

331st Meeting of the Voorburg Group on Service Statistics

Notes of discussion from Poster Session

Part 1: Initialisation

Participants:

Marcus Fridén, Sweden

Maja Dozet and Josipa Kalčić Ivanić, Croatia

John Jeremy, UK

Discussion:

Initialisation in the Swedish PPI, Marcus Fridén

Most of the discussion centered around sampling issues, frequency (annually or less), number of sampled enterprises, number of products per enterprise, non-response and so on, rather than on the questionnaire design itself, how the questions are asked and how they are phrased.

There were also a lot of questions on how the scanning worked, if errors in the scanning were frequent, and how data gets into the database. Some raised the question on online-forms for initialization but it didn't seem that many other countries had that either.

Impact of seasonal character of services on the price index calculation in travel agencies, tour operators and other reservation services, Maja Dozet and Josipa Kalčić Ivanić

Voorburg Group members provided comments and feedback on how to estimate missing prices resulting from the seasonal nature of the industry. Suggestions were:

- For quarters when the product is not available in the marketplace, the last available price could be carried forward and used in the index.

This method could tend to add to the amount of seasonal movements in the indices, particularly when there is high general inflation. For this reason, using an imputation method for the missing prices is better than simply carrying forward the last available price.

- A way of dealing with these strongly seasonal services could be to change the focus from short-term quarter-to-quarter price indices to year-over-year price comparisons because there is a good chance that seasonal services that appear in third quarter, for example, will

also appear in subsequent third quarters, so that the overlap of products will be maximized in these year-over-year quarterly indices.

It has been recognized that making year-over-year comparisons provides the simplest method for making comparisons but due to standard data processing procedure of SPPI compilation in Croatia, this method is not applicable.

- Price movements of 65% of Reservation services for accommodation and Tour operator services for arranging and assembling tours, which were provided in all quarters of the year, could be used with expert judgment for imputation of 35% of missing prices.

Instead of simply carrying forward the last available price of seasonal services that are not sold during a particular quarter, it is possible to use this alternative imputation method to fill in the missing prices.

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

- The majority of the feedback consisted of people saying that they really liked the approach and would like to implement in their country (though usually were unable to for a variety of reasons).
- There were questions about whether we would be comparing the Services Turnover Survey results to any other data sources. I said I wasn't sure, due to not actually working on the project, but I will find out and update VG members via Slack.
- A number of people were interested in updates on progress on the way towards implementing the sample method changes. Again, these can easily be provided.
- A representative of Bosnia & Herzegovina had concerns over whether we should simplify the process. He had seen work done in Denmark that showed that the process used to calculate weights that represent an industry, rather than just the sample, were unnecessary. I will try to find this information and see if this should affect anything we do.
- The USA reported that they contacted every single respondent when they were recruiting new items. Their team is far larger than ours though!
- Sweden use the same method as the one we are proposing. I will contact them to see if we can get any information about how they run this process, problems etc.
- An interesting comment came from Germany who stated that they liked the approach, but could not do as we're proposing as they cannot take a sample from another sample. This was to reduce burden on respondents.

Part 2: Alternative data

Participants:

Caisa Bergman, Sweden

Susanna Tåg, Finland

Gert-Jan van Steeg, Netherlands

Jutta Oertel, Germany

Ruvani Ratnayake, Australia (poster presented by David Friedman)

Discussion:

Accounting data automatically generates the Swedish SBS questionnaire, Caisa Bergman

- The question about legal issues was raised. In some countries, this solution is not possible because the legislation does not allow it.
- The response from enterprises to this solution? Almost all companies that use this option are satisfied. The time to fill in the questionnaire has been reduced by half.
- Are there differences between data submitted to the Tax Office and the data in the SIE-file? We have noticed that the content in the tax data and in the SIE-file differ for some enterprises. We plan to investigate why this is the case. One theory that came up at the meeting was that it can be a question of different units.
- Future plans? We plan to continue this work and try to collect data from the accounting systems as far as it is possible.

