

## Methodological note

# GUIDANCE ON THE COMPILATION OF THE HOUSE PRICE INDEX AND THE OWNER-OCCUPIED HOUSING PRICE INDEX DURING THE COVID-19 CRISIS

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## 1. Introduction

Housing markets across Europe have been affected by the COVID-19 crisis, although to a different extent in different countries. For example, mobility restrictions prevented potential buyers and real estate agents from physical visits, thereby reducing the number of transactions that took place. Also, administrative procedures could be delayed for different reasons, resulting in delayed transactions or delayed registration of transactions.

These issues affect the production of the House Price Index (HPI) and the Owner-Occupied Housing Price Index (OOHPI). Given that the lockdowns started mostly around mid-March 2020, the data for the first quarter of 2020 were not significantly affected. However, the compilation of the indices for the second quarter of 2020 will be difficult for several countries, primarily due to a low number of transactions taking place. This note provides guidance on the compilation and transmission of the HPI and OOHPI in these circumstances.

## 2. Low numbers of transactions

The most common issues for NSIs are a low number of reported transactions or delays in reported transactions, due to a lockdown of the housing market or slower functioning of administrative procedures. A number of options are proposed to deal with this. The usefulness of these options in individual cases depends entirely on the specific country situation, such as the type of data sources that are used, the sub-national or other breakdowns that are used at national level, the extent of any lockdown measures that affect the housing market and the

compilation methods used. Below, the impact on a number of different compilation methods is discussed:

- Rolling time dummy hedonic method – in this method, the hedonic model is estimated over a time window of  $x$  periods. Generally, this method is considered as particularly suitable for markets with a small number of transactions and should work well in the current situation. If, nevertheless, there is a problem with model estimation, a country can consider to widen the length of the window (e.g. a country using 2 quarter window can try to apply 4 or 5 quarter window);
- Repricing hedonic method – in this method, the price index is computed without re-estimating the hedonic model each period. Countries usually estimate the model once a year or once every few years using transactions from one or several years. Assuming that transactions are still taking place (although in a small number), the COVID-19 situation should not have serious consequences for this method. However, as this year will likely be very unusual for the market, countries should carefully consider on which year the next re-estimation of the model should be based.
- Average characteristics hedonic method and imputation hedonic method – these methods rely on the re-estimation of the hedonic model in each period. In case of problems with estimating the model, countries can consider:
  - pooling together more transactions (e.g. if a country had two separate models for new and existing dwellings it may be appropriate to put transactions for new and existing dwellings into one model with an explanatory variable for the distinction between new and existing dwellings);
  - reducing the number of explanatory variables.

The modified model should be re-estimated for the current and previous period in order to obtain a quarterly rate of change not influenced by the differences between the new and previously used model. The obtained quarterly rates of change should be used to continue the series of price indices. When introducing any changes to the model, countries are advised to check the impact of the introduced changes on the robustness of results.

- Countries that use the stratification method should avoid combining different strata due to the COVID-19 situation. A better solution is to maintain the classification scheme from the previous period and fill the empty strata by imputing values from neighbouring or similar strata (e.g. from similar locations).

Several countries have reported specific difficulties for new dwellings, due to a stop in construction. It could be envisaged in this case that the index for new dwellings is exceptionally imputed from the index for existing dwellings. Such approaches should be accompanied by appropriate metadata.

The temporary replacement of transaction data with other data, for example “asking prices” from websites, is generally not recommended, as this could lead to incomparable indices between quarters. In exceptional cases, the price change of asking prices can be used to estimate the price change of transaction prices, if these changes have been shown to be reasonably similar in the past. This requires the collection of asking prices in at least two adjacent quarters.

For the HPI, carrying forward the previous quarters' prices, or imputing the same price change as in (a) previous quarter, should also be avoided, as the actual price developments in the crisis situation may be very different. For certain sub-indices of the OOHPI, however, these methods may be appropriate, in line with the [guidance](#) given for HICP.

### **3. Specific issues for OOHPI sub-indices**

For “Self-build dwellings and major renovations” as well as “Major repairs and maintenance”, countries very often use data from short-term statistics. The [guidelines](#) that were issued for short-term statistics thus apply.

For these and other OOHPI sub-indices countries may also conduct dedicated price surveys. In such cases, a matched model methodology is used which is similar to HICP and thus [guidelines](#) for HICP can be consulted.

As regards “Other services related to the acquisition of dwellings”, some prices can be taken from legal acts (e.g. notary fees, real estate transfer tax). This is not likely to be affected by the crisis.

“Insurance connected with dwellings” should be treated like other insurance in the HICP.