer than 25 employees.

QES results are released in mid March, June, September and December of each year via a bulletin and a suite of tables which can be accessed via the [QES website](#).

Employee job estimates can be disaggregated by gender, working pattern (full/part-time), public/private sector, and industrial activity at the two-digit [SIC](#) level. Seasonally adjusted figures are available at section level, sector level (i.e. manufacturing, construction, services and other industries) and for the public and private sector series.

2 Sampling

2.1 Sample Design

Data for the QES are collected through the Quarterly Business Survey (QBS) which collects employee, turnover and construction output data. The QBS sample is drawn quarterly from the Inter Departmental Business Register (IDBR). The IDBR is a register of businesses that have a VAT and/or PAYE registration with HMRC. Therefore, by definition, the QES does not include those businesses which do not have a PAYE scheme or fall below the VAT threshold.

The IDBR contains individual business records. Each record provides information on business activity, location, legal status, number of employees and country of ownership among others. The IDBR is a dynamic register, which is continuously updated to reflect the most recent information (i.e. it takes account of business births, deaths, mergers, etc.).

The QES sample selection is taken in two parts so that there is an element which is effectively full coverage and also an element which is a statistical sample. The full coverage element includes all public sector units, private sector units with 25 or more employees and private sector units with more than one industry activity. The sample is a stratified random sample of businesses with less than 25 employees. In order to reduce response burden on small businesses, a 10% sample rotation is applied to each quarter.

QES Sampling Strata

Employment Size/Sector	
0-9 employees	Sample (4%)
10-24 employees	Sample (9%)
Multiple industry activities	Full Count (100%)
25+ employees	Full Count (100%)
Public sector	Full Count (100%)

The QES excludes the self-employed, HM Armed Forces, private domestic servants, homeworkers and [Skills for Life and Work](#) trainees without a contract of employment (non-employed status). The survey collects information on the number of males/females in full-time and part-time employment by business activity and the results are collated into industry classes using the 2007 Standard Industrial Classification (SIC07). The number of jobs are counted rather than the number of persons with jobs. For example, a person holding both a full-time job and part-time job, or someone with two part-time jobs, will be counted twice.

2.1 Sample Methodology

The QES sample is selected using a Neyman Allocation. The sample is allocated to achieve the smallest possible standard error of estimate of the population mean for a given size of sample, i.e. the highest precision of the estimate. This methodology ensures that consideration is given to the variability of the observations within the strata as well as the number of cases in the strata. This is important since strata with relatively large variation in the observations require a larger sample size to obtain a good estimate than do strata with less variability.

Results are published at the 2 digit Standard Industrial Classification (SIC07) level and are split into the categories and then aggregated to form the corresponding sections.

The following formulae show the methodology that is applied:

Neyman Allocation Selection Formulae

$$n = \frac{(\sum_{i=1}^L N_i \sigma_i)^2}{\frac{B^2}{4} + \sum_{i=1}^L N_i \sigma_i^2}$$

n = the number of sampling units for required accuracy

$$n_i = n \left(\frac{N_i \sigma_i}{\sum_{i=1}^L N_i \sigma_i} \right)$$

Where:

L = number of strata

N_i = number of units in the population stratum i

N = number of units in the population

n_i = number of sampling units in stratum i

n = number of sampling units

σ_i = population standard deviation stratum i

B = bound error in terms of % of total

3 Questionnaire

Employee jobs data are collected through the Quarterly Business Survey (QBS) which also collects turnover and construction output data. There are seven QBS form types collecting QES data:

Form Type	Variables collected
QES Private Sector	Male full-time, male part-time, female full-time, female part-time, total employees.
QES Public Sector	Male full-time, male part-time, female full-time, female part-time, total employees. Permanent: Male full-time, male part-time, male full-time equivalent (FTE), female full-time, female part-time, female FTE employees. Temporary: Male full-time, male part-time, female full-time, female part-time employees.
QES Private Sector / Services Form type 1	Male full-time, male part-time, female full-time, female part-time, total employees and total turnover.
QES Private Sector / Services Form type 2	Male full-time, male part-time, female full-time, female part-time, total employees and total turnover.
QES Private Sector / Production Form type 1	Male full-time, male part-time, female full-time, female part-time, total employees, total turnover and exports.
QES Public Sector / Production Form type 1	Male full-time, male part-time, female full-time, female part-time, total employees, total turnover and exports. Permanent: Male full-time, male part-time, male full-time equivalent (FTE), female full-time, female part-time, female FTE employees. Temporary: Male full-time, male part-time, female full-time, female part-time employees.
QES Private Sector / Construction	Male full-time, male part-time, female full-time, female part-time, total employees and construction output questions.

