

# Housing price index

The calculations of the new housing price index were updated in 2017. The Notaires-INSEE second-hand housing price index has been revised in 2018. The Housing price index (HPI) is an index derived from the two previous indexes. It has been seasonally adjusted since 2021. The seasonal adjustment method was updated in August 2023. This methodological note presents the updated method.

## Presentation

The housing price index (HPI) is a quarterly index, base 100 as an annual average in 2015. It is a transaction price index measuring pure price changes between two consecutive quarters for dwellings sold.

For a given quarter, whether gross or seasonally adjusted (SA), it is obtained as the weighted average of the following two indexes:

- Notaires-INSEE second-hand housing price index
- New housing price index

## Calculation method

The Notaires-INSEE second-hand housing price index is based on a methodology validated by the Scientific Board of the Notaires-INSEE indices (Conseil scientifique des indices Notaires-Insee – CSIN). The method is based on hedonic models that calculate indexes based on constant quality. The method is summarised in a simplified note and a more detailed note<sup>1</sup>. The full methodology is explained in Insee Méthode no. 132<sup>2</sup>.

The new housing price index is based on an econometric model linking the new housing price logarithm to different variables that characterise the property: its type (house or apartment), its physical characteristics (floor space, number of rooms) and the geographic characteristics of the municipality in which it is located (size of the urban unit, ZEAT<sup>3</sup>, coastal municipalities, winter sports and mountaineering resorts, etc.). This econometric model (in this case a hedonic model) is estimated over five consecutive quarters. There are also time dummies variable among the explanatory variables which are used to adjust the average change in transaction prices between the quarters, all other things being equal (i.e. with constant dwelling characteristics). In quarter Q, the reference is positioned in Q-1 ; the quarterly change in the index is obtained from the exponential of the coefficient associated with the time dummy of quarter Q.

The housing price index for quarter Q of year Y is calculated in two steps: 1) weighted mean of the new and second-hand housing price indices, base 100 in Q4 of year Y-1; 2) chain-linking of the index to obtain an index expressed in base 100, as an annual average for 2015. The weightings of each of the two indices correspond to the respective share of new and second-hand housing in household expenditure on the purchase of dwellings in the course of year Y-2. This expenditure is obtained from the housing accounts published by the data and statistical studies service (–service de la donnée et des études statistiques - SDES) of the Ministry for ecological and solidary Transition.

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1 <https://www.insee.fr/en/statistiques/7665952#documentation>

2 <https://www.insee.fr/fr/information/4175280>

3 <https://www.insee.fr/en/metadonnees/definition/c1910>

### Seasonal adjustment

The seasonality of Notaires-INSEE second-hand housing price index is mainly shaped by the school calendar. The national seasonally adjusted index is produced by aggregating several geographical indexes, which are themselves seasonally adjusted independently.

The new housing price index is seasonally adjusted directly at national level and differs in its seasonal pattern.

The Housing price index (HPI) is obtained by applying the weighted average of the Notaires-INSEE second-hand housing price index seasonally adjusted and the new housing price index seasonally adjusted, in line with Eurostat recommendations in this situation.

### Scope

The geographical scope of the overall index is Metropolitan France. The second-hand dwellings considered are those included in the scope of the Notaires-INSEE index (excluding overseas departments). The new dwellings considered are those included in the scope of the ECLN survey<sup>4</sup>.

### Sources

The Notaires-INSEE second-hand housing price index is calculated by Min.not and Paris Notaires Services (PNS) in collaboration with INSEE, using property transaction data from the Notarial Economic Database (BIEN - Base d'informations économiques notariales) and the PERVAL database.

The new housing price index is calculated by INSEE from property transaction data derived from the Sale of New Dwellings survey (ECLN). This quarterly survey, conducted since 1985 by the SDES, was extensively revised twice : once in Q1 2006, and a second time in Q1 2017.

### Definition

The Notaires-INSEE second-hand housing price index provides a means of measuring changes in the prices of second-hand dwellings at constant quality. The price used is the net selling price, excluding property transfer duties, notary fees and agency commission.

The new housing price index provides a means of measuring changes in the prices of new houses at constant quality. The price used is the reservation price, i.e. when the first contract is signed. VAT is included in this price. Notary fees are not.

### Publication

The provisional housing price index for quarter Q and the definitive index for quarter Q-1 are published on the INSEE and Eurostat<sup>4</sup> websites during the following quarter. The index series can also be found individually in the "Statistical indices and series" section of the INSEE website.

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4 <https://www.statistiques.developpement-durable.gouv.fr/english-contents>