

Session 5 - New products, substitution between products and outlets

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Summary of session

The paper by Koskimäki and Ylä-Jarkko reports about two interesting numerical exercises, both using a large set of electronic transaction data (so-called “scanner data”) provided by ACNielsen.

The first exercise replicates to the extent possible the official CPI calculation method on these data, which comprise various commodity groups, and compares the results with officially published figures. Despite differences in price level, simulated and official CPI are close to each other, which is a positive result.

In the second exercise the authors consider the effect of the classifications used to aggregate data for calculating unit value indices. Using two dimensions, the regional dimension (country – province – ACNielsen region – outlet) and the commodity dimension (COICOP5 – COICOP7 – ACNielsen brand – ACNielsen EAN class), the effect of 16 classifications could be tested on the data. The level of aggregation appeared to have a significant impact on the overall index. The results showed that tighter specifications led to higher substitution bias but increasing the size of groupings in the commodity dimension provided higher price index numbers. The last observation could probably be seen as a case of so-called unit value bias.

The paper by Gudnason is essentially a translation of a general purpose paper on the method of the Icelandic CPI. As such it covers many topics. Some noteworthy features are:

- The overall index has the structure of a Lowe price index, comparing prices of the current month (April of year j through March of year $j+1$) to prices of March of year j , using quantities of year $j-2$. The index is updated every year, the month of chaining being March.
- Household expenditure data come from shopping receipts provided by households, telephone bills provided by telephone companies, to name just some interesting examples.
- For elementary aggregates a mixture of Jevons and Dutot indexes is used.

The following special topics were considered in this paper:

- A very big inflation during the year 2001 led consumers to move their expenditures to outlets characterized by lower price levels. The move appeared to be so massive that, between the two yearly, general updates of the CPI, an adjustment of the outlet weights was deemed necessary and executed. It led to a downward correction of the CPI by 0.55 %.
- The treatment of owner-occupied housing consists in basing the expenditure weight on (an estimate of) user cost and the price relative on the prices of properties sold.

Roman presented a paper written by Makaronidis, dealing with the way in which Eurostat monitors the inclusion of newly significant goods and services in the HICP.

Newly significant goods and services have to be quickly introduced in the sample to keep it up-to-date. They relate to additions to the sample (extension of the coverage of the index) and not to replacements (sample updating with more representative products). It appears to be important, but at the same time very difficult, to clearly distinguish between additions and replacements.

Another issue is the level of appreciation for the “significance” of products: products should be introduced as soon as they are consumed to a significant extent (currently 0.1%), but this threshold should be appreciated at a higher level, the “expenditure group” which gathers products of the same family. A set of criteria is currently under construction, one of which is the notion of purpose. The working of these criteria is discussed with respect to electricity suppliers, e-commerce, and mobile phones.

Recommendations for statistical agencies

Although the main purpose of the three papers was to inform the audience about ongoing research and to draw the attention to some important issues in CPI construction, three recommendations could be distilled from the discussion:

1. According to their effect on index calculation, more attention should be paid to classifications used in data aggregation. The aggregation level at which unit values are considered as basic data for CPI construction is in particular an important decision variable. Since some results of the Finnish paper were viewed as counterintuitive, more research is necessary.
2. A big change in household shopping behaviour should (ideally) lead to an immediate adjustment of outlet weights, to prevent bias. Statistical offices should not wait with such an adjustment until the next scheduled general update of the CPI.
3. New products should be represented in the sample as soon as their consumption has reached a significant extent. Operational rules for the conditions of their introduction in the sample have to be further studied.