Housing price statistics - house price index

Statistics Explained

Data from second quarter of 2020.
Next planned update: 14 January 2021.

This article describes the house price index (HPI) in the euro area (EA19) and the European Union (EU27), presenting data on this indicator both at European and Member State level. It also provides examples of possible use of this indicator in relation to other statistics, such as consumer price indices and rent price indices. Finally, a summary description of the methodology used in the compilation of the HPI is given.

Annual and quarterly growth rates

The HPI shows the price changes of residential properties purchased by households (flats, detached houses, terraced houses, etc.), both newly-built and existing ones, independently of their final use and independently of their previous owners.

The index levels (2015 = 100) for the euro area (EA19) aggregate and EU27 aggregate house price indices are shown in Figure 1. House prices remained more or less stable between 2010 and 2014. Then there was a rapid and constant rise since early 2015. Both the euro area (EA19) and the EU27 follow a similar trend.

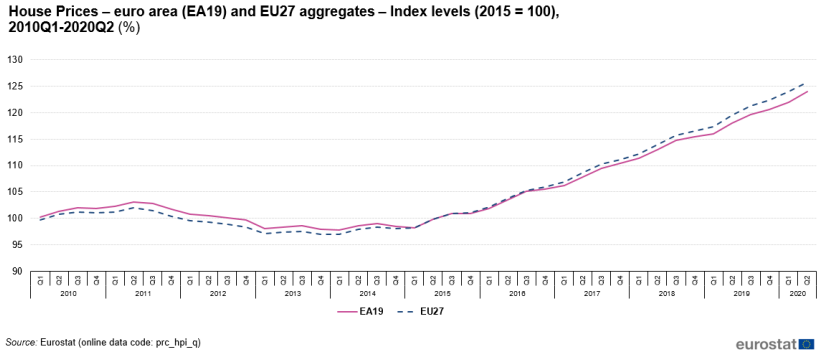

Figure 1: House Prices – euro area (EA19) and EU27 aggregates – Index levels (2015 = 100), 2010Q1-2020Q2 (%) – Source: Eurostat (prc_hpi_q)

The annual growth rate of the euro area (EA19) and EU27 HPIs from the first quarter of 2010 to the second quarter of 2020 are presented in Figure 2. Looking at the entire period, the annual growth rate for the euro area (EA19) HPI reached a maximum of +5.1% in the first quarter of 2020 and a minimum of -2.7% in the first quarter of 2013. For the EU27 HPI, the annual growth rate reached a maximum of +5.6 % in the first quarter of 2020 and a minimum of -2.6% in the first quarter of 2013. Between 2016 and 2019, the annual growth rate remained rather stable for both the euro area (EA19) and the EU27. In the first and second quarters of 2020,

the annual growth rate for euro area (+5.1% and +5.0%) and EU27 (+5.6% and 5.2%) reached again levels that had not been recorded since 2007.

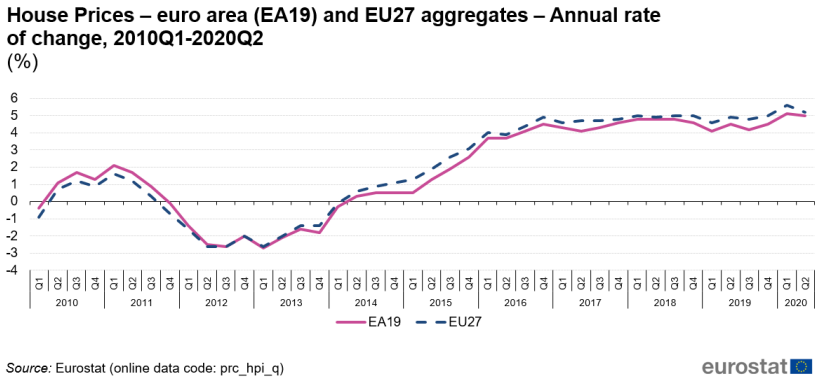

Figure 2: House Prices – euro area (EA19) and EU27 aggregates – Annual rates of change, 2010Q1-2020Q2 (%) – Source: Eurostat (prc_hpi_q)

Table 1 presents the quarterly and annual rates of change for the HPI for the most recent four quarters.

Among the Member States for which data are available, the highest annual increases in house prices in the second quarter of 2020 were recorded in Luxembourg (+13.3%), Poland (+10.9%) and Slovakia (+9.7%), while prices fell in Hungary (-5.6%, see note under the table) and Cyprus (-2.9%).

Compared with the previous quarter, the highest increases were recorded in Luxembourg (+4.4%), Italy (+3.1%) and Austria (+2.5%), while decreases were observed in Hungary (-7.4%, see note under the table), Estonia (-5.8%), Latvia (-2.3%), Bulgaria (-1.1%) and Ireland (-0.1%).

