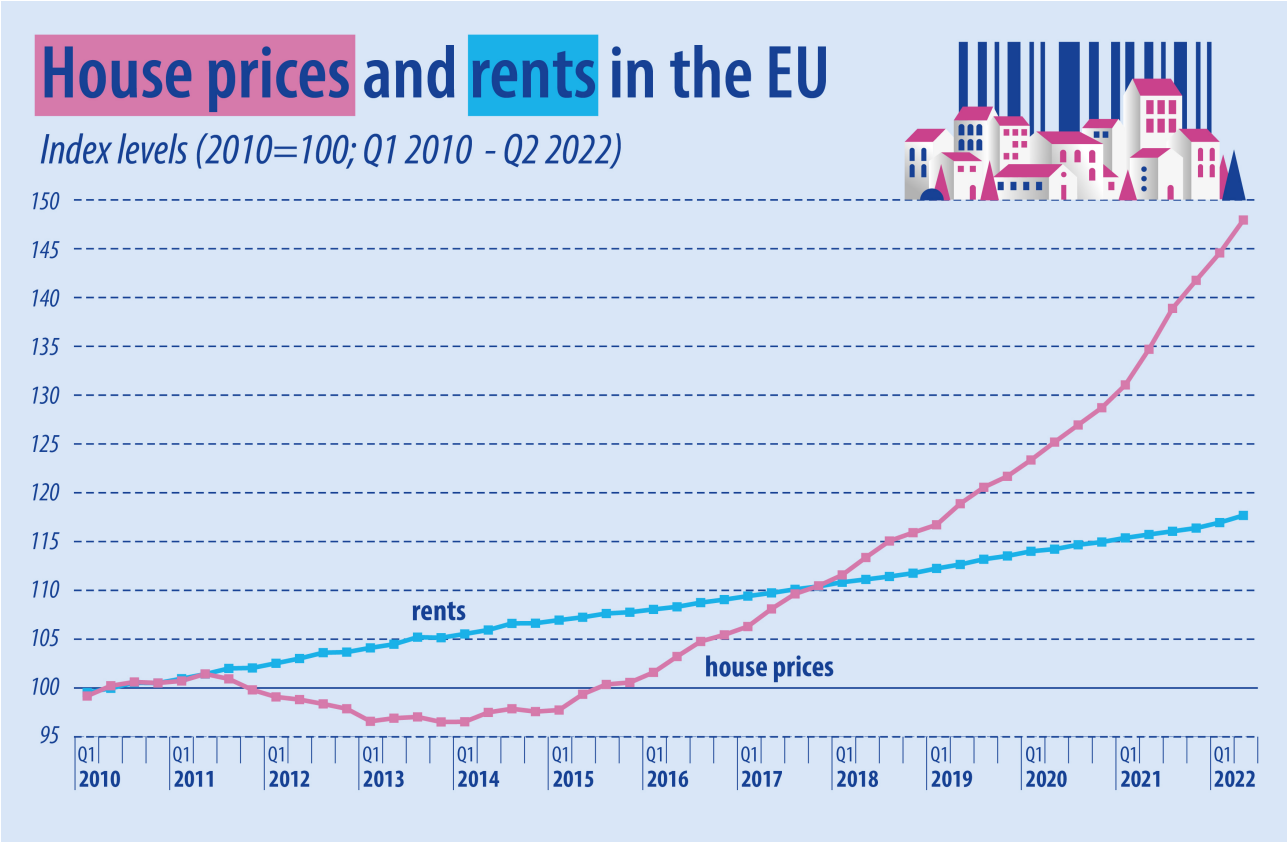
Housing price statistics - house price index

Statistics Explained

Data from second quarter of 2022.
Next planned update: 10 January 2023.

" House prices up by 9.3% in the euro area and by 9.9% in the European Union in the second quarter of 2022, compared with the same quarter of 2021. "



ec.europa.eu/eurostat

This article describes the house price index (HPI) in the euro area (EA19) and the European Union (EU), 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 house prices of the euro area and EU aggregates are shown in Figure 1. After a slight increase between the first quarter of 2010 and the second quarter of 2011, house prices showed a sharp decline until the first quarter of 2013. Then, they remained more
or less stable until 2014 and have risen sharply since early 2015. Both the euro area and the EU follow a similar trend.