Alternative data sources for price statistics, Susanna Tåg and Anna-Riikka Pitkänen

Statistics Finland presented a poster about the main outputs of a project which goals are to study, develop and test the capabilities to utilize scanner data and web scraping in statistics production. During the poster session participants' questions and remarks focused on the following topics:

Scanner/sales data

- Many participants were interested in the level of detail of data. For instance the data on daily consumption goods is aggregated on a day level for each product and the data delivery is agreed to be monthly.
- Scanner/sales data may involve some additional costs to NSOs (e.g. setting-up costs). However, that is not always the case, because it can be beneficial from the informants' point of view to have an automated data transfer instead of manual work.
- Pharmaceutical data is interesting also for the use of SPPI and NA because it is possible to calculate a margin from that data. It is possible that other countries have similar kind of data on pharmaceutical products because those are subject to many laws and regulations.

Web Scraper

- There are many challenges in web scraping. For example, administrators can block web scrapers, web sites change irregularly and it is difficult to observe quality changes. To avoid problems, "netiquette" should be observed not to burden the web sites unnecessarily. It is

also a good practice to tell an informant (e.g. enterprise) about web scraping in advance. It is also possible to get an alternative interface to the informant's data instead of public website. All in all, it is good to co-operate with the informant about the web scraping of their websites.

- The weighting of data from web scraping was discussed. If there is not any other sources available, the product level weights (e.g. by CPA) may need to be asked directly from the informant.
- It was discussed that it can be difficult to obtain the prices that are actually paid by the buyer. For instance, airline companies usually have corporate programs for business travelers which affect the prices.

Obtaining alternative data sources

- We discussed also our findings in the project. When starting to look for alternative data sources and negotiations with possible data providers, it is preferable to try to obtain scanner/sales data when possible because usually it is comprehensive. If it is not available, then an interface with the data provider's data is one option. In addition, a web scraper is also an alternative to retrieve data.
- Index compilation needs to be adjusted when using different kinds of data, like scanner data. It is not anymore possible to do quality adjustment by observation. In the project, also an index compilation methodology for utilizing the new data acquired was designed and coded. The index compilation method is based on the principle of pair-comparison.

Generating ideas for (really) alternative SPPI methods, Gert-Jan van Steeg

Summary of comments received from VG members:

- Specify the activity/service line for which you collect price changes;
- Ask specific reasons for price movements;
- Beware that responses may depend heavily on who is questioned;
- Predefine a list of possible reasons for price changes;
- Only use this method in case of non-response to traditional questionnaires (last resort) and in combination with a reminder;
- Use 'nested' questions: first ask if the price has changed (y/n), then if yes ask if quality has changed and estimate by how much;
- Method cannot be used as a main method, only as a fall back option;
- Quality change: ask questions that are specified for each industry, e.g. did prices change as a consequence of a. construction costs, b. labour costs etc.;
- Method will work better in some industries than in others. Industrial design: maybe ok; securities brokers: probably not.

Use of wage price data to construct PPIs, Ruvani Ratnayake (poster presented by David Friedman)

The Australian Bureau of Statistics (ABS) has utilised its Wage Price Index (WPI) data to construct or supplement Producer Price Indexes (PPIs) for some service industry classes.

Key service industry characteristics for pricing methods based on wage rates:

- Wage costs are a significant input cost
- Services provided are diverse and unique
- Services which are priced using an hourly charge out rate

Methodology and Compilation

- WPI collect hourly rates of pay and hours worked information relating to a fixed set of jobs from a sample of businesses. Each quarter the WPI team provide a dataset of matched job samples for selected ANZSIC classes.
- Wage data is converted into price relatives, and then aggregated to class level price indices using geometric mean. WPI data processed by a SAS program which edits and applies quality measures within 1-2 hours of receipt. The calculated price indices are then input into price aggregation system to contribute to the higher level price indices.
- Wage price based indices were constructed for 21 classes representing a range of service industries. The classes were selected based on prices being linked to wages, and sufficient job and unit samples being available in the wage price dataset. Results were analysed and recommendations for implementation presented. Wage based price indexes are currently being implemented for 7 ANZSIC classes.

Advantages of this method are: significant increase in PPI sample size at close to zero cost, reduced variability in PPI output, data already edited by WPI, WPI samples have good State and size range coverage, reduces provider burden by stopping overlap between the two surveys or by retiring PPI providers as well as a confrontation source for PPI.

Disadvantages of this method are: pricing methods based on working time do not account for changes in productivity, changes in utilisation rates may change charge out rates (but not necessarily prices), changes in company margins are not reflected in the price index and pricing methods based on working time generally exhibit positive bias over time.

Many of participants found the use of wage price data to construct PPIs very interesting and some of participants thought that it would be also interesting to know how well that works through time.