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Owner-occupied housing for the HICP

Alexandre Makaronidis and Keith Hayes
(Eurostat)
Owner-Occupied Housing for the Harmonized Indices of Consumer Prices
-- Concepts and latest perspectives

Alexandre Makaronidis and Keith Hayes
Price Statistics, Eurostat, Luxembourg

Abstract: This paper describes the pilot work on Owner-Occupied Housing (OOH) that Eurostat is currently undertaking in collaboration with 12 EU Member States. The paper outlines the background to the project, the main technical issues encountered, and summarises the plans for concluding the work.

Summary

This paper discusses the treatment of owner-occupied housing in consumer price indices from Eurostat’s perspective and describes the pilot work being carried out with the EU Member States for the Harmonized Indices of Consumer Prices (HICPs).

The choice of method to treat OOH in a consumer price index is not a choice between right or wrong, and certainly not something that can be decided by statisticians alone. It is a question that first of all depends on policy needs, since the purpose of the index determines its design.

Eurostat’s medium-term aim is to establish a European System of Consumer Price Statistics, centred on the HICP. The European System of Consumer Price Statistics should enable a flexible response to current and future EU policy needs. The flexibility embodied in that system should also apply to the treatment of OOH, whether inside or outside the HICP.

The EU Statistical Programme Committee (SPC) was consulted on OOH in 1997, 2000 and again in 2004. In September 2000, the SPC proposed to pilot an OOH index following a net acquisitions approach. That pilot study was intended to provide sufficient information on the practical application of the net acquisitions approach in order to inform the final decision.
about the inclusion, or not, of such an index in the HICP. The idea was to pilot the production of direct net acquisitions indices. That is, the focus was on the compilation of indices for new dwellings, and on existing dwellings being newly acquired by the household sector.

Although the experience from the initial pilot work was in general positive, some limitations with the approach being followed were evident, and as a result the pilot work has now been refocused. While the net acquisitions approach is maintained, the intention now is to produce wider housing price indices, ones which will serve the needs of the HICP but also the needs of those users whose main interest is in dwellings price indices per se. The latest pilot work restarted in EU national statistical offices at the beginning of 2006. Depending on the success of the pilot work, Eurostat aims to produce a first provisional dwellings price index for the euro area as a whole during the first half of 2007.

Eurostat has compiled some limited empirical evidence on the impact of applying the imputed rents and net acquisitions approaches to the euro area HICP. A small scale study conducted in early 2006 using data for 1998-2002 suggests that the inclusion or exclusion of OOH on the basis of the imputed rents approach does not seem likely to make a significant, systematic difference in the rates of inflation currently measured by the HICP. On the other hand, the net acquisitions approach might make a difference of up to 0.3 on the currently measured HICP annual inflation rates. The user costs approach may deliver results that are quite different from either of the other two approaches.

**OOH and consumer price indices**

Owner-occupied housing costs represent a substantial share of household final consumption expenditure. Purchases of dwellings by households represent a substantial share of real estate markets.

For their national CPIs, EU Member States take a variety of approaches to owner-occupied housing, either excluding OOH or applying the different methods outlined below.

The three main alternatives for measuring inflation faced by owner-occupiers in a consumer price index are the rental equivalence (or imputed rents) approach, the net acquisitions approach and variants of the user costs approach. The question of which method is the most appropriate is not one of being right or wrong and one that can not be decided without regard to the uses of the price index. It is a question that first of all depends on policy needs and policy needs determine the design of the index. Eurostat's medium-term aim is to establish a European System of Consumer Price Statistics, centred around the HICP. The European System of Consumer Price Statistics should enable a flexible response to current and future EU policy needs. The flexibility embodied in that system should also apply to the treatment of OOH, whether inside or outside the HICP.

The imputed rents approach and the user costs approach, while they have certain strengths, are not so closely founded as the net acquisitions approach on prices for monetary transactions. The imputed rents approach uses actual rents observed for rented dwellings to impute the equivalent rents that would be payable for owner-occupied housing. The user costs approach estimates the value derived from owner-occupation indirectly, by calculating the user costs associated with their housing capital at market prices. It therefore uses a combination of data sources, such as dwelling prices, mortgage repayments data, interest and depreciation rates.
The net acquisitions approach uses prices for the net acquisitions of dwellings by households (that is, purchases less sales of dwellings), in combination with prices for major repairs and renovations and prices for transaction fees incurred when purchasing and selling dwellings.