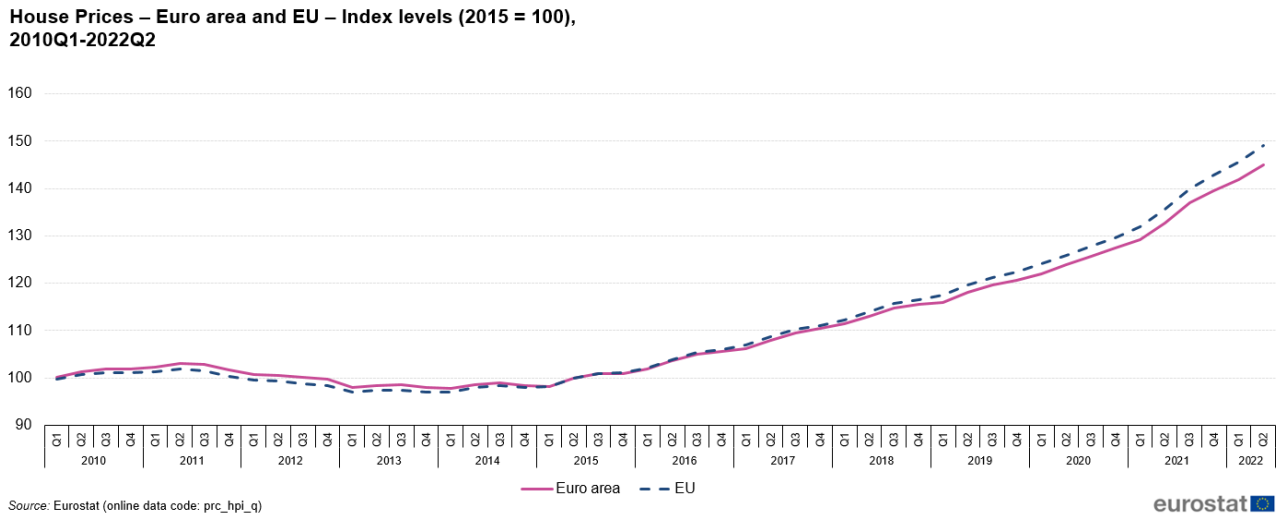


Figure 1: House Prices – Euro area and EU aggregates – Index levels (2015 = 100), 2010Q1-2022Q2 – Source: Eurostat (prc_hpi_q)

The annual growth rate of the euro area and EU HPIs from the first quarter of 2010 to the second quarter of 2022 are presented in Figure 2. Looking at the entire period, the annual growth rate for the euro area HPI reached a maximum of +9.8 % in the first quarter of 2022 and a minimum of -2.7 % in the first quarter of 2013. For the EU HPI, the annual growth rate reached a maximum of +10.4 % in the first quarter of 2022 and a minimum of -2.6 % in the second and third quarters of 2012. Between 2016 and 2019, the annual growth rate has remained rather stable for both the euro area and the EU (between +3.7 % and +5.0 %). Since the first quarter of 2020, the annual growth rate for both the euro area and the EU has reached levels (between +5.0 % and +10.4 %) that had not been recorded since 2006.

