2nd Meeting of the Housing Task Force

March 12, 2018

World Bank, Washington, DC

Objectives of Housing Task Force: Some Background

Background

What are the goals of ICP comparisons of housing services? The first goal is a measure of the quantity of quality adjusted housing services across countries, small and large, rich and poor, and urban and rural. The housing stock and the services these structures provide are quite heterogeneous within and between ICP countries. To obtain good quantity comparisons it is necessary to reduce this heterogeneous flow of housing services to a common dimension, which has been the goal of ICP since its inception. The approach used in the 1970 to make these quantity comparisons was to estimate PPPs for housing services on the basis of direct rental information from household surveys. For some countries hedonic rent equations were estimated which provided rents for cells in a stratification based upon size of structure, type like apartment, attached home and detached home, age, amenities like bath, electricity and water. Other countries provided direct average rents for cells in the stratification, the current practice in most EU-OECD countries. The cell entries were then aggregated using a weighted CPD regression, where the weights were the quantities of rented and owner occupied dwellings for each cell. The end result was a set of rent PPPs that when divided into national currency totals for actual rent expenditures produce indirect estimates of quality adjusted quantity of housing services.

The above is termed the rental equivalence approach and is the preferred method for the EU-OECD for both the purpose of obtaining total rent expenditures including owner occupied housing (OOH). These estimates are part of the rental portion of the income and product side of national accounts as well as for ICP rental PPPs. Many countries have limited rental markets where less than ten percent of the housing stock is rented, and this often at low non-market rents by the government or at unusually high rents to foreigners. In such countries observed rents would not be appropriate for application of rental

equivalence for either national accounts or rental PPPs. The TAG has recommended the user cost approach to estimate total rent expenditures in countries with thin rental markets. User cost estimates are based upon summing up current repairs and maintenance[1], capital consumption, insurance, taxes and the net operating surplus usually expressed as rates and applied to the current value of the dwelling stock.

User cost can then be the basis for indirect rent comparisons by dividing the total of rent expenditures in the ICP classification by the quality adjusted stock of housing in a country, about which more below. Denote the direct price level obtained from rental equivalence (RE) as DPL_{REi} and the indirect price level obtained by the user cost (UC) and IPL_{UCi}, where i is the index of countries. In the 2011 ICP, quantity data were available for 42 of the 47 EU-OECD countries that would permit estimation of indirect PPPs; so there were a very substantial overlap of countries that could estimate both direct and indirect price levels permitting a granular linking between the two approaches.[2]

The ICP global comparisons for 2005 and 2011 were not able to employ rental equivalence or user cost across countries in all the regions for want of data or internal inconsistencies between direct and indirect estimates of the rental PPP. That is the differences between DPL_{Rei} and IPL_{UCi} were often so large that regions found them unacceptable.[3] If DPL_{Rei} / IPL_{UCi} is very different from unity, say over 20%, we only learn that our expenditures, survey rents, or quality adjusted quantities are off the mark. In some cases we can infer the likely problem by comparing DPL_{Rei} and IPL_{UCi}, for similar countries in cases where we have more confidence in their underlying data, e.g., where DPL_{Rei} / IPL_{UCi} is close to 1.0. Where the direct and indirect estimates are similar, then the component price levels and quantity ratios are likely to be typical for

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[1] Within the ICP expenditure classification current repairs and maintenance would be reallocated to the appropriate headings and would not be included in the total of market and imputed rental expenditures. When user costs are used to estimate both rents from the production and expenditure side then it is appropriate to take account of repairs and mainten quantity data ance.

[2] Two more points may be made be made about user cost. First a number of countries have applied some form of user cost in the context of their CPI where the aim has been to obtain a better measure of time to time rents of owner occupied housing. See Diewert (2008,2009) and Verbrugge (2008).[2] Second, user cost generates both an aggregate of income and rental expenditures from which IPL_{UCi} is derived. When there are sufficient data a disaggregated user cost estimate and rental equivalence may be estimated at the household level. Aten (2017) estimated rental expenditures directly by both rental equivalence and user cost, both yielding different average rents of quality adjusted housing. This required use of the American Community Survey, a very large data set the detail of which is unavailable in very few countries outside the EU-OECD.