The questionnaires are available in both electronic and paper form. The questionnaires provide space for respondents to make comments in relation to any changes in employment or changes to their business name/address/contact details. Samples of the QBS forms can be found [on our website](#).

4 Data Capture and Validation

4.1 Data Capture

Data are collected through the Quarterly Business Survey (QBS) which collects employee, turnover and construction output data. See [Section 3](#) for further information on the questionnaire.

The QES runs on a 13 week cycle. Businesses are asked to provide the number of employee jobs on the first Monday of the quarter (split by gender and working pattern). QES (employee only) forms are posted (second-class) and despatched by webform to arrive with business on the survey date (week 1). All remaining form types arrive in week 4-5. Contributors are asked to return the completed form within two weeks of receipt. We allow 10 working days for the initial form to be returned, with QES only paper form reminders issued the Monday after the return date. Webform reminders are issued two days before the return date. High priority non-responders are contacted by telephone at week 4 to obtain employment data, with QES only webforms resent in week 8. In week 9 all webform e-mails will be resent and paper recipients that we hold email addresses for will also be emailed.

The speed with which forms are returned can be affected by holiday periods but where possible QES forms are addressed to named contacts to ensure as high a response rate as possible.

For all data collected, best estimates are accepted where precise figures are not available. The final response rate to the QES is typically around 75% of all businesses selected for the survey. Data are received by post or webform and scanned or uploaded into a database via the data preparation team at a third-party contractor, ITS Ltd.

4.2 Data Validation

There are a number of hard edit and logic checks designed to ensure that values cannot be keyed in error. On the electronic QES questionnaire, automatic rules are put in place to highlight errors to the respondent (for example if the sum of male/female and full/part time does not equal the total number of employee jobs entered), and the questionnaire cannot be submitted until these errors have been rectified. Further soft edit checks take place to identify results that are extremely implausible but not impossible. This will take the form of validation against previous returns to identify any unusual increases/decreases. Contributors whose quarterly returns show an increase or decrease above a certain threshold are contacted and asked for an explanation (if they have not already provided one on their original returned form) to ensure that the employment return is correct. Where a return does not make it through the “validation gate” and no explanation is forthcoming, returns are imputed until an explanation or correction is provided.

Further validation of the QES returns is carried out by cross checking against other survey and administrative sources, such as redundancy notices and PAYE information from the IDBR, to ensure their accuracy. Detailed congruence checks take place using responses from the NI Business Register and Employment Survey which collects annual employee jobs data.

5 Accuracy

The provision of accurate, timely data which meets the needs of users at minimal cost is at the heart of government statistics. There are two components to accuracy: sampling errors which occur when data from a sample are used to make inferences about the whole population and ‘non-sampling errors’ which affect data from sample surveys, as well as administrative and census data.

5.1 Non-Sampling Errors

Non-sampling errors should not be viewed as mistakes, rather they are the result of conscious decisions to produce timely, accurate data at minimum cost. Measuring non-sampling error is much more difficult than measuring sampling error because in many cases the reasons for the non-sampling error are not known, whereas sampling error is a direct result of the survey design and is under the control of the researcher. In some cases it may not be possible to measure non-sampling error or to only give an indication of its possible effect on the survey estimates.

This section examines how accuracy of survey estimates can be measured and describes the different types of non-sampling error and their occurrence in the QES.

Types of non-sampling error

Non-sampling errors - bias and variance - can be classified as follows:

Coverage error - the error which arises because some units are either excluded or duplicated on the sampling frame used to identify the population of interest. Coverage error is minimised for the QES as the sampling frame is the Inter Departmental Business Register (IDBR), a dynamic register which is constantly updated using data provided by businesses to HMRC, Companies House and various survey sources, such as the Business Register and Employment Survey and the Annual Business Inquiry.