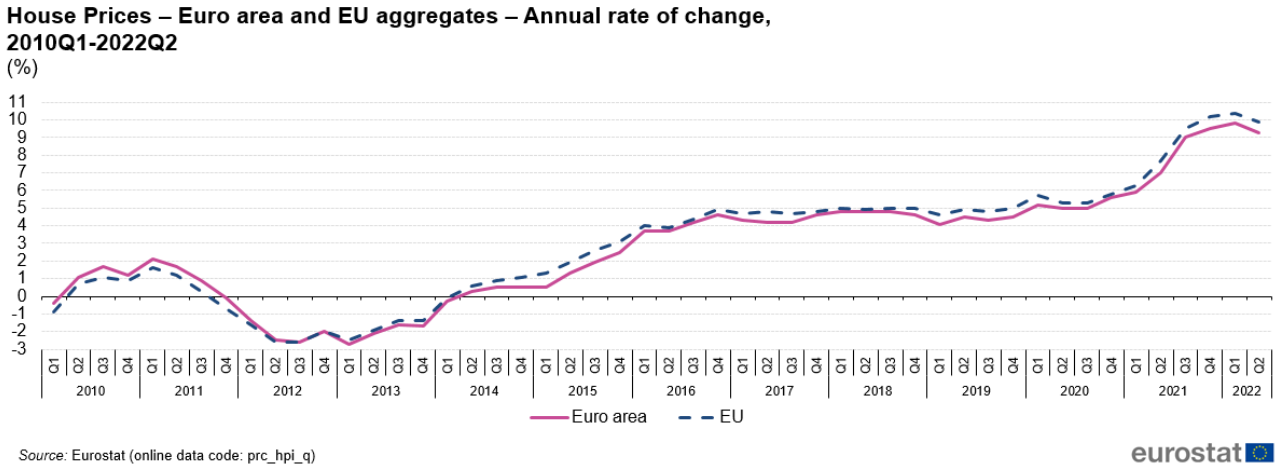


Figure 2: House Prices – Euro area and EU aggregates – Annual rates of change, 2010Q1-2022Q2 (%) – Source: Eurostat (prc_hpi_q)

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

All Member States for which data are available showed an annual increase in house prices in the second quarter of 2022 and, for sixteen of them, this increase exceeded 10 %. The lowest increases were registered in Cyprus (+2.0 %), Finland (+2.2 %) and Denmark (+2.8 %). The highest increases were recorded in Estonia (+27.4 %), Czechia (+23.1 %), Hungary (+22.8 %) and Lithuania (+22.1 %). Compared with the previous quarter, prices also increased in all Member States. The lowest increases were registered in Sweden (+0.5 %), Finland (+1.3 %) and Belgium (+1.3 %). The
highest increases were recorded in Estonia (+8.0 %), Lithuania (+5.9 %) as well as Latvia and Slovakia (both +5.5 %).

House Prices – Quarterly and annual rates of change, 2021Q3-2022Q2

(%)

	Change compared with the previous quarter (%)				Change compared with the same quarter of the previous year (%)			
	2021		2022		2021		2022	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Euro area	**3.2**	**1.9**	**1.6**	**2.3**	**9.0**	**9.5**	**9.8**	**9.3**
EU	**3.1**	**2.1**	**2.0**	**2.3**	**9.5**	**10.2**	**10.4**	**9.9**
Belgium	3.0	0.1	1.4	**1.3**	8.2	6.0	6.5	**5.9**
Bulgaria	3.2	2.4	5.2	**3.1**	8.7	9.4	11.5	**14.6**
Czechia	6.9	5.7	4.8	**3.9**	22.1	25.8	24.5	**23.1**
Denmark	1.1	-2.0	2.2	**1.5**	11.2	6.7	4.2	**2.8**
Germany	4.2	2.7	0.4	**2.5**	12.8	12.6	11.6	**10.2**
Estonia	3.4	6.6	7.1	**8.0**	17.3	20.4	21.0	**27.4**
Ireland	5.1	4.2	2.6	**1.8**	10.6	13.8	15.0	**14.4**
Greece	:	:	:	:	:	:	:	:
Spain	2.1	1.2	2.6	**1.9**	4.2	6.3	8.5	**8.1**
France	3.3	1.1	0.8	**1.7**	7.1	6.9	7.0	**7.1**
Croatia	1.7	2.5	5.0	**3.7**	9.0	9.1	13.5	**13.6**
Italy	1.1	0.1	1.6	**2.3**	4.1	4.0	4.5	**5.2**
Cyprus	2.5	-3.1	0.5	**2.3**	2.5	-5.2	1.1	**2.0**
Latvia	3.6	3.9	2.5	**5.5**	12.4	16.1	17.4	**16.5**
Lithuania	5.4	4.7	4.4	**5.9**	18.9	19.8	19.1	**22.1**
Luxembourg	2.7	3.6	2.7	**2.1**	13.2	12.1	10.3	**11.5**
Hungary	3.7	3.7	8.4	**5.3**	16.7	22.8	21.6	**22.8**
Malta	2.3	1.1	0.5	**3.6**	5.9	4.5	6.8	**7.7**
Netherlands	5.9	3.8	4.4	**3.0**	16.8	18.8	19.3	**18.2**
Austria	3.5	3.1	3.0	**2.2**	12.7	15.4	14.7	**12.4**
Poland	2.6	3.9	3.3	**2.0**	8.9	12.1	13.6	**12.4**
Portugal	2.9	2.7	3.8	**3.1**	11.5	11.6	12.9	**13.2**
Romania	0.1	2.8	1.7	**3.7**	5.9	7.5	6.4	**8.5**
Slovenia	2.6	4.6	4.1	**3.5**	12.9	15.8	16.9	**15.6**
Slovakia	4.7	3.6	1.9	**5.5**	8.0	10.7	14.2	**16.6**
Finland	-0.2	0.2	1.0	**1.3**	4.8	3.9	3.4	**2.2**
Sweden	2.6	1.3	2.6	**0.5**	11.3	10.9	10.3	**7.1**
Iceland	3.4	4.0	4.2	**7.7**	13.7	15.7	17.9	**20.7**
Norway	0.7	-0.7	4.4	**2.1**	8.8	7.7	7.8	**6.7**
Switzerland	2.4	2.6	-0.4	**2.7**	6.9	7.3	7.0	**7.5**
Turkey [(1)]	10.3	24.4	40.5	**35.2**	35.6	59.8	110.0	**160.7**