[3] Note that large differences between the direct and indirect rental price levels imply equally large differences between indirect and direct estimates of the quantity of rental services. Where underlying data are fairly reliable the differences are much less. Sergeev (2004) compared the indirect and direct estimates for 2000 for 17 EU and candidate countries. The average absolute deviation was 6.0%, an acceptable difference, though some individual countries were outliers.

other countries. This is an important argument for why countries are asked to provide and verify both direct rents and quantity data whenever possible.

When the differences between IPL_{REi} and IPL_{UCi} are large, the ICP is left between a rock and hard place. The first priority is to make good quantity comparisons of housing services. But suppose that the direct measure of quality adjusted housing is accurate but rental expenditures are too high or too low. In this case the price level will be too low or too high and the quantities consistent with the expenditures too high or too low.   Similar dilemmas arise if there are errors in the quality adjusted quantities, or in the rental surveys of countries. Even when it is known that the expenditures of a country are likely to be too low based on the share in consumption compared to similar countries, the ICP is not in a position to alter their national accounts submission. Because of missing or unreliable data it was necessary to link the regions in 2011 by quality adjusted quantities (Konijn, 2017) and even in this exercise not all countries could be used. The quality adjustment is described in Konijn and elsewhere and is discussed further below.

Suggestions for the TAG

1. Direct Quantity Comparisons

A major effort of the Housing Task Force is to come up with improvements in direct quantity comparisons particularly in Asia as described in Joshi and Dikhanov (2017). A major issue has been the measure of quantity. Countries have been requested to supply number of rooms and space in m^2 but response was not adequate in 2005 or 2011, so the default has been to use simply number of dwellings. *Improvement in response is a goal.*

The quality indicators submitted in 2005 and 2011 related to the presence or absence of piped water inside, electricity and inside toilet and for the EU-OECD central heating. These were combined with equal weights to generate an overall quality indicator ranging from 0-1 that was multiplied by the number of dwellings. See Konijn (2017). This exercise should be carried out, *but the weighting should also be reviewed if not for 2017, the future.*

2. Direct Rental Collection and Rental Equivalence

In the 2011 ICP over a hundred countries provided estimates of rents for a global list of specifications and these data will again be requested. Many of these surveys were not used in the regional estimates because not all countries submitted surveys in a region, or because rental equivalence estimates

were not judged acceptable or other reasons. For 2017 countries have been asked to submit meta data to provide a notion of the representativeness of the country surveys for estimation of rent PPPs. The task force should consider *whether adjustments should be made to national surveys that have a limited scope, like only one city, or a target population.*

There is one problem with rental equivalence that needs consideration for the future. There is a basic disconnect between owner occupied housing and rented housing in that the latter is usually in less desirable areas, renters generally have lower incomes than owners, and many positive features of owner occupied housing are not captured in surveys. As a consequence the rents ascribed to owner occupied housing with the ICP characteristics measured for renters are too low. It is proposed that this be *a subject for discussion by the Task Force of low priority*.

3. A List of Suggestions to Increase Robustness of Comparisons

a. Where countries have both rent surveys and direct quality adjusted quantities some additional analysis might be carried out. For example, the relationship between direct and indirect price levels for these countries and country incomes can be examined, the expectation being that the difference will be greater for low income countries. The reason for this is that the quality adjusted quantities in poor countries tend to overstate the quantities and underestimate the indirect price level of housing services because of omitted quality markers that are more available in higher income countries. This is a major motivation for the effort being undertaken in the Asia-Pacific region to improve the quality indicators for the countries in their region.

b. Related to the above can countries provide rough classifications into durable (pucca) and flimsier construction (kutcha) that could be considered in the quality measurement mantra?

c. Robert Inkler has kindly provided some very rough estimates of the current value of housing stock for most of our countries for 2016 based on the Groningen calculations of country capital stocks. Because these estimates are very rough it raises the question of whether we can we obtain estimates of the value of housing stocks from national sources for some countries outside the EU-OECD-CIS in order to make rough estimates of user cost from the product side? The purpose of such estimates would be to compare with actual national accounts rental expenditures to see how much they differ, recognizing that the difference could well arise from the capital stock estimates.

d. Can Habitat for Humanity provide costs of a standard low income housing unit with estimates of depreciation and other elements of user cost for some of their prototypes in some of the countries

in which they are active? Or can this information be obtained from national housing organizations responsible for construction of new housing for target populations?

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