Real Estate and Housing Indices session: abstracts

1. The Paris OECD-IMF Workshop on Real Estate Price Indexes: Conclusions and Future Directions

Erwin Diewert, Discussion Paper 07-01, University of British Columbia

The paper summarizes the main ideas suggested in OECD-IMF Workshop on Real Estate Price Indexes which was held in Paris, November 6-7, 2006. The paper discusses possible uses and target indexes for real estate price indexes and notes that a major problem is that it is not possible to exactly match the quality of dwelling units over time due to the fact that the housing stock changes in quality due to renovations and depreciation. Four alternative methods for constructing real estate price indexes are discussed: the repeat sales model; the use of assessment information along with property sale information; stratification methods and hedonic methods. The paper notes that the typical hedonic regression method may suffer from specification bias and suggests a way forward. Problems with the user cost method for pricing the services of owner occupied housing are also discussed.

Key Words: Real estate price indexes; housing, index number theory; hedonic regression techniques; repeat sales method; system of national accounts; user costs; rental equivalence.

Journal of Economic Literature Classification Numbers: C43, E31, R21.

2. Utilities Adjustment for Owners' Equivalent Rent

Randal Verbrugge, BLS

The BLS uses an owners-equivalent-rent (OER) approach in measuring the shelter-price inflation facing homeowners (see Diewert 2003). In order to produce an unbiased index, it is necessary to adjust for utilities. In particular, some rental units include utilities in the rent; but OER is based upon the inflation in the pure-shelter component of the rent, not inflation in the bundled good shelter-plus-utilities. (For example, if a rent on a utilities-included rental unit goes up merely because natural gas prices rise, this inflation should not be reflected in OER.) Thus, the BLS must estimate the utilities component of the rent, and remove this prior to using the rent in OER computations.

However, current BLS procedures to undertake utilities adjustments result in undesirable dynamic properties. In particular, these procedures implicitly assume that rents change every month, when in reality these typically change on an annual basis. This results in a too-rapid adjustment of rents to utilities price changes, which in turn means that OER

inflation diverges from its measurement goal in the short run, and becomes too volatile. However, a straightforward alteration of BLS procedures -- namely, the use of moving-averages of utilities prices, rather than current utilities prices -- can remove these undesirable features. The impact on inflation measurement can be nontrivial over the short run.

Still, utilities are not the major determinant of the divergence between rent inflation and owner's equivalent rent inflation in the recent US experience. I review some findings in Poole and Verbrugge (2007), a paper which explores the multiple causes of this divergence.

3. Measuring House Price Movements: methods, issues and some recent experiences in the Australian context

Shiji Zhou, Australian Bureau of Statistics

In Australia, as in many other countries, movements in house prices have significant macro economic impacts. However, measuring house prices accurately over time is not straightforward. It involves complex conceptual, methodological and data issues, and continues to be a challenging area for statistical agencies. Unlike other price indexes, house prices indexes are inherently difficult to measure accurately. Houses are sold infrequently and the composition of houses transacted in the market changes over time. That is, the sample of dwellings transacted in any period may be far from random and the characteristics of the sample may change from period to period. Another important problem, and often very difficult to measure, is the change in the quality of houses over time. In other words, house prices that do not adequately take account for 'compositional' and 'quality' changes are likely to be contaminated from these effects.

There are numerous methods for constructing house price indexes, each having both advantages and disadvantages. Some of these methods are based on simple summary measures such as the median price (or mean price) of houses. The advantages of these methods are their relative simplicity both in terms of computation and interpretation of results. However, they are amenable to compositional and quality problems. On the other hand, recent advances in more sophisticated methods (in particular, hedonic regression and repeated sales methods) have enabled price statisticians to adequately account for compositional and quality changes. However, these methods are not without their limitations. Most notably, they are data intensive and their practical use is limited due to the lack of comprehensive data on housing characteristics.

The Australian Bureau of statistics compiles a quarterly house price index for each of the 8 capital cities in Australia and one weighted average national level index. In order to abstract compositional effects, areas/suburbs are stratified into homogenous subgroups based on a range of factors that have detrimental effects on house price movements. The aim of this paper is to assess and examine these and other recent developments in the construction of house price indexes particularly in Australia. Specifically, the paper

presents a detailed discussion of the ABS's approach to constructing house price indexes, and the overall conceptual and data issues involved in measuring house prices in the Australian context.

4. House Prices Indexes at Statistics Canada: Practices and Research

Marc Prud'Homme and Serra Erdur, Statistics Canada

As is well known, house price indexes are important for a number of various reasons. They are used in the deflation of residential construction in the national accounts, for the calculation of certain CPI components, for analyzing the performance of real estate markets and for many other purposes. As is also well known, producing accurate house price indexes is one of the most conceptually challenging areas for compilers of prices indexes to tackle. In the last few years, Statistics Canada has been exploring and making some headway in the field of house price index research on the following areas: 1) a resale house price index using the hedonic and the repeat sales approaches is being updated; 2) a statistical method for estimating the value of the structure/land split is in the research stages; 3) a experimental hedonic index for our New House Price Index; and 4) an experimental true user cost approach for homeowners to be added to our already existing collection of alternative measures of shelter costs. The paper (and presentation) will include a relatively detailed discussion about the development work achieved so far on points 3) and 4). Points 1) and 2) will also be discussed but more or less in passing and more for information purposes only. A more complete version of the paper on alternative measures of shelter cost including a true user costs approach will be submitted as a room document.

5. Current Swedish discussion on housing in the CPI

M. Ribe, Statistics Sweden

The paper deals with a current discussion in Sweden on a possible new approach proposed by Professor Anders Klevmarken, to the treatment of owner occupied housing in the Consumer Price Index (CPI). That approach uses a dynamic model in which consumers maximise their utility due to not only current consumption but also future consumption possibilities depending on assets and liabilities. The new approach has subsequently been thoroughly discussed in the Swedish CPI Board, and some questions have been identified that still remain to be fully resolved.

The paper describes some properties and some possible variants of the proposed model, and some main topics in the current discussion. The treatment of mortgage interest may be seen in different ways, potentially leading to notably different outcomes. Particularly, a still open question is if and how the consequences of house price changes on mortgage interest cost should be shown as mortgage interest cost changes in the index.