: data not available

[(1)] definition differs.

Source: Eurostat (online data code: prc_hpi_q)

eurostat

Table 1: House Prices – Quarterly and annual rates of change, 2021Q3-2022Q2 (%) – Source: Eurostat (prc_hpi_q)

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

The HPI 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 Figure 3 (quarterly index) and Figure 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 decreased or increased less than inflation. In 2015, house prices started to increase more than inflation and, since 2016, house prices have increased 3.0 % to 5.5 % more than inflation.

There are significant differences between Member States, as can be seen in Table 2 (annual deflated HPI). Figure 5 illustrates the magnitude of the differences in the annual rate of change for the year 2021.

Between 2016 and 2021, every year, house prices increased more than inflation in 24 to 26 EU countries. In 2021, the highest differences between annual changes of house prices and the annual inflation rate were recorded in Czechia (+16.4 %), Luxembourg (+12.4 %), the Netherlands (+11.2 %), Lithuania (+11.0 %) and Estonia (+10.4 %).

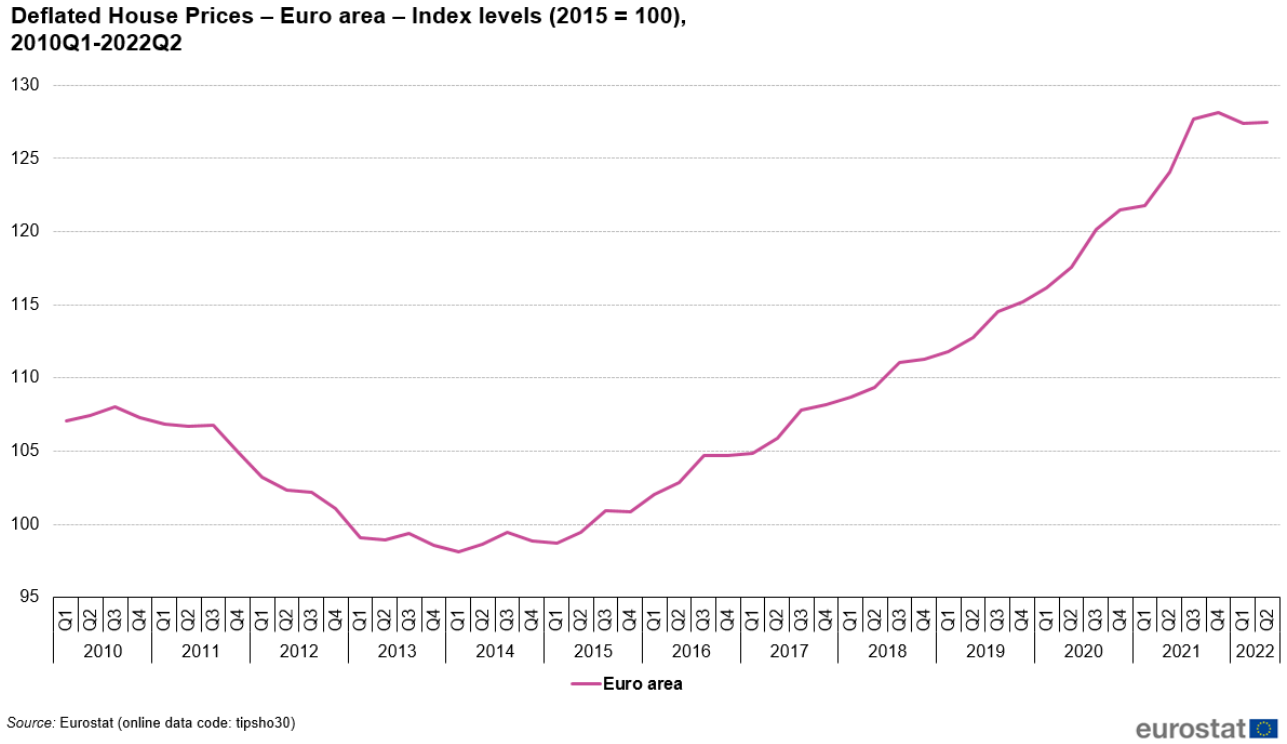


Figure 3: Deflated House Prices – Euro area – Index levels (2015 = 100), 2010Q1-2022Q2 – Source: Eurostat (tipsho30)

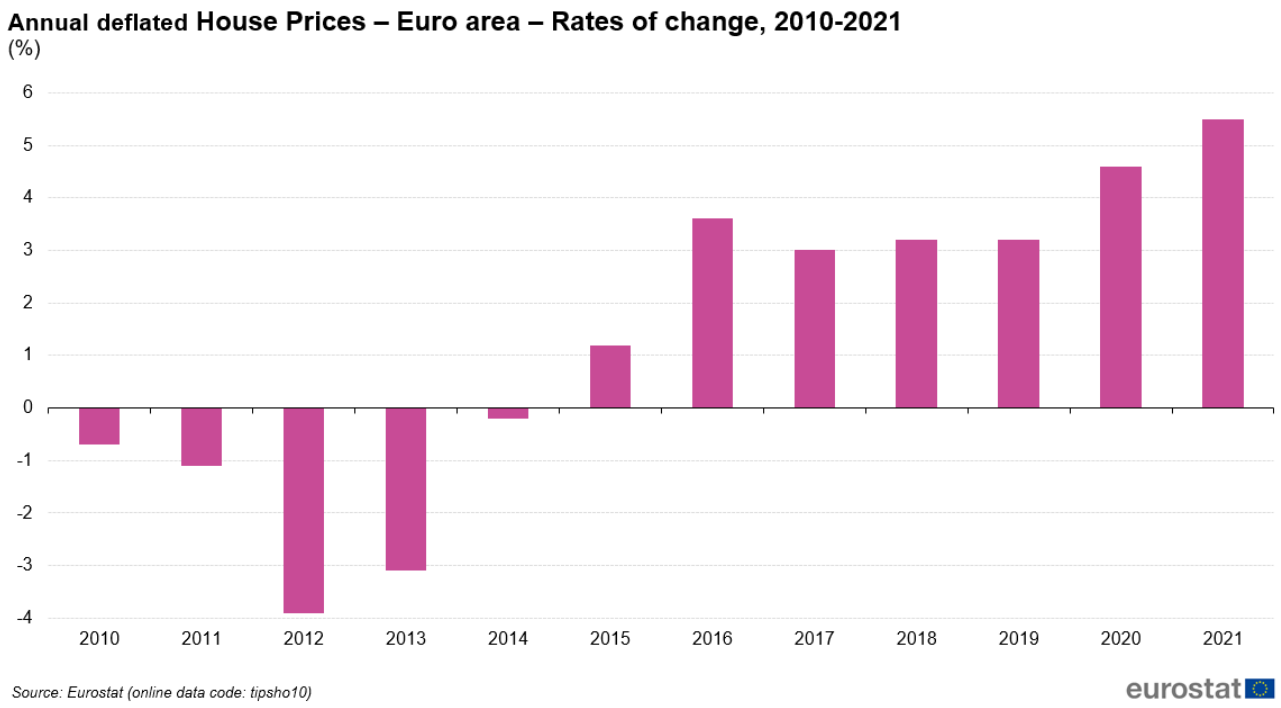


Figure 4: Annual deflated House Prices – Euro area – Rates of change, 2010-2021 (%) – Source: Eurostat (tipsho10)

Annual deflated House Prices – Member States – Rates of change, 2010-2021
(%)