In conceptual terms, both the imputed rents approach and user costs can be justified for a consumer price index, though neither is without shortcomings. However, an index based on observed house prices rather than unobservable shelter cost elements, such as depreciation rates or imputed rents, is superior from the point of view of detecting and measuring inflationary pressure in the economy. Moreover, for the purposes of monetary policy as well as for other economic policies, what matters is to register an inflationary process at the time it occurs, so at the time the transaction occurs, irrespectively of when the consumption takes place.

An advantage of the net acquisitions approach is the limitation to those purchases, which change the dwelling stock owned by households. Moreover if the land price element is excluded from the recorded price, it can be argued that movements in asset prices are not captured (or captured only to a very limited extent) in measured inflation. Finally, a key strength of this approach from a HICP perspective is that it uses prices for monetary transactions, like the rest of the HICP.

**OOH and the HICP**

HICPs are consumer price indices produced in each EU Member State on the basis of harmonized standards. Harmonised consumer price indices are a requirement which derives directly from the EU Treaty. They are needed in particular for the assessment of price convergence, for monitoring inflation and conducting monetary policy in the euro-area. The euro area HICP provides the key inflation indicator used by the European Central Bank (ECB). Financial markets also value these indices since they provide comparable measures of inflations across EU Member States.

The understanding of inflation that Eurostat shares with key users, in particular the European Commission Directorate General for Economic and Financial Affairs and the ECB, is that inflation is a monetary phenomenon, whereby the instruments of monetary policy aim at influencing prices of market transactions.

With this in mind and by reference to the European System of Accounts (ESA 95), the coverage of the HICP was taken as 'household final monetary consumption expenditure'. This defines the goods and services, the population and the geographic territory to be covered as well as the prices and the weights to be used. The HICP may thus be described as a Laspeyres-type 'pure price' index based on the net acquisitions principle. This approach has particular advantages for measuring inflation, since the strength of the 'household final monetary consumption expenditure' concept lies in its focus on monetary transactions.

The considerations outlined above led to the initial exclusion from the HICP of items relating to owner-occupied housing such as imputed rents, mortgage payments and expenditures on major maintenance and repairs. By excluding those items, EU statisticians not only removed a significant source of non-comparability between national HICPs, but also ensured the relevance of the HICP for the purposes of euro area monetary policy.
However, since the balance between owner-occupied and rented housing varies between EU Member States, and dwelling price inflation erodes the purchasing power of money, the continued exclusion of owner-occupied housing from the HICP is not ideal from the point of view of providing the best possible comparable measure of consumer price inflation. Therefore Eurostat proposed to deal with the issue by including a price index for owner-occupied dwellings new to the household sector (net acquisitions).

**Capital, consumption and land**

A critical point is whether expenditure for owner-occupied shelter could be regarded as capital, as consumption, or both - in the sense that it may include capital and consumption elements.

The net acquisitions approach is straightforward in concept and simply implies that the purchase of owner occupied dwellings is treated in the same way as other durable goods included in the HICP. If the net acquisitions approach is applied for houses, then, for consistency, acquisition-related expenditures such as materials and services for major repairs, maintenance, extensions and conversions of the dwellings, and insurance for the dwelling typically taken out by landlords should also be included in the HICP.

Many experts would argue that as a matter of principle movements in asset prices should not be captured in the HICP and hence land should be excluded from the scope of the HICP. However, for dwellings it is not always possible in practice to separate the price of land on which dwellings are built from the price of the dwellings in total.

**Initial pilot work**

The initial pilot work was launched in 2001. Five countries (Germany, Spain, Poland, Finland and the UK) undertook work to estimate the main components making up an OOH index. The approach followed was a very direct one, whereby the focus was on the measurement of prices for new dwellings and on prices for dwellings being acquired by households from other sectors. Based on the experience of the five countries, a first version of a methodological manual was made available.

Results, in the form of price indices for new dwellings, were achieved on all five pilot countries. While the results in general were positive, there were concerns about some issues, such as the feasibility of producing reliable indices in smaller countries and land prices.

The pilot countries found solutions for many issues, though at the end of the initial project several issues remained problematic:

**Transfer costs**

Transaction costs connected to owner occupied housing, such as payments for the services of property managers, fees for legal services and some taxes, should be covered by a net acquisitions index.