House Prices – Quarterly and annual rates of change, 2019Q3-2020Q2 (%)

	Change compared with the previous quarter (%)				Change compared with the same quarter of the previous year (%)			
	2019		2020		2019		2020	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
EA19	**1.4**	**0.8**	**1.0**	**1.7**	**4.2**	**4.5**	**5.1**	**5.0**
EU27	**1.4**	**0.9**	**1.3**	**1.5**	**4.8**	**5.0**	**5.6**	**5.2**
Belgium	3.5	-0.3	-0.1	**1.4**	4.5	4.8	3.5	**4.5**
Bulgaria	1.3	1.5	1.2	**-1.1**	5.6	6.2	4.7	**2.9**
Czechia	2.0	2.1	1.8	**1.6**	8.7	8.9	8.6	**7.7**
Denmark	0.2	-2.1	1.7	**1.7**	2.4	2.5	2.0	**1.4**
Germany	1.4	2.4	0.6	**2.0**	5.3	6.5	7.1	**6.6**
Estonia	2.5	2.9	4.8	**-5.8**	8.1	8.2	11.5	**4.0**
Ireland	1.4	-0.2	-0.8	**-0.1**	1.7	0.7	1.0	**0.4**
Greece	:	:	:	:	:	:	:	:
Spain	1.6	-0.6	1.2	**0.0**	4.8	3.7	3.3	**2.2**
France	2.4	0.3	1.1	**1.7**	3.3	3.8	4.9	**5.5**
Croatia	0.6	2.9	2.7	**1.8**	8.0	10.0	9.1	**8.3**
Italy	-0.3	-0.3	0.9	**3.1**	0.4	0.2	1.7	**3.4**
Cyprus	-6.3	0.8	2.5	**0.3**	2.4	-0.5	1.1	**-2.9**
Latvia	3.1	0.1	0.7	**-2.3**	12.7	8.8	8.8	**1.6**
Lithuania	1.0	1.1	2.6	**2.2**	6.4	6.5	6.2	**7.0**
Luxembourg	2.3	2.1	4.0	**4.4**	11.3	10.7	14.1	**13.3**
Hungary	1.5	-0.9	1.3	**-7.4***	16.5	12.6	5.3	**-5.6***
Malta	3.0	3.5	-4.4	**1.5**	6.0	5.7	5.5	**3.4**
Netherlands	1.3	1.6	1.7	**2.4**	6.3	6.5	6.3	**7.1**
Austria	1.1	1.6	1.6	**2.5**	6.2	6.2	7.7	**6.9**
Poland	2.1	2.8	3.6	**2.0**	9.0	9.4	11.3	**10.9**
Portugal	1.2	0.7	4.9	**0.8**	10.3	8.9	10.3	**7.8**
Romania	1.5	1.6	3.3	**0.1**	3.9	4.7	8.1	**6.6**
Slovenia	1.9	0.2	1.0	**1.9**	7.1	4.8	4.7	**5.2**
Slovakia	2.6	2.3	4.0	**0.5**	11.5	10.9	13.1	**9.7**
Finland	-0.4	-0.7	0.9	**0.6**	1.1	0.7	1.4	**0.5**
Sweden	1.7	0.2	1.2	**0.1**	2.9	3.3	4.5	**3.3**
United Kingdom	1.7	-0.4	0.4	**-0.5**	0.7	0.8	2.4	**1.2**
Iceland	0.7	2.3	0.9	**2.1**	3.3	4.4	4.7	**6.2**
Norway	-1.0	-0.5	1.9	**2.5**	3.6	3.3	3.1	**3.0**
Turkey(1)	3.7	3.1	5.6	**11.3**	6.8	9.9	15.0	**25.7**

: data not available
(1) definition differs.
* provisional estimate with a high degree of uncertainty.
Source: Eurostat (online data code: prc_hpi_q)

eurostat

Table 1: House Prices – Quarterly and annual rates of change, 2019Q3-2020Q2 (%) – Source: Eurostat (prc_hpi_q)

Dynamics in the housing market: uses of the house price index and policy implications

The HPIs has been used in conjunction with other macroeconomic statistics to build derived indicators for the analysis of the housing market dynamics.

A well-known example is the deflated (or real) house price index, which is part of the Scoreboard of indicators used in the Macroeconomic Imbalances Procedure (MIP) of the European Commission . See the dedicated section on Eurostat website and ECFIN web page .

The deflated HPI is the ratio between the nominal HPI and an index of consumer price inflation . A consumer price index, such as the HICP , or a national accounts final consumption deflator can be used for stripping out consumer prices inflation from the HPI. The deflated HPI included in the MIP Scoreboard and in this publication uses the national accounts household final consumption deflator. The deflated HPI growth rate is a key variable for the analysis of house price cycles. In particular, a too high growth rate is considered an early warning indicator of tensions in the real estate market signalling the risk of price bubbles. The alarm threshold adopted in the context of the MIP is 6 % of annual growth rate in the deflated HPI. The level of the threshold was established by the European Commission . It was set on the basis of an analysis of historical data on past boom and bust cycles of house prices.