Non-response error – non-response can reduce the precision of survey estimates. Strategies for minimising non-response to the QES include issuing email and paper reminders; telephone response chasing which is prioritised to target strata where coverage has not reached a specified target response rate; and capturing data returns over the telephone. In the QES, imputation is used to estimate non-response (see [section 6](#) for further information on imputation).

Respondent error – respondent error arises when a respondent returns an incorrect value. On the electronic QES questionnaire, automatic rules are put in place to highlight errors to the respondent (for example if the sum of male/female and full/part time does not equal the total number of employee jobs entered), and the questionnaire cannot be submitted until these errors have been rectified. This will take the form of validation against previous returns to identify any unusual increases and decreases.

Contributors whose quarterly returns show an increase or decrease above a certain threshold are contacted and asked for an explanation (if they have not already provided one on their original returned QBS webform) to ensure that the employment return is correct. Where a return does not make it through the “validation gate” and no explanation is forthcoming, these returns will be imputed until an explanation or correction is provided.

Questionnaire error – this error reflects the effect of question wording and form design on responses. Questionnaire error is minimised in QES by including detailed completion notes and definitions on the questionnaire. Careful question and webform operation testing are also carried out in an attempt to minimise this error. A dedicated helpline is available to answer any questions or address any submission difficulties respondents may have.

Mode error – this describes the effect of different methods of administering a questionnaire on the recorded responses. The webform option of the questionnaire was launched in Q2 2015 and whilst the variables on the webform and paper form are the same, the two modes have a slightly different format. In March 2016 the data collection process for the QES merged with the Index of Services (IOS) and Index of Production (IOP) to form the Quarterly Business Survey. This means respondents now receive the QES in various different form types, with figures also accepted over the phone as the survey approaches the close date. It is recognised that these changes can affect the recorded responses.

Data capture error - Information recorded on a paper questionnaire may be inaccurately converted to a format which can be interpreted by a computer. QBS paper questionnaires are scanned into the computer system by a third party, ITS Ltd, and under the terms of the contract scanning errors must be below 2%, so errors of this type are minimal. Where errors are made they are often identified and corrected (where appropriate) during the validation process. Also, over two thirds of businesses complete the QES via webform, with the figures entered on the webform being uploaded straight to the system.

Imputation and grossing - the use of inappropriate methods of weighting and imputation may introduce errors into survey estimates. See [section 6](#) for more detail on QES imputation and [section 7](#) on grossing.

5.2 Sampling Errors and Confidence Intervals

Sampling errors are due to only using a sample and not the entire population, therefore estimates from samples may not equal the unknown population value. The larger the sample, the smaller the sampling error. Information on the QES sampling error is provided through confidence intervals.

Confidence intervals are a standard way of expressing the statistical accuracy of survey based estimates. Typically 90%, 95% or 99% confidence intervals are used. The QES bulletin includes **95%** confidence intervals around headline estimates. If a large number of random samples were taken, the 95% confidence intervals of the resulting employee jobs estimates would contain the population value 95% of the time. The estimate and the 95% confidence interval are presented as follows:

Estimate +/- confidence interval

Where the confidence interval is calculated using the following formula:

$$\text{Var}(\text{returned employees}) = N_h^2 \left(1 - \frac{n_h}{N_h}\right) \frac{1}{n_h} s_h^2$$

where

$$s_h^2 = \sum_{i \in h}^n \frac{(\text{returned employees}_i - R_h \text{ frozen employees}_i)^2}{n_h - 1} \quad \text{and} \quad R_h = \frac{\bar{y}_h}{\bar{x}_h}$$

and:

N is the number of businesses in the population (from the IDBR sample frame)

n is the number of businesses in the survey sample

h is the strata (for example '0-9' employees in manufacturing)

\bar{y}_h is the strata mean of returned employees ('returned' refers to employees as reported in returned survey forms)

\bar{x}_h is the strata mean of employees as recorded on IDBR

Var is the variance (measures the spread of the data)

The Economic and Labour Market Statistics branch have published a detailed [confidence intervals user guide](#) on our website which provides an explanation and worked example of the confidence intervals used in the Quarterly Employment survey.

5.3 Using 2 Digit SIC Level Data

The introduction of sample rotation from March 2014 contributed to the volatility of the series. To counteract these effects from March 2016 the number of businesses selected in SIC and size bands experiencing the greatest impact of rotation increased.

