

Bias session: abstracts

1. New Outlets Bias in the CPI:A Look at Recent Evidence

John Greenlees & Robert McClelland, BLS

In the U.S. CPI, new outlets are “linked” into the existing sample in an overlap month by multiplying the preceding inflation rate in the old sample by the subsequent inflation rate in the new sample. That linking process can lead to bias if the CPI does not adequately reflect the gains to consumers from the appearance of new types of product outlets.

Those types may offer advantages such as greater convenience, greater product variety or lower prices. If quality-adjusted prices are lower, on average, in the new sample, inflation will be overestimated. This paper focuses on the price effect by examining CPI data for the 2002-2006 period. In particular, it attempts to estimate the variation in prices by type of outlet (e.g., convenience store or discount department store) and how that variation may translate into outlet substitution bias.

2. Cost-of-Living Indexes for Germany

Claus Christian Breuer, University of Duisburg-Essen, Germany

The aim of this paper is to quantify the substitution bias in the German Laspeyres type price indexes. A time series of repeated cross-sections from the German Household Expenditure Survey has been used in order to calculate bounds on true cost-of-living indexes with the help of revealed preference restrictions and nonparametric methods. These bounds on the true cost-of-living indexes can be tightened by means of expansion paths, which are estimated nonparametrically from the household-level data. The first advantage of this approach is the independency of assumptions about the particular forms of the consumers' decisions, which are underlying utility functions. The second advantage is the improved power of this nonparametric revealed preference test.

JEL Classification: C14, C43, D12

3. Re-calculation of the Danish CPI 1996-2006

Carsten Hansen, UNECE

The paper presents re-calculations of the Danish CPI for the period 1996-2006. Ideal indices, such as Fisher, Walsh and Törnqvist, are estimated retrospectively on the basis of the elementary aggregate indices using weighting data that pertain to the period for which the index is calculated. The ideal indices give very similar results and they all indicate a

rate of inflation slightly below that of the historical and published CPI. The CPI is also re-calculated as a geometric Young index and as a geometric average of a Young index and its time antithesis, both of which lies below the ideal indices. Lloyd-Moulton indices are calculated using different values for the elasticity; the results are rather insensitive to the value of the elasticity. The paper also analyses the effect of price-updating the weights. As expected, the use of price-updated weights adds to the upward bias of the CPI. Hence, compared to the ideal indices the use of the original, not price-updated weights in the calculation of the regular Danish CPI reduces potential upward bias.

4. A Note on Long Run Analytical CPI Series that Avoid Discontinuities on Rebasings

Kim Zieschang and Mick Silver, IMF

For consumer price indexes (CPIs) to remain representative of household consumption patterns it is necessary for the weights to be regularly revised. While in some countries this is undertaken on an annual basis, for many others it is quite infrequent. As a result the estimate of price changes using the new weights in the months following the rebasing may be quite different from the estimates using the old weights in the months prior to the rebasing.

This step change or discontinuity following rebasing creates two problems. First is an issue of credibility with the user. It is necessary at the time of the rebasing for the user to be informed, in accompanying notes to the CPI release, of the extent to which the difference between the new and old index is due to reweighting and the nature of any other methodological innovations taking place at the same time. Second is the need of economic analysts for a consistent back series. Since the new index is likely to be deemed to be an improved more representative estimate of price changes, it follows that back period estimates, especially those proximate to the weight change, are themselves less representative. There is a need for a revised analytical CPI series for which the spread between the estimates from the old series and new series, determined at the time of reweighting, is reallocated to the back series so that the transition from the old to new is a smooth and theoretically appropriate one. The derivation of such a series is the purpose of this note.

5. Consumers Price Index: Retrospective Superlative Index and Impact of Alternative Housing Weights

Ben Nimmo and Chris Pike, Statistics New Zealand

The New Zealand Consumers Price Index (CPI) Revision Advisory Committee met in June 2004 to undertake an independent review of the practices and methods used to compile the CPI. One of the committee's recommendations was that at each reweighting of the CPI basket, Statistics New Zealand should calculate a 'superlative' index on a

retrospective basis to provide information on the effect of upper-level (or commodity) 'substitution' on the fixed-weight CPI.

This paper presents details of a retrospective superlative index calculated between the June 2002 quarter and the June 2006 quarter. The index provides an indication of the effect of commodity substitution on the fixed-weight CPI. It also reflects changes to and improvements in the methods and data sources used to derive the 2006 expenditure weights, particularly for the purchase of new housing.

The paper also presents details of how the CPI would have tracked between the June 2002 quarter and the June 2006 quarter, had alternative weights been used in 2002 for the purchase of new housing and for rentals for housing.

The analytical time series described above were published in February 2007. The paper summarises reaction from users to the analytical series and briefly outlines resulting work undertaken to update the Retail Trade Survey Deflators for storetypes that sell audio-visual equipment.