

Outline for planned reduction in the number of Census of Employment (CoE) forms issued in 2009

Proposed Sampling of the Population

Previously the Census of Employment selected all businesses on the Inter Departmental Business Register (IDBR) with a live local unit or live PAYE and all VAT only businesses with a birth date after the previous Census. It is planned for the 2009 Census of employment to be moved to a sample survey to reduce the burden on business and to provide information earlier for Business Register and Employment Survey (BRES).

Sample business surveys within DETI have historically used a 'census' and 'sample' element approach to sample design, with all RU's in a particular category (e.g. public sector, 25+, multi-LU etc.) being selected while those RU's outside these categories are sampled. A similar approach is put forward here.

The sample for inclusion in the Census of Employment is drawn biennially from the IDBR. The selection will actually taken in two parts so that there is an element which is effectively full coverage (Census element) and also an element which is a statistical sample (sample element).

(a) Census element

Take a Census (i.e. select all) of the following Reporting Units:

1. Public sector RUs.
2. Private sector RUs with 6 or more selected.
3. Private sector complex RUs (i.e. RUs with more than one Local Unit) with less than 6 selected employees.

(b) Sample element

The sample portion (i.e. single LU private sector RU's with less than 6 selected employees and not in SIC2007 sections A, B, D and E) will be stratified by District Council Area and SIC07 Section. These strata have been chosen as it is the lowest combined level that the CoE publishes whilst it also gives a practicable number of strata (there are 26 District Council Areas and 19 SIC07 Sections). We propose to treat the 'zero selected employee' and '1-5 employee' groups separately. We intend to calculate a value for each non-selected RU (i.e. modelled approach).

Sample element – more detail

After consultation with ONS Methodology Consultancy Service (MCS) it is planned to use an optimised Neyman Allocation to provide a 95% confidence interval of 2% accuracy at District Council Area by SIC2007 Section (this level chosen as it is the lowest combined geographical and industrial level at which the Census publishes), this also provides a 1% level of accuracy at district council area and a 0.5% level of accuracy at SIC section.

Neyman Allocation Selection Formulae

n = the number of sampling units for required accuracy

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

n_i = the number of sampling units allocated in each stratum

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

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

Grossing and Estimation

The methodology for the grossing of Census of Employment results has not been finalised and discussions on the most suitable method are still ongoing with MCS.

Further Information

Further details about the methodology employed in the Census of Employment can be obtained by contacting:

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