The deflated HPI for the euro area is presented in Figures 3 (quarterly index) and 4 (annual rate of change).

Between 2010 and 2014, the decreasing trend (or negative annual rate of change) reflects the fact that house prices in the euro area (EA19) decreased or increased less than inflation. In 2015, house prices started to increase more than inflation and, since 2016, house prices increased 3.0 % to 3.6 % more than inflation.

There are significant differences between Member States, as it can be seen in Table 2 – annual deflated HPI. Figure 5 illustrates the magnitude of the differences among available countries in the annual rate of change, for the year 2019.

In 2019, house prices increased more than inflation in 23 EU countries out of the 27. The highest differences between annual changes of house prices and the annual inflation rate were recorded in Hungary (+12.8 %), Portugal (+8.7%), Croatia (+8.1%) and Luxembourg (+8.0 %). House prices increased equally to inflation in Finland and Ireland. They increased less than inflation in Romania (-1.7%) and they decreased in Italy leading to drop the deflated HPI for Italy to -0.6 %.

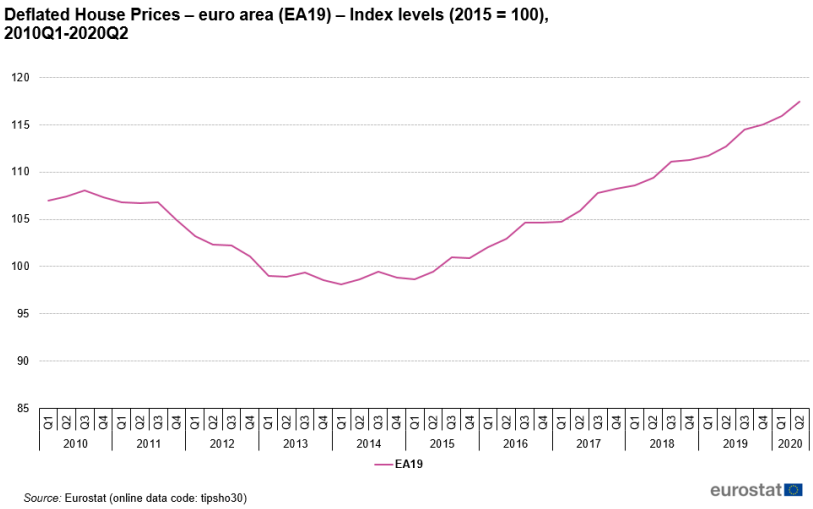

Figure 3: Deflated Deflated House Prices – euro area (EA19) – Index levels (2015 = 100), 2010Q1-2020Q2

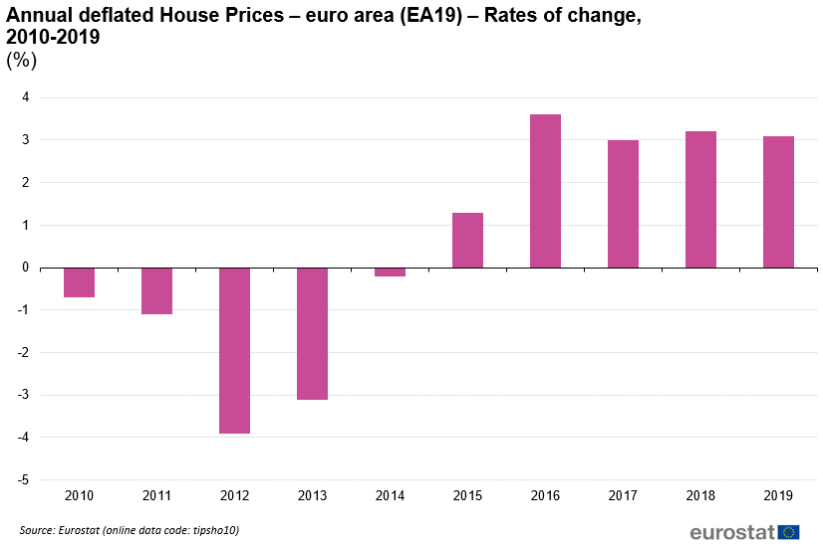

Figure 4: Annual deflated House Prices – euro area (EA19) – Rates of change, 2010- 2019 (%) – Source: Eurostat (tipsho10)

Annual deflated House Prices – Member States and the UK – Rates of change, 2010-2019 (%)