Volatility also arises when businesses inform NISRA of SIC code changes via business surveys, ONS and HM Revenue & Customs (HMRC). This new information helps to improve the industry estimates of employee jobs each quarter but also adds volatility to quarterly and annual changes, particularly at 2 digit SIC level. SICs 74 (Other professional, scientific and technical activities) and 82 (Office administrative, office support and other business support activities) are most affected by updates to industry codes. More information can be found in Section 3 of the [Analysis of the Impact of Quarterly Employment Survey Data Revisions PDF \(555KB\)](#) document. It is therefore recommended that changes in employee jobs estimates at 2 digit SIC level are considered in the context of a longer time series.

6 Imputation

Imputation is defined as a procedure for entering a value for a specific data item where the response is missing or unusable. This could be because it is missing due to non-response or unusable due to errors or inconsistent responses. Simplistically, imputation can improve the accuracy of the estimates by reducing non-response bias.

Imputed values for the QES are calculated based on the contributor's previous returns and/or the PAYE data held on the Inter-Departmental Business Register (IDBR). All missing cases are imputed.

7 Grossing/Estimation

Estimation is the process of approximating some characteristic of a population (e.g. total employees for the Manufacturing industry) when information on that characteristic is only available for a sample of the population. The QES samples around 6,000 of all the VAT and/or PAYE registered businesses on the IDBR and uses "ratio estimation" methodology to calculate total employee jobs estimates by 2 digit SIC. Ratio estimation improves the weighting from sample values to population estimates by using known totals from auxiliary data; for QES the auxiliary data are employee data from the IDBR.

The IDBR holds information about every unit in the population, for example the number of employees in every business. If we can assume some kind of relationship between this information and the characteristic which we are trying to estimate, then we can incorporate the auxiliary data into our estimate. For instance, the auxiliary variable displays the relationship between the sample and population employees at the time of sample selection. This is used to calculate a "grossing factor" which can be applied to the returned sample value for the current quarter.

The following formula describes how the ratio estimator is used on the QES:

$$\hat{Y} = \frac{\sum_{i=1}^n y_i}{\sum_{i=1}^n x_i} \sum_{i=1}^N x_i$$

Where:

\hat{Y} is the ratio expansion employee job estimate of Y

x_i is the value of the auxiliary variable for the i th business (IDBR employee value at time of selection)

y_i is the value of the returned variable for the i th business (sample employee value at reference period)

n is the sample size

N is the number of units in the population

8 Seasonal Adjustment

Data that are collected over time form a time series. Those analysing time series typically seek to establish the general pattern of the data, the long term movements, and whether any unusual occurrences have had major effects on the series. This type of analysis is not straightforward when one is reliant on raw time series data, because there will normally be short-term effects, associated with the time of the year, which obscure or confound other movements.

Employee jobs estimates can be affected by events throughout the year, some work may be seasonal (for example businesses may recruit more staff during the Christmas period) or there can be changes to the workforce that coincide with academic years. Jobs estimates from the QES are seasonally adjusted to account for such seasonal trends. Over time these trends can change, so seasonal adjustment models are periodically reviewed.

The QES estimates are seasonally adjusted using the X13 ARIMA software. This seasonally adjusted employee jobs series provides a better indication of underlying trends in employee jobs. The X13 ARIMA method, developed by Statistics Canada in 1980, uses Box Jenkins Auto Regressive Integrated Moving Average (ARIMA) models to extend a time series and is used extensively in statistical surveys. The program splits the series into trend, seasonal, and irregular components. The program fits an autoregressive integrated moving average model to the data, using forecasts for one year to improve the estimation of the seasonal factors at each end of the series.

Published estimates for the QES are not adjusted for seasonality at the 2 digit SIC level. Seasonal adjustment is carried out at the higher industry level (Manufacturing, Construction, Services and “Other” industries for males and females where seasonality is present. There are also published seasonally adjusted estimates for the public and private sectors. As the public and private sector series are seasonally adjusted separately to industry level data, public and private sector seasonally adjusted figures may not sum to the published seasonally adjusted total.

Seasonal adjustment models are periodically reviewed as seasonal trends can change over time. The latest review was carried out in July 2023. Further details are available on our [website](#).

