

# Summary of the First Sprint Meeting on the Measurement of Inflation of Owner-Occupied Housing in the CPI

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## Introduction

1. Given the current high rates of inflation, including that of real estate, experienced by countries around the world, the measurement in consumer price indices (CPI) of costs incurred by households living in their own homes has attracted renewed attention. Currently, there is no internationally preferred method for measuring the inflation of owner-occupied accommodation. The international CPI manual discusses a set of approaches that are being used by National Statistical Offices (NSOs), depending on national circumstances.
2. The First Sprint on the Measurement of Inflation of Owner-Occupied Housing (OOH) in the CPI provided an overview of these available methods of measurement, as well as country specific practical experiences with applying some of the methods.

## Importance of OOH component in CPI

3. First and foremost, it was recognized that including OOH in the CPI was not just desirable, but critical to ensuring that the measurement of inflation is representative of the actual basket of goods and services bought by the typical consumer and allowing for accurate international comparisons. This is borne by the relatively large weight that OOH has in most countries' CPI. Therefore, the discussion was mostly focused on the challenges faced in identifying the appropriate method for measuring OOH, and the difficulties of accessing the required set of data that would make the preferred approach possible.
4. The IMF presented an overview of the various approaches, while noting that the 2020 IMF Global Survey of CPI methodologies showed that 51% of respondents did not include OOH in their CPI calculation (due mostly to a lack of necessary data), and that a large number of these countries represented developing or emerging economies. The participation of many of these countries at the Sprint underscored their desire to learn more about the different methods and experiences to support their efforts to implement the measurement of OOH in their countries' CPI. The presentation by Botswana provided an excellent insight into the efforts made by Statistics Botswana to leverage their existing data for measuring OOH in the CPI.
5. There are four main considerations for choosing a specific approach for measuring OOH in the CPI:
  - Alignment with the primary use of the CPI
  - Access to appropriate data sources
  - Consistency with national accounts and Cost of Living Index (COLI)
  - Ease of communication of the methods with the users
6. In reality the data sources available may not support the preferred method for the intended purpose of the CPI. As such, many NSOs are using either simplified or second-best methods for which they have the data.

## Methods

7. There are four main methods to measure the OOH component: use approach based either on rental equivalence or user cost method, net acquisition approach and payments approach.
8. Based on the presentations provided at the First Sprint meeting, as well as on the results of the 2020 IMF Global Survey of CPI methods, the **rental equivalence method** is the most prevalent. This method is generally based on data collected through rent surveys, although some NSOs are exploring the use of administrative databases. The method allows the compiler to avoid the complex issue of separating the cost of the land from that of the structure, which is an issue with the net acquisitions approach.
9. Consistency with the national accounts methodology is also an important advantage of the rental equivalence method, as is the fact that this method is consistent with a Cost-of-Living Index (COLI) framework - an important consideration when CPI is used for indexation. However, it is not consistent with the treatment of other CPI items as it is not based on actual transaction prices. Comparisons presented to other methods showed that the rental equivalence approach resulted in a smoother series and is less prone to sudden housing market adjustments. However, the presenters identified a number of challenges associated with this method including:
  - small rental markets (for all or some parts of the housing market, e.g. single family homes) may create challenges for deriving reliable equivalent rents
  - the use of the “stock” measure that captures both new and existing rentals, rather than a “flow” one which would target only new rentals and which may be more appropriate
  - treatment of fixed (social) rents
  - treatment of rental agreements and local laws that regulate or cap rental increases for existing tenants
  - time lag in monthly price and expenditure measures when using rotating household panels on a quarterly or 6-month intervals
10. The **user cost approach** measures the price changes on the costs incurred by homeowners while they own and live in a home, and therefore reflects the costs incurred by the homeowner to use and maintain the home, but not the purchase price of the house.
11. In the modified or simplified user cost approach developed by Statistics Canada, the main use costs cover mortgage interest payments (net of taxes deductible on interest payments), insurance costs, property taxes, maintenance and minor repairs, and other current expenditures. It also includes the homeowner replacement cost which corresponds to the portion of owner-occupied dwellings that is assumed to be consumed. This portion is represented by the worn-out structural portion of housing (depreciation of housing) or the amount a homeowner must spend to maintain the market value of the structure. This portion of the user cost is estimated by adjusting the total

value of homes owned in Canada by changes in house prices as reflected by the New Housing Price Index, exclusive of land.

12. Statistics Canada noted the complexity of estimating the opportunity cost of housing equity and expected housing appreciation, which are omitted from the calculation. Canada also noted that the method can be difficult to explain and communicate to users. The presentation acknowledged that the current method is an appropriate compromise, given the many uses of the CPI, notably indexation.
13. The **net acquisition approach** is a method that is consistent with the treatment of other CPI items. The method measures the net acquisition of structures – sales of dwellings between households are netted out, therefore the OOH component largely reflects expenditure on new dwellings and self-builds, as well as costs of maintenance and repair, insurance and possibly property taxes.
14. The purchase of dwelling constitutes a mix of investment and consumption expenditure. Only the consumption element of the net acquisition should be included in a CPI. A common approach is to assume that the value of structure represents the consumption element, while land represents the investment or asset component of the acquisition. However, separating cost of land from the structure is complex.
15. The data challenge is that new dwellings may represent a small share of market and are difficult to measure separately – particularly in smaller housing markets.
16. The **payments approach** is a method that measures changes in cash outlays associated with owner-occupied dwellings. It is consistent with COLI and easily communicated to the users.
17. The method has its challenges because capital transactions should be excluded from the OOH component, for example the down payments and repayment of mortgage principle, and the structural alterations and additions to the dwelling. Moreover, corrections should be made for tax allowances for mortgage interest payments because the payments should be measured after tax relief.
18. This method requires large amounts of data, which may not be readily available. Moreover, the inclusion of the payment of mortgage interest makes in the OOH component makes the CPI less attractive for monetary purposes because of the circularity between the CPI and interest due to the rate setting by monetary policy

## Data

19. The need for reliable, granular and accurate data sources was the focus of all presentations, given that housing markets are very local in nature. This is a particularly important issue in the developing world where informal housing, self-built housing and government supplied housing are more prevalent. Robust surveys and detailed administrative data sources are required to obtain accurate, timely and granular information on home prices, rents, structure characteristics and home owners' costs (e.g. mortgage interest rates, insurance, repairs, etc.).

20. There were a number of presenters who addressed the issue of producing and publishing more than one measure of inflation (e.g. including and excluding OOH, or using different measurement approaches). If producing multiple measures of inflation, it is critical to provide clear and transparent communication with respect to the underlying methodology, as well as the degree of fitness for purpose of each indicator.

## Communication

21. Last, but not least, presenters discussed the complexity of communicating the measurement of the OOH in the CPI to users. This is an issue for both the rental equivalence and the user cost approaches, which do not intuitively appeal to those consumers whose perceptions of the inflation related to the housing services costs is directly related to the purchase price of a home. Views differ among users on the desirability of a CPI reflecting house prices to some extent.
22. The plenary discussion addressed a number of the issues identified above as well as providing participants with the opportunity to discuss their own country's experience with measuring OOH.