	DEFLATED HPI (1 year % change)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Belgium	1.2	1.1	0.2	0.1	-1.3	0.8	1.2	1.7	1.0	2.5
Bulgaria	-12.3	-8.6	-5.3	0.4	1.5	1.2	6.6	5.3	4.5	4.0
Czechia	-2.2	-1.6	-3.5	-0.7	1.6	4.0	6.8	9.1	5.9	6.2
Denmark	0.3	-4.0	-4.9	3.1	3.1	6.6	5.1	3.2	3.5	1.5
Germany	-0.6	1.6	2.1	1.7	2.2	4.1	6.7	4.6	5.1	4.3
Estonia	1.7	3.1	3.1	7.3	12.9	7.3	3.7	1.8	2.1	4.4
Ireland	-12.3	-17.8	-14.5	0.0	15.5	10.8	7.2	9.8	7.8	0.0
Greece	-8.0	-7.5	-12.1	-9.2	-5.1	-3.3	-1.7	-1.5	1.4	6.5
Spain	-3.7	-9.8	-16.5	-10.0	0.2	3.7	4.5	4.6	5.2	4.1
France	3.7	3.9	-1.9	-2.6	-1.7	-1.7	0.8	2.3	1.3	2.3
Croatia	-7.6	-2.0	-4.6	-5.7	-1.3	-2.6	2.0	2.9	4.6	8.1
Italy	-0.8	-1.5	-5.0	-7.5	-4.9	-4.0	0.2	-2.1	-1.5	-0.6
Cyprus	-8.2	-4.4	-5.5	-3.9	-1.1	1.0	2.2	1.3	0.1	2.6
Latvia	-8.7	4.1	-0.2	6.8	4.6	-2.8	6.3	5.6	6.4	5.8
Lithuania	-8.6	2.1	-3.3	0.3	6.4	4.7	4.4	5.2	4.6	4.9
Luxembourg	4.2	0.6	2.1	3.3	3.9	5.3	5.7	3.7	4.8	8.0
Hungary	-6.0	-7.0	-9.4	-4.5	3.1	13.2	13.1	9.3	10.9	12.8
Malta	-1.1	-3.9	0.4	-1.6	2.0	4.1	4.4	4.3	4.9	4.0
Netherlands	-3.3	-4.0	-7.9	-7.9	-0.1	3.4	4.4	6.1	7.1	4.8
Austria	4.3	3.0	4.8	3.0	1.4	3.4	7.0	3.4	2.6	3.9
Poland	-6.1	-4.6	-6.6	-4.8	1.1	2.7	2.3	1.8	4.9	6.7
Portugal	-1.0	-6.5	-8.7	-2.6	4.0	2.2	6.1	7.6	8.6	8.7
Romania	-12.7	-15.5	-9.1	-2.8	-3.2	1.9	5.2	3.3	1.3	-1.7
Slovenia	-1.3	0.9	-8.5	-7.2	-6.2	1.4	3.9	6.4	6.3	4.8
Slovakia	-5.0	-5.2	-5.9	-0.4	1.5	5.5	7.0	4.4	4.9	6.2
Finland	4.8	-0.1	-0.4	-1.3	-1.6	-0.5	0.6	0.8	-0.1	0.0
Sweden	6.6	1.2	0.7	4.5	8.3	12.0	7.3	4.8	-3.3	0.5
United Kingdom	4.1	-5.0	-1.6	0.7	6.4	5.9	5.5	3.1	0.6	-0.3

: data not available

Source: Eurostat (online data code: tipsho_10)

eurostat

Table 2: Annual deflated House Prices – Member States and the UK - Rates of change, 2010-2019 (%) – Source: Eurostat (tipsho10)

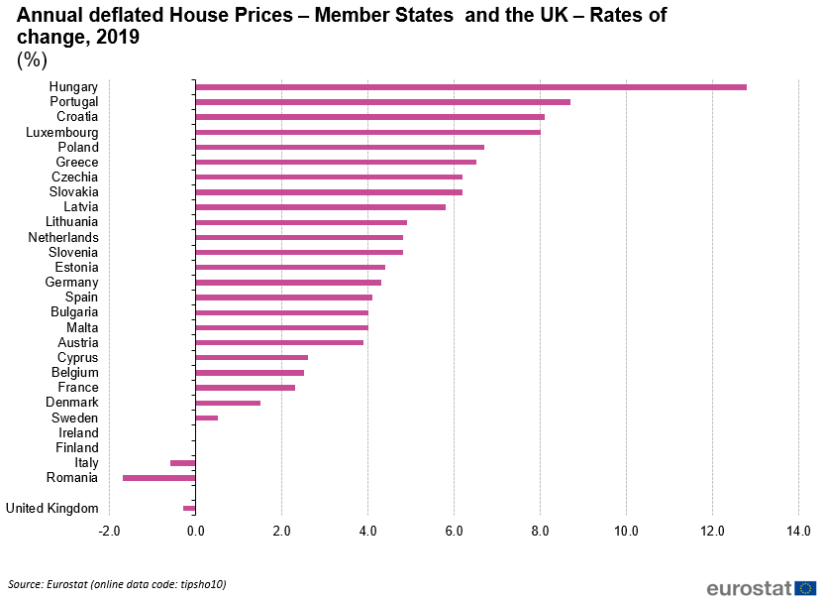

Figure 5: Annual deflated House Prices – Member States and the UK – Rates of change, 2019 (%) – Source: Eurostat (tipsho10)

Long term trends in House prices and rents

Figures 6 and 7 below show the long term trends of house prices and rents (since 2010).