9 Continuity and Discontinuity

Employee jobs estimates (not adjusted for seasonality) by gender and industry level from the QES are available from Q2 1971. Various methodological changes have been introduced to the sample design and statistical processing since this time. Whilst these changes are justified in that they improve the quality of the results, they can cause a discontinuity to the time series. These changes include:

Sample coverage extension – Q3 2009

- i) Extension of the range of classification codes in scope for selection

From Q3 2009, the QES sample selection register included the following industry codes which had previously been excluded:

01610 – Support activities for crop production

01620 – Support activities for animal production

01621 – Farm animal boarding and care

This change was made to ensure consistency between the Quarterly Employment Survey and the annual Business Register and Employment Survey.

- ii) Inclusion of ‘unproven’ businesses previously outside scope of selection register

The original QES sample selection register previously only included businesses with at least one live local unit (i.e. an individual site or location). However, under this approach a large number of ‘unproven’ reporting units (one which does not include a local unit but is registered for VAT and/or PAYE with HMRC and has not yet been verified through a returned survey form) which are likely to have some employment were excluded.

In line with ONS business surveys and the annual Business Register and Employment Survey, the QES adopted the new coverage from Q3 2009 to include this portion of the business population which was previously excluded.

Further information can be found on our [website](#).

New sampling methodology – Q1 2014

A change in QES sampling methodology was introduced from Quarter 1 2014. This involved drawing the QES sample on a quarterly basis rather than biennially; and rather than holding the sample constant for two years, the new sampling methodology replaces 10% of the sample each quarter. This provides a more accurate point in time estimate of employee jobs as the more up to date sample better reflects

businesses in the population. In addition it helps to reduce the burden on small businesses. However, rotating the sample each quarter also introduces a degree of variability to the underlying time trend.

With advice from ONS Methodologists, a methodology was developed to integrate the new samples with the old sample without significant changes to the back series data.

Further information can be found [here](#).

Updated Standard Industrial Classification coding frame – Q1 2009

Following an update to the UK Standard Industrial Classification of Economic Activities (SIC), the industry class to which businesses are coded in the QES switched from SIC 2003 to SIC 2007 in Q1 2009. The employee jobs publication for Q1 2008 was the last on the SIC 2003 basis. In order to provide data users with a full consistent historical record on the new SIC 2007 classification, estimates prior to Q4 2007 have been converted using a conversion matrix methodology.

The SIC 2003 to SIC 2007 conversion exercise has resulted in revisions to estimates at the broadest industry levels.

Further information can be found on our [website](#).

Seasonal adjustment reviews - annually

A review of QES seasonally adjusted data is conducted annually and a series of revised estimates is published. Further information on seasonal adjustment can be found in [section 8](#).

Treatment of new businesses – Q4 2018

When a new NI business registers for VAT and/or PAYE it is added to the sampling frame, IDBR, using data the business has provided to HMRC or Companies House. Where a business does not supply HMRC or Companies House with their industry description, the business is added to the IDBR using one of two general SIC codes - 'SIC 74 - Other professional, scientific and technical activities' or 'SIC 82 - Office administrative, office support and other business support activities'. Information from the monthly or quarterly IDBR proving survey or the [Business Register and Employment Survey](#) is then used to confirm/update the SIC description.

Previously, the QES methodology involved removing from the results any businesses for which the exercise into confirming industry code was not complete, and changing the industry codes in the results for those businesses which had confirmed their industrial activity since being selected for QES.

As this is a cyclical issue with employee jobs increasing each quarter from Q1 to Q4 each year and then a notable drop between Q4 and Q1, it was possible to minimise this impact in the seasonally adjusted series for Sections M and N (which contain SICs 74 and 82) in the seasonal adjustment review carried out in 2019.

The impact of this change is mainly seen within SIC 74 and SIC 82, with a larger change in employee jobs in SIC 74 and SIC 82 between Q4 and Q1 in the unadjusted series than the seasonally adjusted series for sections M and N. This should be taken into consideration when assessing trends within SICs 74 and 82.

Benchmarking – Q3 2017

Benchmarking refers to a statistical technique used to improve coherence between estimates of the same variable – e.g. estimates of employee jobs which are compiled using different data sources such as quarterly and annual surveys.