	DEFLATED HPI (1 year % change)											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Belgium	1.2	1.1	0.2	0.1	-1.3	0.8	1.1	1.7	0.8	2.6	3.6	4.8
Bulgaria	-11.8	-8.9	-4.6	-0.8	0.1	0.4	5.3	3.9	4.1	3.9	5.2	4.9
Czechia	-2.2	-1.6	-3.5	-0.7	1.6	4.0	6.8	9.1	5.9	6.2	5.4	16.4
Denmark	0.3	-4.0	-4.9	3.1	3.1	6.6	5.1	3.5	3.7	1.4	4.7	9.5
Germany	-0.6	1.6	2.1	1.7	2.2	4.1	6.7	4.6	5.1	4.4	7.1	8.2
Estonia	1.8	3.1	3.1	7.3	12.9	7.3	3.7	1.1	2.3	4.4	7.0	10.4
Ireland	-12.4	-17.9	-14.4	-0.1	15.5	10.9	6.8	9.3	8.3	0.5	-0.5	4.2
Greece	-4.3	-8.2	-12.5	-9.3	-5.2	-3.8	-1.5	-1.4	1.7	7.2	5.6	6.4
Spain	-3.7	-9.8	-16.5	-10.0	0.2	3.7	4.5	4.6	5.2	4.1	2.2	1.5
France	3.5	3.8	-1.9	-2.5	-1.6	-1.6	0.8	2.3	1.2	2.5	4.1	4.7
Croatia	-7.6	-2.0	-4.6	-5.7	-1.3	-2.6	2.0	2.9	4.6	7.8	7.3	4.5
Italy	-0.8	-1.5	-5.0	-7.5	-4.9	-4.0	0.2	-2.1	-1.5	-0.7	1.8	0.9
Cyprus	-8.2	-4.4	-5.5	-3.9	-1.1	1.0	2.2	1.2	0.5	2.6	0.7	-5.4
Latvia	-8.8	4.0	-0.3	6.4	4.7	-2.8	7.2	5.3	6.3	5.8	2.7	7.2
Lithuania	-8.8	2.2	-3.2	0.4	6.4	4.7	4.4	5.2	4.5	4.6	6.4	11.0
Luxembourg	3.3	0.7	2.0	3.4	3.7	4.5	5.2	3.3	5.1	8.3	13.1	12.4
Hungary	-5.6	-6.6	-8.9	-4.2	2.8	12.5	12.3	8.6	10.7	11.8	1.6	9.6
Malta	-1.1	-3.9	0.4	-1.6	2.0	4.1	4.5	4.3	5.0	4.2	2.2	3.8
Netherlands	-3.3	-4.0	-7.9	-7.9	-0.1	3.4	4.4	6.1	7.1	4.6	6.2	11.2
Austria	4.3	3.0	4.8	3.0	1.4	3.4	7.0	3.4	2.6	4.0	6.1	9.9
Poland	-6.0	-4.7	-6.6	-4.8	1.1	2.6	2.3	1.8	4.8	6.1	6.9	3.5
Portugal	-1.0	-6.5	-8.7	-2.6	4.0	2.2	6.1	7.6	8.6	9.0	8.1	7.9
Romania	-13.0	-15.5	-8.9	-2.8	-3.3	1.6	5.2	3.3	1.7	-1.9	2.2	-1.1
Slovenia	-1.3	0.9	-8.5	-7.2	-6.2	1.4	3.6	6.6	6.6	5.3	5.2	7.8
Slovakia	-5.0	-5.2	-5.9	-0.4	1.5	5.5	7.0	4.4	4.9	6.2	7.2	3.0
Finland	4.8	-0.1	-0.4	-1.3	-1.6	-0.5	1.1	0.1	-0.4	-0.6	1.3	2.8
Sweden	6.6	1.2	0.7	4.5	8.3	12.0	7.3	4.8	-3.3	0.4	3.3	8.1

Source: Eurostat (online data code: tipsho_10)

eurostat

Table 2: Annual deflated House Prices – Member States - Rates of change, 2010-2021 (%) – Source: Eurostat (tipsho10)

