Employment multipliers and effects QMI

Quality and methodology information for employment multipliers and effects, including strengths and limitations of the data, methods, and data uses and users.

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To be announced

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1 . Output information

- Statistical designation: official statistics in development
- Frequency: annual
- How compiled: Based on Office for National Statistics (ONS) data produced from the business register and employment survey, the annual population survey and the industry-by-industry input-output analytical tables.
- Geographic coverage: United Kingdom
- Related publications: Input-output analytical tables

2 . About this QMI report

This quality and methodology information (QMI) report contains information on the quality characteristics of the data (including the European Statistical System's five dimensions of quality), as well as the methods used to create it.

The information in this report will help you to:

- understand the strengths and limitations of the data
- learn about existing uses and users of the data
- understand the methods used to create the data
- help you to decide suitable uses for the data
- reduce the risk of misusing data

3 . Important points

- These annual statistics show the impact that every million pounds spent has on full-time equivalent (FTE) employment in 105 industries across the UK economy.
- The statistics show the direct impact on FTE employment in the relevant industry and the indirect impact across the UK economy.
- They include type 1 effects, which show the estimated impact on FTE employment per unit of final use.
- They also include estimates of multipliers, which show the ratio between the direct effects (FTE employment per million pounds spent) and the total effects (type 1 effects).
- These statistics are compiled using data from the business register and employment survey, the annual population survey and our industry-by-industry input-output analytical tables.

4 . Quality summary

Overview

Our Employment multipliers and effects statistics are published annually, around a month after our Input-output analytical tables for the corresponding reference year. The dataset contains one year of data, consistent with the latest Input-output analytical tables, and estimates of employment effects and multipliers, broken down by 105 industries. They also include type 1 effects, which show:

- the estimated impacts on full-time equivalent (FTE) employment per unit of final use
- estimates of the impact on FTE employment per million pounds spent
- the type 1 multipliers, which show the ratio between the direct effect (FTE employment per million pounds) and the total type 1 effects

Uses and users

Our datasets are used by:

- analysts and policy advisors in government departments
- academic institutions and research organisations, such as the Institute for Manufacturing
- consultants, to conduct industrial analysis across the UK economy

Strengths and limitations

Strengths

Statistics on employment multipliers and effects provide valuable information to help users analyse the impact of an increase in output on employment. They are compiled following international guidance from the UN Handbook on Supply and Use tables and Input-Output tables. These statistics are coherent with our latest Industry-by-industry input-output analytical tables, which means they are also consistent with the latest Supply and use balanced tables from the Blue Book of the same reference year.

Limitations

These statistics are not a time series, as data from previous years are not revised.

Employment multipliers and effects reference employment in hours worked on an FTE basis, based on individual industry averages. For this reason, the FTE hours worked can vary considerably across industries.

Employment multipliers and effects assume the structure of the economy does not change, and that changes in demand for labour can be fully met. It also assumes where additional demand for output arises, that demand can also be met. Further information on the strengths and limitations of our input-output analytical tables, can be found in our Input-output analytical tables quality and methodology information (QMI).

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Recent improvements

We recently reviewed our employment multipliers and effects statistics and made improvements to three main areas: accessibility, methodology and user guidance. These statistics are now presented in an accessible format, following Government Analysis Function guidance on making spreadsheets accessible.

We also reviewed the methodology used to process the input data from the business register and employment survey. This led to a more coherent approach to imputing missing input values, and to aligning industry groups on employment with those of the Industry-by-industry input-output analytical tables.

5 . Quality characteristics of the data

This section describes the quality characteristics of the data and identifies issues that should be considered when using the statistics.

Relevance

The primary purpose of our employment multipliers and effects statistics is to support analysis on how changes in output can affect employment, both within a specific industry and the whole economy. This can help analysts and those making policy decisions.

The methodology used to compile these statistics follows the UN Handbook on Supply and Use Tables and Input-Output Tables with Extensions and Applications. Industry breakdowns are consistent with the UK Standard Industrial Classification 2007 (SIC 2007) breakdowns and are coherent with our Industry-by-industry input-output analytical tables.

Accuracy and reliability

Our employment multipliers and effects statistics rely on data inputs from the business register and employment survey (BRES), the annual population survey (APS) and our Industry-by-industry input-output analytical tables. Timely publication of these statistics needs to be balanced against their accuracy and reliability, which can result in a trade-off between timeliness and accuracy. Further information about the accuracy and reliability of the data input sources can be found in:

- our BRES quality and methodology information (QMI)
- our APS QMI
- our Input-output analytical tables QMIs

Coherence and comparability

Our FTE employment multipliers and effects statistics are coherent with UK SIC 2007. The industry groups are aligned with those found in our Industry-by-industry input-output analytical tables and our Supply and use tables.