Each year the [Business Register and Employment Survey](#) (BRES) collects employee and industry information for businesses on the same survey date as the Q3 QES. The sample size varies on a four year cycle as follows – 12,000 – 30,000 – 12,000 – 70,000 businesses. The total number of jobs as estimated from the BRES in 2017 was 1.0% or 7,735 higher than the QES Q3 2017 estimate.

Q3 QES data were benchmarked to BRES results every two years (for years with the larger sample sizes). Most recently QES was benchmarked to BRES 2011, 2013 and 2015, when the sample size was 30,000 or 70,000.

The Q3 2015 QES estimate was lifted by 0.3% to the BRES 2015 total. The time trend between 2013 and 2015 was also adjusted to take into account the higher Q3 2015 total.

Although this process smoothed the data between the two benchmarked results, a step effect was notable between the Q3 2015 benchmarked results and the Q4 2015 to Q4 2016 series. As such the Q4 2015 to Q4 2016 series was subsequently revised, please see [revisions explanation](#).

As the main usage of the QES is to report quarterly change in employee jobs and the two estimates remain close the decision was taken not to benchmark to BRES 2017.

Public sector reclassifications

Public sector jobs comprise Central Government (including Bodies under the aegis of Central Government), Local Government and Public Corporations. The following table summarises the changes announced by the Public Sector Classification Committee and the date the changes took place.

Date of change	Summary	Revision applied from
Dec 2006	NI Housing Executive reclassified from SIC 75 to SIC 70	Mar 2004
Jan 2012	Water service became a Government owned company, as a result employees transferred from “NI Central Government” to “Bodies under the Aegis of NI Central Government”	Apr 2007
Mar 2014	Lloyds Banking Group and its subsidiaries reclassified to private sector	Dec 2013
Sep 2017	Registered housing associations in NI reclassified to public sector	Sep 1992
Sep 2018	Registered housing associations in NI moved from section N to L in sections level data	Mar 2005
Aug 2020	Registered housing associations in NI reclassified to private sector	Sep 2020

10 Uses and Users

There is a wide range of users of QES data both within and outside of government:

- The Office for National Statistics (ONS) – to calculate quarterly workforce jobs estimates for the UK.
- The Department for the Economy (DfE) – in policy formulation and in response to external information requests. QES data also feed into the [DfE Economic Commentary](#), which provides an overview of the condition of the NI economy.
- The Department of Finance (DoF) – in the calculation of the [Northern Ireland Composite Economic Index](#) (NICEI) which is an indication of the performance of the NI economy.
- Private consultancy firms
- Universities and academics
- Members of the general public
- Media outlets

An annual Labour Market User Group is held to: engage with users; provide an overview of labour market outputs and plans for development; seek feedback and assess if outputs are meeting user needs. The most recent Labour Market User Group agenda and presentation can be found on our [website](#).

If you would like to attend Labour Market User Groups or be included in our mailing lists to receive notifications on the publication of new labour market data please contact us using the details in [section 14](#).

11 Publications and Dissemination

11.1 Publications

QES results are published quarterly (mid March, June, September and December) via a statistical bulletin and range of tables. Publication dates are notified at least twelve months in advance via the [gov.uk release calendar](#). If there are any changes to the pre-announced release schedule, public attention is drawn to the change and the reasons for the change will be explained fully at the same time, as set out in the [Code of Practice for Statistics](#). The latest publication schedule can be found on our [website](#).

QES results are also published in the monthly [Labour Market Report](#). QES figures are also used by ONS to estimate quarterly workforce jobs for the United Kingdom. ONS publications on employment and the labour market can be found on the ONS [website](#).

A summary of headline estimates with infographics are added to twitter on the day of release.

11.2 Dissemination

Availability of electronic data

The following QES data tables are available to download from the QES [webpage](#), via Excel or ODS format:

- Seasonally Adjusted Employee Jobs by Gender – latest quarter
- Seasonally Adjusted Employee Jobs by Industry Section March 2005 – latest quarter
- Unadjusted Employee Jobs by Industry Section – March 2005 - latest quarter
- Unadjusted Employee Jobs by Gender and Industry Section – latest quarter
- Unadjusted Employee Jobs by Industry Section – previous year, previous quarter, latest quarter
- Seasonally Adjusted Employee Jobs by Industry Section – previous year, previous quarter, latest quarter
- Unadjusted Employee Jobs by Industry Section – latest quarter
- Unadjusted Public Sector Jobs – latest quarter
- Seasonally Adjusted Public and Private Sector Employee Jobs March 2005 – latest quarter
- Unadjusted Public and Private Sector Employee Jobs March 2005 – latest quarter
- Unadjusted Employee Jobs by SIC code June 1971 – latest quarter
- Unadjusted Employee Jobs by Broad Industry Sector September 1978 – latest quarter
- Seasonally Adjusted Public Sector Jobs December 2007 – latest quarter