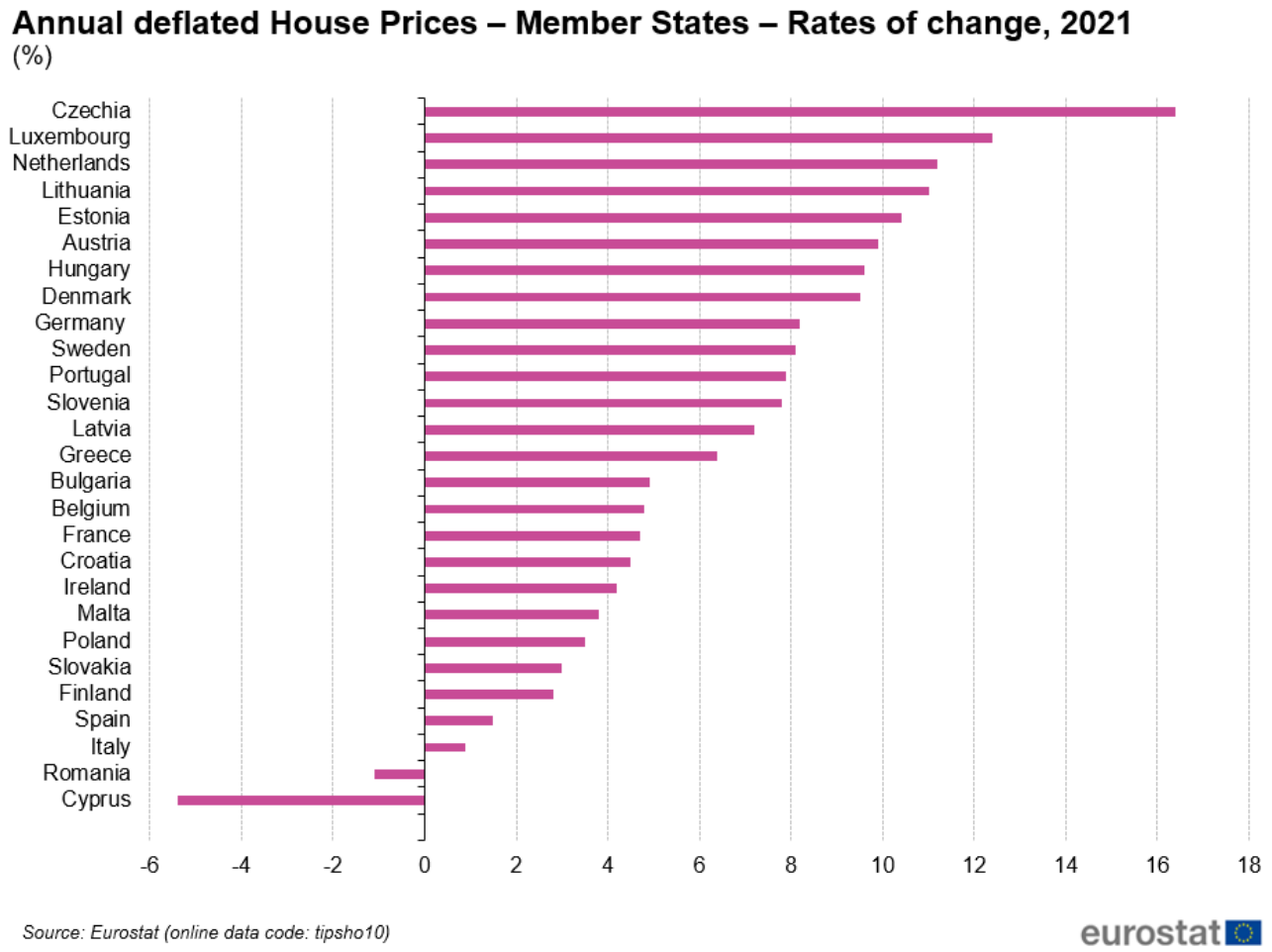


Figure 5: Annual deflated House Prices – Member States – Rates of change, 2021 (%) – Source: Eurostat (tipsho10)

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).