The practical consequence of covering transfer costs is that an index for all dwellings
purchased by owner-occupiers - not only dwellings new to the household sector - is needed because many fees of this type, e.g. estate agent fees, are proportional to the purchaser price.

**Land**

The pilot work showed that the price of land for 'turn-key' dwellings posed important problems in some of the pilot countries (Spain, Finland, and the United Kingdom).

As the price of land could be excluded, by definition, from 'self built' dwellings there were potential non-comparability issues between Member States with significant shares of self-builders and those that had lower shares.

Furthermore, the borderline between purchase of land for investment or for owner-occupied purposes would need further consideration.

**Quality of construction price indices**

The available construction price indices were not yet sufficiently harmonised for HICP purposes. Moreover, they should only be used for the purposes of the OOH index if they were representative of 'small-scale' constructions for self-builders and major repairs by owner-occupiers and of 'small-scale' construction companies, which are typically relevant to owner-occupiers.

**Delays and revisions**

The pilot countries used various methods to obtain dwelling prices. Administrative sources provided a substantial amount of information on dwelling purchases in several of the pilot countries - although with a substantial delay. In general this delay was much longer than the normal production time for the HICP.

Furthermore, the time it would take before all transactions on dwellings are registered may require more revisions to the dwellings index than to other HICP indices.

**Smaller countries**

Low numbers of transactions in smaller countries could cause both a seasonal problem (fewer new dwellings during the winter months) and a cyclical problem (fewer new dwellings during economic downturns). A small sample, even if it would be exhaustive, could easily give rise to random fluctuations in the dwellings index because the current sample would not be representative of the base period expenditure.

**Set-up and operational costs**

The issue of costs should also be mentioned. The estimates provided by the pilot countries covered a considerable range. Set-up costs for the national statistical institutes were estimated at between 2 and 8 person-years in the pilot countries, while running costs were estimated at less than 1 person-year per year, where statistical data sources already existed, but around 4 to 6 person-years if no other statistical data sources exist. Costs for the purchase of external data by national statistical institutes can also be substantial.
The importance of extended OOH coverage relative to other areas covered by the HICP can be seen in the significant expenditure weight. According to some estimates collected by Eurostat in support of the pilot work, weights may vary considerably between Member States (e.g. from 4.9 per cent in Denmark to 8.5 per cent in Greece). These weights included both net acquisition of houses and expenditure related to OOH for major maintenance, repairs, extensions, etc. The owner-occupier related expenditure was roughly of the same size as the expenditure on the net acquisition of new dwellings.

Current pilot work

Eurostat concluded that the results of the initial pilot work revealed several practical problems related to implementing the `net acquisitions concept excluding land' in a direct way. The implementation of the `net acquisitions concept excluding land' in its pure form seemed not to be feasible in all Member States. Also the quality of the resulting index seemed such that it would not necessarily satisfy usual HICP quality requirements. Hence, it was not defensible at that stage to extend the initial pilot study as it stood to all Member States and the then Accession Countries.

After consulting HICP experts in the Member States, key users and the SPC, Eurostat concluded that, while it maintained the principles of the net acquisitions approach, a pragmatic approach should be taken in practice. The pilot should continue, its coverage be extended, and its remit adjusted as follows:

- Establish a price index for all dwellings purchased by households;
- Estimate the effect of land prices;
- Partition the all dwellings price index by means of the land price index.

While widening its work to support the development of comprehensive dwellings price indices, Eurostat reaffirmed thereby its commitment both to the net acquisitions approach for the HICP and to the ongoing pilot studies. However, the price indices to be piloted should serve the needs of the HICP, but also those users whose main interest is in dwellings price indices per se.

In practice the countries participating in the pilot work have very different levels of administrative and survey data available to them as inputs for their work. Some of the key issues that the countries must address are the reliability and use of national administrative data, the use of expertise and data which may be outside the statistical office, the linking of data from different sources and the setting-up of new price surveys. In addition to the price data, weights must be calculated and the methodology to be used to calculate the price index in each country must be set-up.

Dwelling prices

Eleven countries are participating in the current pilot work on dwelling prices with financial support from Eurostat (Germany, Greece, Spain, Italy, Cyprus, the Netherlands, Poland, Slovenia, Slovak Republic, Finland, and the UK). In addition France will work in co-
operation with the project. Thus seven additional countries are participating, compared to the five countries which participated in the previous pilot work.