Between 2010 and the second quarter of 2011, house prices and rents in the EU27 followed similar paths. Then, since the third quarter of 2011, they have followed very different paths: while rents increased steadily throughout the period up to the second quarter of 2020, house prices have fluctuated significantly.

After a sharp decline between the second quarter of 2011 and the first quarter of 2013, house prices remained more or less stable between 2013 and 2014. Then, there was a rapid rise in early 2015, since when house prices have increased at a much faster pace than rents.

Over the period 2010 until the second quarter of 2020, rents increased by 14.2% and house prices by 25.0%.

When comparing the second quarter of 2020 with 2010, house prices increased more than rents in 16 EU

Member States. House prices increased in 23 Member States and decreased in four, with the highest rises in Estonia (+100.5%), Luxembourg (+85.8%), Latvia (+77.3%) and Austria (+75.9%). Decreases were observed in Greece[1](-31.0%), Italy (-13.2%), Spain (-5.6%) and Cyprus (-3.0%).

For rents, the pattern was different. When comparing the second quarter of 2020 with 2010, prices increased in 25 EU Member States and decreased in two, with the highest rises in Estonia (+135.8%), Lithuania (+105.4%) and Ireland (+62.3%). Decreases were recorded in Greece (-25.2%) and Cyprus (-4.8%).

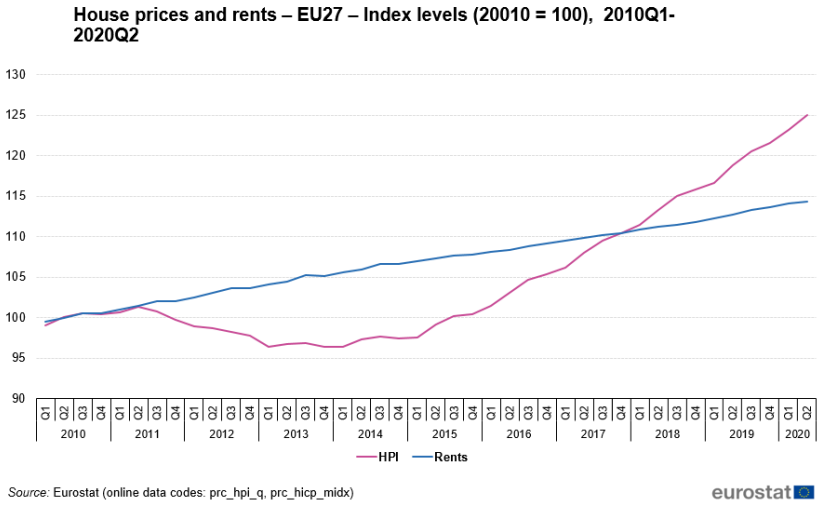

Figure 6: House prices and rents – EU27 – Index levels (2010 = 100), 2010Q1-2020Q2 – Source: Eurostat (prc_hpi_q); (prc_hicp_midx)

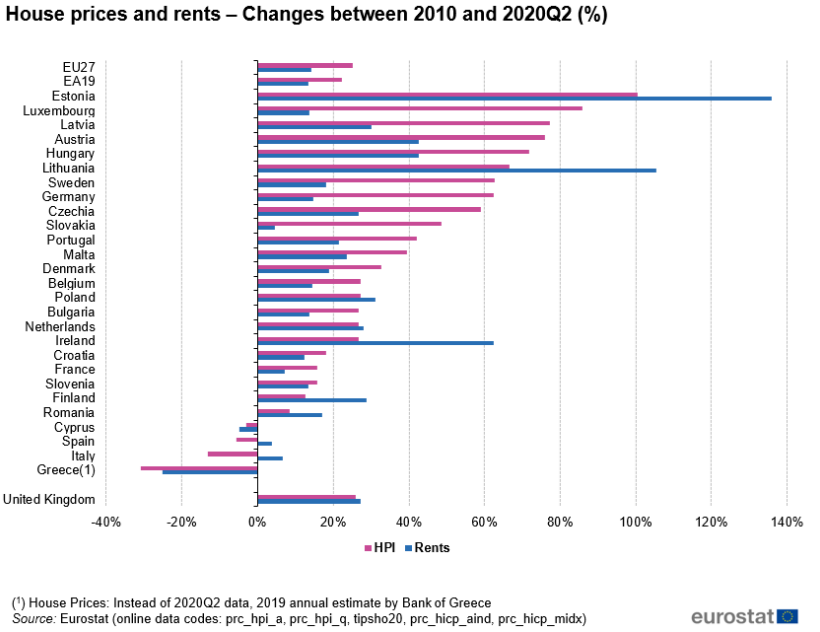

Figure 7: House prices and rents – Changes between 2010 and 2020Q2 (%) – Source: Eurostat (prc_hpi_a); (prc_hpi_q) (tipsho20); (prc_hicp_aind); (prc_midx)

[1]Instead of second quarter of 2020, 2019 annual estimate by Bank of Greece.

