Improvements to methods of price recruitment into UK Services Producer Price Indices

Office for National Statistics

The UK Services Producer Price Indices (SPPI) are currently produced using longitudinal samples taken from the UK's Inter- Departmental Business Register (IDBR). This approach has a number of disadvantages, particularly relating to the lack of sample rotation and unsuitability of the IDBR as a sampling frame for this kind of survey.

In order to improve this, the UK has developed a turnover survey which provides a suitable sampling frame for the SPPI, as well as providing appropriate weighting data; allowing for the creation and aggregation of indices that suitably reflect the whole of the UK service sector.

This poster provides an overview of the old processes and their issues, along with the changes will be made and the expected benefits of those changes.

Current Method

Sample from IDBR
Randomly selected, employment stratified sample based on business' primary 4 digit SIC activity.
Issues
- *No detail of activity (i.e. no information if an accountant specialises in only Bookkeeping or Tax services or both), makes maintaining coverage unpredictable.*
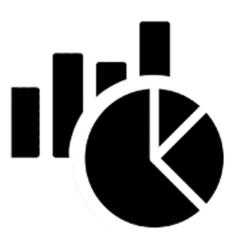- *Main SIC activity based on where most employees are active and not turnover.*

Collection method
Questionnaire sent to each business allowing them to provide any price within main SIC activity.

Quality assurance
All returned price observations are checked to ensure suitability. Businesses contacted to query/resolve any issues. Prices collected for three quarters before inclusion within the index to ensure reliability.

Item weights
Prices from businesses are weighted using imputed turnover based on IDBR data.
Issues
- *Due to imputed turnover uncertain of accuracy of calculated weights.*
- *Not possible to represent entire population in weighting pattern.*

New Method

Sample from Services Turnover Survey
Services Turnover Survey collects 6 digit CPA detail of business' activities. This allows for a tailored sample allocation that facilitates the random selection of businesses stratified by the detailed turnover data.
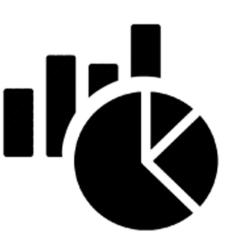
Collection method
New questionnaire designed so that each one is tailored to the business to which it is despatched, requesting only the price data needed in the sample.

Quality assurance
All returned price observations are checked to ensure suitability. Businesses contacted to query/resolve any issues. Prices collected for three quarters before inclusion within the index to ensure reliability.

Item weights
Prices from businesses are weighted using a combination of turnover data from Services Turnover Survey as well as sampling probability and stratification. This means that the item weights calculated allow the individual price observations to represent the population with greater statistical accuracy.

Expected benefits

- Sample more representative of industries being measured.
- Selection based on detailed activity data will make recruitment more effective and efficient.
- Process will be more efficient and therefore reduce collection costs.
- Removes use of imputed data in weighting.
- Item weights will more accurately reflect the industry population rather than just the individual businesses included in the sample.

Feedback
Please feel free to add your thoughts or comments to the approach we take.