In each country a pilot price index for all dwellings purchased by owner-occupiers (or all households) in its economic territory should be developed and compiled on a regular basis as a self-standing index. The index should cover all dwellings (both new dwellings and existing ones) including the price of land. However, in some cases the coverage of certain types of dwellings and the geographic coverage of the pilot index will be limited.

The pilot indices should be divided into indices for second-hand dwellings and new dwellings, taking the gross expenditure weights into account. A price index for additional acquisition costs related to purchases of dwellings (i.e. transfer costs) should also be developed and compiled on a regular basis.

At this stage the countries should compile and supply indices on a quarterly or monthly basis. If quarterly indices are provided, an assessment of the alternative ways and costs of producing monthly statistics should be made.

Land prices

Some smaller scale pilot work on land prices is being conducted by three national statistical offices (Germany, Slovenia and the UK). The aim is to pilot a land price index using one of the three options listed below, for the purposes of partitioning the dwellings price indices compiled for that country:

- Use of administrative sources for obtaining a price index for land;
- Construction of a specific price index for land;
- Hedonic modelling

Germany and Slovenia will each supply dwellings price indices excluding land prices on a quarterly or monthly basis.

Major repairs and renovations

For the time being, for resource reasons and because priority has been given to dwelling prices indices, it has not been possible to take forward any pilot work on price indices for major repairs and renovations. Prices for major repairs and renovations are needed in order to implement in full the net acquisitions approach. For that reason, Eurostat will address this issue again during 2007.

OOH Manual

The technical manual on OOH that was drafted as part of the initial pilot work will be updated to support the current pilot work and the involvement in future of further countries. The technical manual will cover both the work on dwelling prices and land prices in the pilot countries. It will be prepared by the national statistical office of Portugal and is due to be completed by early 2008.
Completing the work

Depending on the success of the current pilot work in the pilot countries, it may be possible to produce a provisional dwellings price index for the euro area as a whole including land prices during the first half of 2007. Also depending on the success of the pilot work, a provisional index net of land prices for the euro area as a whole might be possible from the second half of 2007 or in 2008.

Concerning the further extension of the pilot work to the remaining euro area and EU countries, a decision on the timing of that should be taken in the first half on 2007 in order to avoid further delays.

It is expected that the evaluation of the pilot work and of the net acquisitions approach will begin during the second half of 2007. The initial evaluation would concern the dwellings price indices and would be without prejudice to the rest of the project.

Likely impact on the HICP

During the first half of 2006 Eurostat conducted a small-scale study to compare the likely outcomes for the HICP of the net acquisitions approach with one based on the imputed rents. The aim was to produce indicative estimates of the results of applying both approaches so that they may be compared with results from the net acquisitions approach in due course.

Quarterly estimates were made for the rental equivalence and the net acquisition methods for the period 1998-2002, using available data mainly from Eurostat and the ECB. A euro area HICP including OOH was estimated as well as its weights following standard HICP aggregation and chaining practices.

Due to the unavailability of sufficient data for the user cost approach, the estimates for this method could not be compiled at this moment. In order to somehow compare this method to the other two, a preliminary estimate compiled by OECD⁴ was used, with annual data for the euro area.

The results though tentative seem to confirm informed expectations. The difference in the inflation rates for the imputed rents approach remained within the margin of 0.1 percentage points. The inclusion or exclusion of OOH on the basis of the imputed rents approach does not seem to make a significant, systematic difference in the measured rates of inflation.

The difference in the inflation rates for the net acquisitions approach was up to 0.3 percentage points, almost 15% above the measured inflation rate of the HICP excluding OOH. The results also show that the evolution over time is different between those two methods. However, the available data was insufficient for a thorough study of the differences over a longer time period of time.

Finally, the user costs approach leads on average to results that are quite different from the other two approaches, suggesting a considerably higher increase on the inflation in 1999 and 2000. Since the estimates for the user costs were done by the OECD results may not be comparable, as Eurostat cannot certify that the same estimation method was used.

This study will be updated in collaboration with the ECB. It will be used to support the evaluation of the net acquisitions approach in the HICP by providing alternative measures of owner-occupied housing during the evaluation period.

References

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