NISRA Data Portal

The NISRA Data Portal hosts a range of information and [QES employee jobs estimates](#) by industry, gender and working pattern are available to access and download.

Ad-hoc data requests

Bespoke data tables can be produced if users request data that are not already available. Data requests can be made by contacting economicstats@nisra.gov.uk.

12 Revisions

Users require data that are timely and can be accessed as close to the event which the data measures as possible, and data of good quality, where the picture painted of that event is most accurate. A policy of accepting revisions enables statisticians to provide users with data close to the event, but also improve the accuracy of that data as other information becomes available. Revisions are therefore a standard practice when producing official statistics.

12.1 Planned revisions

QES data relating to the previous four quarters are provisional and subject to change. These revisions occur primary in light of (a) late responses to surveys and administrative sources, (b) where cross survey congruence checks provide more accurate data.

The seasonally adjusted series is also revised each quarter due to revisions to seasonal adjustment factors which are re-estimated every quarter. Further information on the seasonal adjustment process can be found in [section 8](#).

12.2 Unplanned revisions

From time to time unplanned revisions may need to be made. Examples of such revisions include improvements to methodology, revisions to data that feed into QES data sets and the discovery of incorrect data through our quality assurance procedures.

If revisions arising through improvements to methodology or changes to administrative data are found to be insignificant, they will be introduced in the next planned set of revisions. However, if these revisions are thought to affect economic analysis or are sufficiently large, they will be introduced more quickly. All such revisions will be pre-announced at least one month in advance of their releases.

If incorrect data are discovered after publication, these too will be examined for their impact. Where the changes are significant, a corrigendum will be issued as soon as is practicable, whilst minor corrections will be included in the next planned release. In all cases a full explanation will be included in the release.

12.3 Revisions Triangle

The QES produces a [Revisions Triangle](#) – this is a summary table which indicates the size and direction of revisions. The table presents a summary of the differences between the first estimates published and those published 3 years later for the same reference period.

13 Impact of COVID-19 on data collection and estimates

Due to restrictions in place for businesses, COVID-19 impacted on the data collection and validation of employee jobs data, which are collected by the Quarterly Business Survey. The following table provides an overview of median coverage response rates for 2019, 2020, 2021 and 2022.

Response rate type	2022 (median*)	2021 (median*)	2020 (median*)	2019 (median*)
Coverage response rate (returned employees)	68.5%	66%	64%	77%

*median value achieved at QES database closure of quarter 1, quarter 2, quarter 3 and quarter 4.

As a result of reduced coverage rates, employee jobs estimates may be subject to higher revisions than normal during the impacted quarters. These can be tracked through the [revisions triangle](#) on the Quarterly Employment Survey Revisions page.

It should also be noted that from Quarter 2 2020 to Quarter 3 2021 the QES estimates included those who were furloughed under the [Coronavirus Job Retention Scheme \(CJRS\)](#). An [analysis of the furlough data](#) collected on QES and a comparison to the official estimates produced by HMRC was published in June 2022.

14 Other Sources of NI Labour Market Data

The QES is just one of the sources of Northern Ireland labour market data produced by the Northern Ireland Statistics and Research Agency (NISRA). An overview of other available labour market statistics sources can be found below.

Labour Force Survey

The Labour Force Survey (LFS) is a quarterly sample survey carried out by interviewing people about their personal circumstances and work. It is the biggest regular household survey in Northern Ireland and provides a rich and vital source of information about the labour force using internationally agreed concepts and definitions. The LFS provides information on labour market structure, employment, unemployment, economic activity and groups within the labour market.