Methods used to compile these statistics are coherent with international guidance from the UN Handbook on Supply and Use Tables and Input-Output Tables with Extensions and Applications.

Data are not comparable across the years, as estimates for previous years are not revised.

Accessibility and clarity

These statistics are now presented in an accessible format, following Government Analysis Function guidance on making spreadsheets accessible. All previously published data are available on our Employment multipliers and effects in the UK dataset page, so that they are easy for users to access.

Timeliness and punctuality

Publication dates of the data are announced in the ONS release calendar. The data are available to download free from the ONS website at 9.30am on the day of release. The data are compiled following the principles of the UK Statistics Authority's Code of Practice for Statistics.

Concepts and definitions

Our employment multipliers and effects statistics are official statistics in development.

These statistics are compiled following the United Nations handbook on supply and use tables and input output tables - with extensions and applications (PDF, 7.0MB).

The UK SIC (Standard Industrial Classification) 2007 is used to classify industries and is coherent with those used in our Industry-by-industry input-output analytical tables.

Definitions of full-time equivalent employment for employees and for the self-employed can be found in our BRES QMI and our APS QMI.

Geography

Employment multipliers and effects statistics cover the UK.

6 . Methods used to produce the data

Main data sources

The statistics are compiled using data from:

- our Industry-by-industry input-output analytical tables, to derive output at basic prices by Standard Industry Classification (SIC) group and the Leontief matrix
- the Business Register and Employment Survey (BRES) to derive estimates of full-time equivalent (FTE) employment for employees by SIC
- the annual population survey (APS), to derive estimates of FTE employment for the self-employed, by SIC

How we process the data

Employment data, from the BRES and the APS are aggregated to the 105 industry groups used in our Input-output analytical tables. Employment data from BRES, provide estimates of employees on an FTE basis by industry. The APS provides estimates of the self-employed on an FTE and part-time basis by industry; part-time is assumed to be 0.5 of an FTE for all industries.

Data on output at basic prices and the Leontief inverse, by industry, are sourced from our Industry-by-industry input-output analytical tables.

We process estimates on employment and effects in three main steps.

1. We divide the total FTE employment values for employees and self-employed, with output at basic prices, for each industry, to derive FTE employment per output.
2. We transpose the FTE employment per output, using the Leontief matrix, to derive the type 1 effects; this produces the total effects, which include both the direct and indirect impact of a change in output.
3. We divide the type 1 effects by the FTE employment per output, to derive the employment multipliers for each industry.

How we quality assure and validate the data

As part of the quality assurance process, we validate our employment multipliers and effects statistics to ensure coherence with our Input-output analytical tables. Data inputs from the BRES and the APS are quality assured to check for consistency and coherence before the compilation of these statistics.

The data outputs from production are then quality assured and validated against the data inputs to ensure consistency.

Trends and changes in the data are analysed against the previous year's results and, where large differences are noted, they are checked with data providers. We also use economic policies and global economic trends to assess the plausibility of these statistics. Larger changes in the multipliers and effects variables are checked for plausible economic stories, which can explain changes in the structure of the economy.

How we disseminate the data

These statistics are announced in the Office for National Statistics (ONS) release calendar and are available annually on our website. The statistics are released alongside full datasets, with accompanying information displayed on the cover sheet and notes pages.

How we review and maintain the data processes

Employment multipliers and effects statistics are reviewed annually using the statistical quality maturity model, to assess their quality and to review our production processes.

7 . Related links

Employment multipliers and effects in the UK
Dataset | 31 March 2025
Estimates of full-time equivalent (FTE) employment per £m, type 1 FTE employment effects, and type 1 FTE employment multipliers across 105 industries. These are official statistics in development.

UK inputoutput analytical tables: industry by industry
Dataset | 20 February 2025
Includes industry by industry and further analysis tables derived from the annual Supply and Use Tables (SUTs).

Input-output analytical tables: guidance for use
Article | Released 1 April 2022
This is a guide for the use of input-output analytical tables (IOATs). It provides insights on how to interpret them and is aimed at users looking to familiarise themselves with IOATs.

UK Input-Output Analytical Tables 2010: explanatory article (PDF, 508KB)
Article | Released 12 February 2014
Outline of the 2010 input-output analytical tables (IOATs) compiled using industry input-output groups.

United Nations Handbook on Supply and Use Tables and Input-Output Tables - with Extensions and Applications.
Handbook | Released 2018
This handbook provides step-by-step guidance for the compilation of supply and use tables and input-output tables.

8 . Cite this methodology

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