Weights for the calculation of house price indices

Weights for the euro area (EA19) and the EU27

The House Price Indices (HPI) for the euro area (EA19) and EU27 aggregates are calculated as weighted averages of the national HPIs, currently using as weights the GDP at market prices (based on PPS) of the countries concerned. The weights used in 2020 are based on data for 2019.

HPIs are computed as Laspeyres-type annual chain indices allowing weights to be changed each year.

Figure 8 shows the 2019 weights used for the calculation of the 2020 EU27 HPI aggregates.

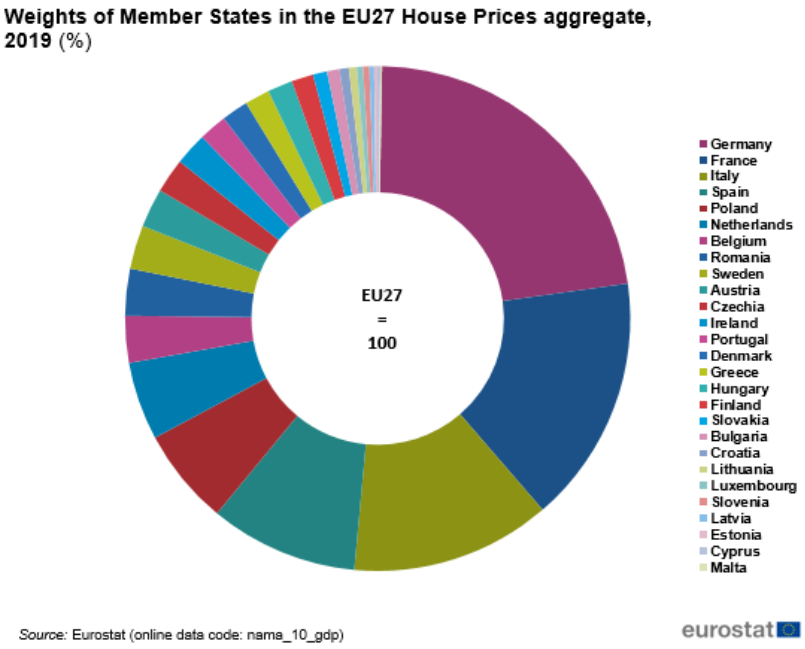

Figure 8: Weights of Member States in the EU27 House Prices aggregate, 2019 (%) – Source: Eurostat (nama_10_gdp)

Figure 9 shows the 2019 weights used for the calculation of 2020 the euro area (EA19) HPI aggregates.

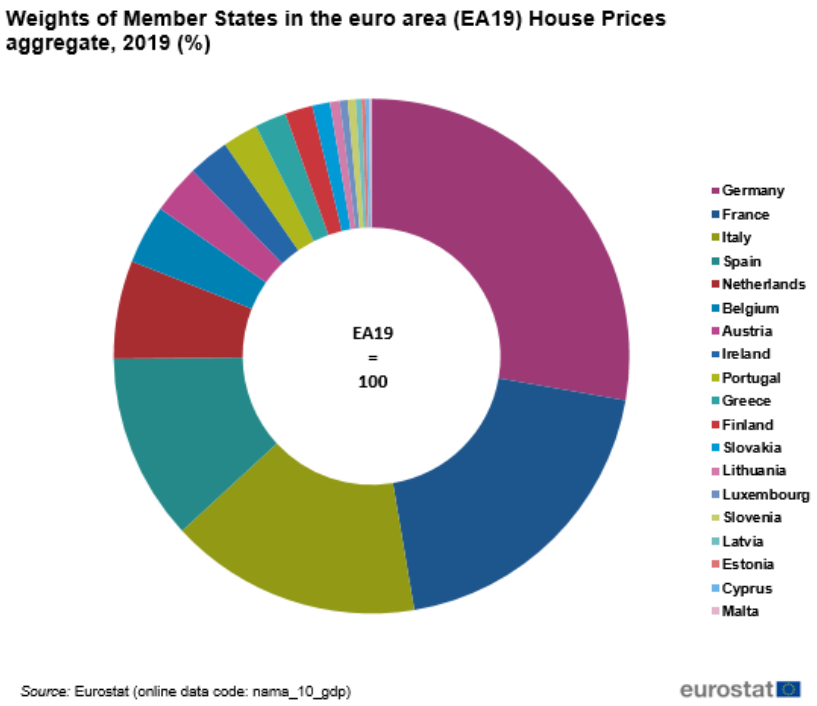

Figure 9: Weights of Member States in the euro area (EA19) – House Prices aggregate, 2019 (%) – Source: Eurostat (nama_10_gdp)

Weights for new and existing dwellings sub-indices

Since December 2014, in addition to the price index for total dwellings transacted in the market, Eurostat publishes separate indices for newly built and existing dwellings (prc_hpi_a) . The separation of dwellings into newly built and existing is relevant due to their often different price evolutions. Due to limited data availability, no European aggregates are compiled for these sub-categories.