The LFS and QES measure employment in different ways. The LFS is a sample survey carried out by interviewing individuals about their personal circumstances and work. The QES is a quarterly survey of businesses which provides short term employee jobs estimates for Northern Ireland. It surveys all public sector jobs, all private sector firms with 25 or more employees and a sample of the remainder. LFS employment figures are based on a rolling three month period and QES measures the number of jobs on a particular day. LFS employment includes those who are employed, self-employed, unpaid family workers and those on Government supported training programmes. QES employee jobs include full-time and part-time jobs and those on a training scheme and excludes self-employed.

More information on the Labour Force Survey and the most recent statistics can be found [here](#).

Business Register and Employment Survey

The Business Register and Employment Survey (BRES) is an annual survey of employers. BRES produces more detailed breakdowns of employee jobs by industry and geography and also collects business information (such as industry activity and contact details) to update the Inter Departmental Business Register.

More information on the Business Register and Employment Survey and the most recent statistics can be found on our [website](#).

Claimant Count (experimental)

The Claimant Count is an administrative data source derived from Jobs and Benefits Offices systems, which record the number of people claiming unemployment-related benefits. The new experimental Claimant Count includes Jobseeker's Allowance Claimants and those Universal Credit claimants who were claiming principally for the reason of being unemployed.

More information on the experimental Claimant Count and the most recent statistics can be found on our [website](#).

Work Related Benefits

The Department for Communities (DfC) provides a quarterly overview of the work related benefits administered by the Department.

More information on Work Related Benefits and the most recent statistics can be found on the DfC [website](#).

Redundancies

Under the Employment Rights (Northern Ireland) Order 1996 (Amended 8 October 2006) companies are legally required to notify the Department of redundancies of 20 or more employees. Redundancy figures are published on a monthly basis and further breakdowns (such as by Sector and Local Government District) are available.

More information on Redundancies and the most recent statistics can be found on our [website](#).

Personnel Statistics for the Northern Ireland Civil Service (NICS)

NICS employee jobs figures are included in the QES employee jobs figures and breakdowns can be found in Table 5.12 on the Economic and Labour Market Statistics [website](#) (in the historical data section).

Further information on NICS employee jobs can be found in the Personnel Statistics for the NICS Bulletin. This bulletin provides details on NICS staff numbers on a quarterly basis and provides comparisons with the previous quarter, the wider public sector, as well as a comparison with the previous year. The survey dates for the NICS Employee Bulletin differ from the QES survey dates. As such the figures for the NICS employee jobs may differ.

More information on Personnel Statistics for the NICS and the most recent statistics can be found on our [website](#).

Agricultural Census

The Department of Agriculture, Environment and Rural Affairs (DAERA) Agricultural Census provides detailed information on employees in agriculture. The QES includes Agricultural Census figures in the total number of employee jobs.

More information on the Agricultural Census and the most recent statistics can be found on the DAERA [website](#).

Department of Health (DoH) Workforce Statistics

The DoH Workforce Statistics bulletin provides a variety of statistics on Northern Ireland Health and Social Care employees and vacancies.

More information on DoH Workforce Statistics and the most recent statistics can be found the DoH [website](#).

Education Workforce Statistics

The Department of Education (DE) produces an Education Workforce bulletin which provides a variety of statistics on Northern Ireland teacher numbers and teacher vacancies in grant-aided schools in Northern Ireland.

More information on Education Workforce Statistics and the most recent statistics can be found on the DE [website](#).

Employment Vacancies

The Employment Vacancies Bulletin is produced by the Department for Communities and provides information on the number of employment vacancies in Northern Ireland notified to JobCentres/Jobs & Benefits Offices by employers.

More information on Employment Vacancies and the most recent statistics can be found on the DfC [website](#).

Annual Survey of Hours and Earnings

The Annual Survey of Hours and Earnings (ASHE) provides a wide range of information on hourly, weekly and annual earnings by gender, work pattern, industry and occupation, including public and private sector pay comparisons.

More information on the Annual Survey of Hours and Earnings and the most recent statistics can be found on our [website](#).

15 Further Information

Further details about the methodology employed in the Quarterly Employment Survey can be obtained by contacting:

Northern Ireland Statistics & Research Agency
Economic & Labour Market Statistics Branch
Colby House
Stranmillis Court
Belfast
BT9 5RR

Telephone: 0300 200 7832

Email: economicstats@nisra.gov.uk

Website: [Quarterly Employment Survey](#)

X: [@NISRA](#)