The weights of the indices for new and existing dwellings are disseminated as parts per thousand of the expenditure (with total dwellings = new dwellings + existing dwellings = 1 000) (prc_hpi_q) . The weights for the 2020 indices are illustrated in Figure 10 for available countries.

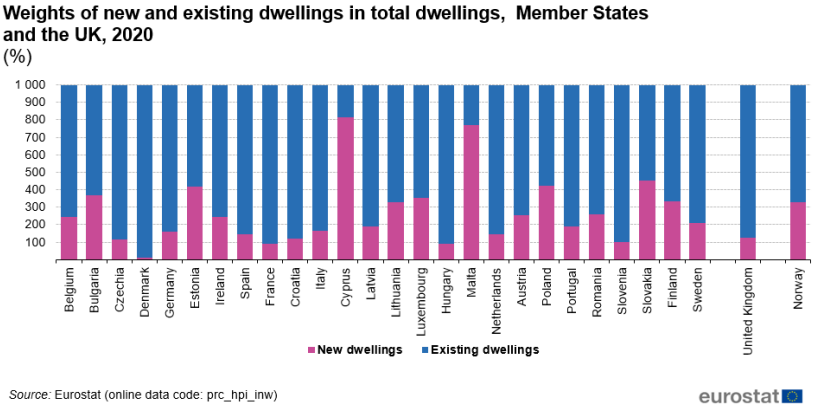

Figure 10: Weights of new and existing dwellings in total dwellings – Member States and the UK, 2020 (%) – Source: Eurostat (prc_hpi_inw)

Data sources

Methodological background information is given in the Handbook on Residential Property Prices Indices (RPPIs) .

Compilation

The first and most important issue in the compilation of HPIs is the availability of data on dwelling purchases. This refers to information about the price of the transaction and the dwelling characteristics. The dwelling characteristics which most influence price are the type of dwelling (flat, detached house, terraced house, etc.), its size and location. A second issue is the heterogeneity of the housing market, where virtually every dwelling bought and sold is different from the others in some respect. The consequent quality adjustment from one time period to the next is also a major methodological issue in compiling house price indices. The HPI should be seen as an independent price index aimed at measuring price developments for dwellings transacted in the market. The main technical characteristics of the HPI are:

- the price of land is included in the price and in the weight (gross acquisition concept);
- only actual transactions of dwellings are covered;
- market prices for residential properties are covered, while non-market prices are ruled out of the scope of the HPI; meaning that self-built dwellings are excluded, with the possible exception of turnkey prefabricated houses;
- the focus is on the measurement of price developments for all residential properties purchased by households, independently of their final use; so dwellings bought by households for uses other than owner-occupancy are included, for example for investment;
- all purchases of new and existing dwellings are to be considered, independently of their previous owner; so existing dwellings transacted between households are included.

Prices cover the acquisition cost of a property in itself, and not the total cost that is necessary to acquire, own and maintain a residential property; so other costs related to the acquisition of the property and major repairs are ruled out from its scope.

Additional information on national house price data

Below you can find the available links to the national statistical institutes' websites dealing with housing price statistics. These links contain, in some cases, additional data on housing or methodological notes regarding the compilation of house price indices. Where there is no specific link on housing, a general link to the NSI website is provided.

- **Belgium** : data provided by Statbel, the Belgian statistical office.
- **Bulgaria** : data based on OOH pilot study (complemented with estimates) provided by the National Statistical Institute .
- **Czechia** : data provided by the Czech Statistical Office can be found here.
- **Denmark** : data, based on OOH pilot study, provided by Statistics Denmark. Link to documentation of Statistics Denmark 'sales of real property' statistics.
- **Germany** : German website on real estate prices.
- **Estonia** : Statistics Estonia (OOH project); link to the website of Statistics Estonia and to the Dwelling Price Index .
- **Ireland** : Central Statistics Office Ireland (OOH project), Residential Property Price Index (RPPI); data can be accessed at the website of the Central Statistics Office .

- **Spain** : data based on OOH pilot study, provided by INE (complemented with Eurostat estimates for 2005Q1-2005Q3 based on non-harmonised data); the link to the INE website dealing with housing price index: Methodology and results (press release, quarterly series, annual averages indices and weightings) are available therein.

- **France** : data provided by the National Institute of Statistics and Economic Studies. For more information on the French HPI see here. The French HPI can be found here . You can also follow the quarterly publication on the French HPI here. French OOH metadata can be found exclusively on the website of Eurostat.

- **Italy** : provisional data provided by the Italian National Institute of Statistics; see press release and methodological note in English and Italian version.

- **Cyprus** : data based on OOH pilot study (complemented with estimates) provided by the Statistical Service of Cyprus ; link to Construction and Housing Statistics publications (for quarterly output prices index in construction – primarily used for self builders – and methodology); link to the HPI statistics database , domain 'Harmonized Index of Consumer prices'.

- **Latvia** : data based on OOH pilot study provided by Central Statistical Bureau of Latvia (complemented with Eurostat estimates based on non-harmonised data for 2005); link to the website of Central Statistical Bureau of Latvia ; link to the short-term data and annual data - HPI statistics database, domain 'Consumer prices'.

- **Lithuania** : Statistics Lithuania data about Housing price statistics can be found in the Database of indicators => Economy and finance (macroeconomics) => Price indices, changes and prices => House price index (HPI), price changes and index weights => Owner-occupied housing price index, price changes and index weights.

- **Luxembourg** : data based on OOH pilot study (complemented with estimates) provided by the National Statistical Institute of Luxembourg (STATEC); methodological information available on STATEC's website for the HPI.

- **Hungary** : data provided by the Hungarian Central Statistical Office; a publication on home prices is available on the website of the Hungarian Central Statistical Office: Housing prices, housing price index , a series of statistical tables are also published in the annex.

- **Malta** : experimental data provided by the National Statistics Office of Malta ; the HPI is an All Property Index that includes terraced houses in addition to apartments and maisonettes.

- **Netherlands** : data based on OOH pilot study, provided by Statistics Netherlands: Price index of existing dwellings for 2015=100, monthly for Netherlands total , quarterly by dwelling type , by region ; HPI for existing and newly built dwellings , OOH-figures ; Map Dutch housing market ; publications on Dutch construction and housing.

- **Austria** : data based on OOH pilot study, provided by Statistics Austria (complemented by Eurostat with non-harmonised estimates for the years 2005-2008).

- **Poland** : data provided by the Central Statistical Office of Poland .

- **Portugal** : sources for 2009Q1-onwards, House Price Index (Statistics Portugal), methodology available on the website of Statistics Portugal (in Portuguese only); for 2008, price indexes estimated by Statistics Portugal using bank appraisals data; for the 2005Q1-2007Q4, Eurostat's estimates based on non-harmonised data.

- **Romania** : data based on OOH pilot study, provided by the National Statistical Institute of Romania (complemented by Eurostat with non-harmonised estimates for the years 2005-2008). The document on which HPI data are published is the 'Prices statistical bulletin' ; information and data on dwelling price indices can be found at the Methodological Note and in the table for 'Residential Property Price Indices'.

- **Slovenia** : data based on OOH pilot study, provided by the Statistical Office of the Republic of Slovenia; link to regular housing price indices publishing ; Slovenian HPI data are now available also through a new web-based self-searching table .

- **Slovakia** : data based on OOH pilot study, provided by the Statistical Office of the Slovak Republic (complemented with Eurostat estimates for the year 2005 based on non-harmonised data); link to the website of the Statistical Office of the Slovak Republic .

- **Finland** : data based on OOH pilot study, provided by Statistics Finland. Link to a web page containing all housing related topics . Link for prices of dwellings in housing companies (multi-unit dwellings); link for real estate prices (single-unit dwellings).

- **Sweden** : data based on OOH pilot study, provided by Statistics Sweden can be found here .

- **Iceland** : data provided by Statistics Iceland; currently Statistics Iceland doesn't have a special page or metadata for the house price index; the Icelandic house price index can be found here .

- **Norway** : data provided by Statistics Norway. For more information on the Norwegian HPI see here .

- **United Kingdom** : source: Office for National Statistics .

Context

In recent years, the analysis of housing markets has intensified as has the demand for high quality statistics on national, euro area and EU housing, in particular on residential property price indices. Eurostat and the national statistical institutes have been working together since 2002 on a series of pilot projects to set up a system to provide harmonised data for residential property prices at European level. Prior to this work, there was very little comparability between national data on housing prices within the EU. The development of comparable, timely and frequent statistics on changes in residential property prices has been considered an essential target for European statistics.

In this context, the terms 'residential property price', 'house price' and 'dwelling price' are used interchangeably to describe the price developments of all residential properties purchased by households (flats, detached houses, terraced houses, etc.), both new and existing, independent of their final use and independent of their previous owners. The emphasis is on market prices, with non-market prices being ruled out from the scope of the house price indices (self-build dwellings are therefore excluded. The price of dwellings follows a gross acquisition concept, i.e. it includes the land price component.

- Living conditions in Europe - housing quality
- Housing statistics
- Handbook on Residential Property Prices Indices (RPPIs)
- Technical manual on Owner-Occupied Housing and House Price Index
- House price index (HPI) (teicp270)

- House price index (HPI) - deflated - annual data (tipsho10)
- House price index (HPI) (prc_hpi)
- Housing price statistics
- Macroeconomic Imbalance Procedure Scoreboard
- Handbook on Residential Property Prices Indices (RPPIs)
- Technical manual on Owner-Occupied Housing and House Price Index
- House price index (HPI) (ESMS metadata file — prc_hpi_esms)
- House price index - deflated - annual data (ESMS metadata file — tipsho10_esms)
- Macroeconomic Imbalance Procedure - Directorate General for Economic and Financial Affairs (DG ECFIN)