Over the period 2010 until the second quarter of 2022, in the EU, rents increased by 17.6 % and house prices by 48.1 %. Rents and house prices in the EU continued their steady increase in the second quarter of 2022, going up by 1.7 % and 9.9 % respectively, compared with the second quarter of 2021. House prices and rents in the EU followed a similar path between 2010 and the second quarter of 2011. However, after this quarter, house prices and rents have evolved differently. While rents increased steadily throughout this period up to the second quarter of 2022, house prices have fluctuated considerably. 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. After a rapid rise in early 2015, house prices increased faster than rents. When comparing the second quarter of 2022 with 2010, house prices increased more than rents in 19 EU Member States. Over this period, house prices increased in 24 EU Member States and decreased in three. They more than doubled in Estonia (+196.3 %), Hungary (+167.9 %), Luxembourg (+134.8 %), Latvia (+131.2 %), Lithuania (+130.3), Czechia (+129.6 %) and Austria (+120.9 %). Decreases were observed in Greece (-22.5 %, see methodological notes[1]), Italy (-8.5 %) and Cyprus (-5.8 %).

When comparing the second quarter of 2022 with 2010 for rents, prices increased in 25 EU Member States and decreased in two, with the highest rises in Estonia (+214.0 %), Lithuania (+139.1 %) and Ireland (+82.1 %). Decreases were recorded in Greece (-24.5 %) and Cyprus (-0.2 %).

[1] House Prices: Instead of 2022Q2 data, 2021 annual estimate by Bank of Greece.

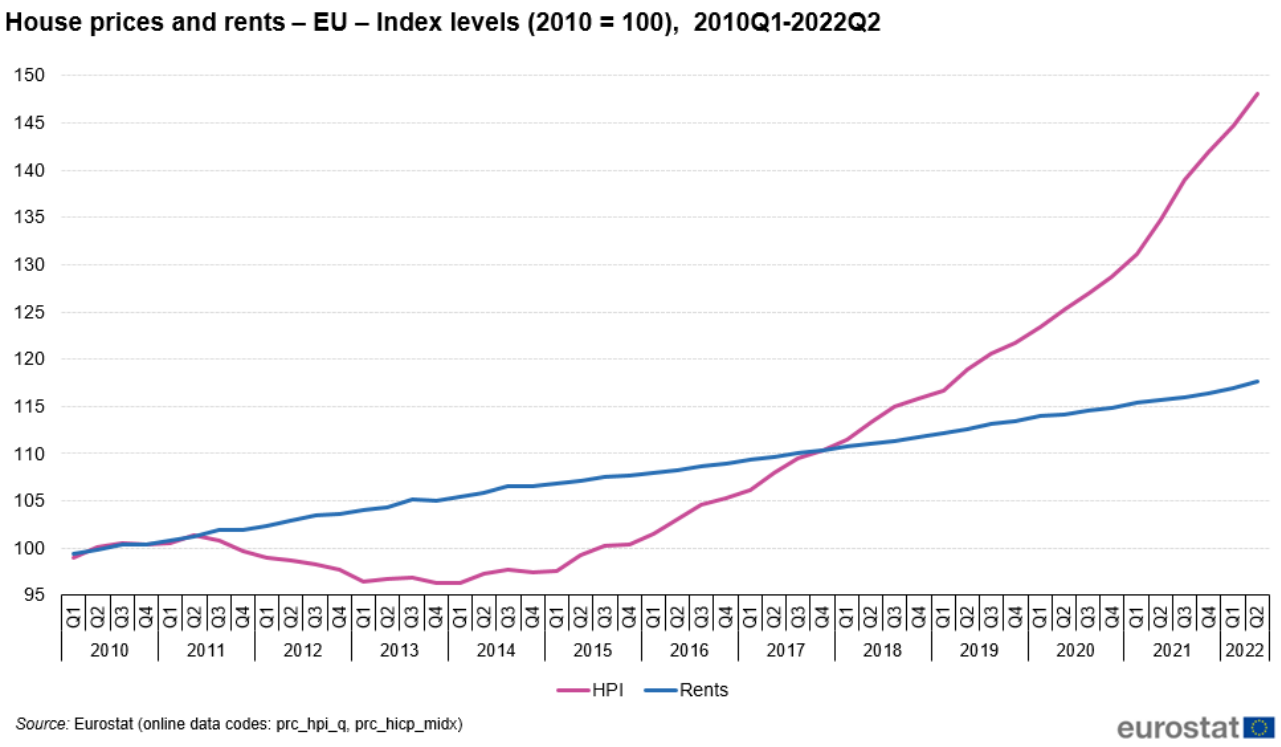


Figure 6: House prices and rents – EU – Index levels (2010 = 100), 2010Q1-2022Q2 – Source: Eurostat (prc_hpi_q); (prc_hicp_midx)

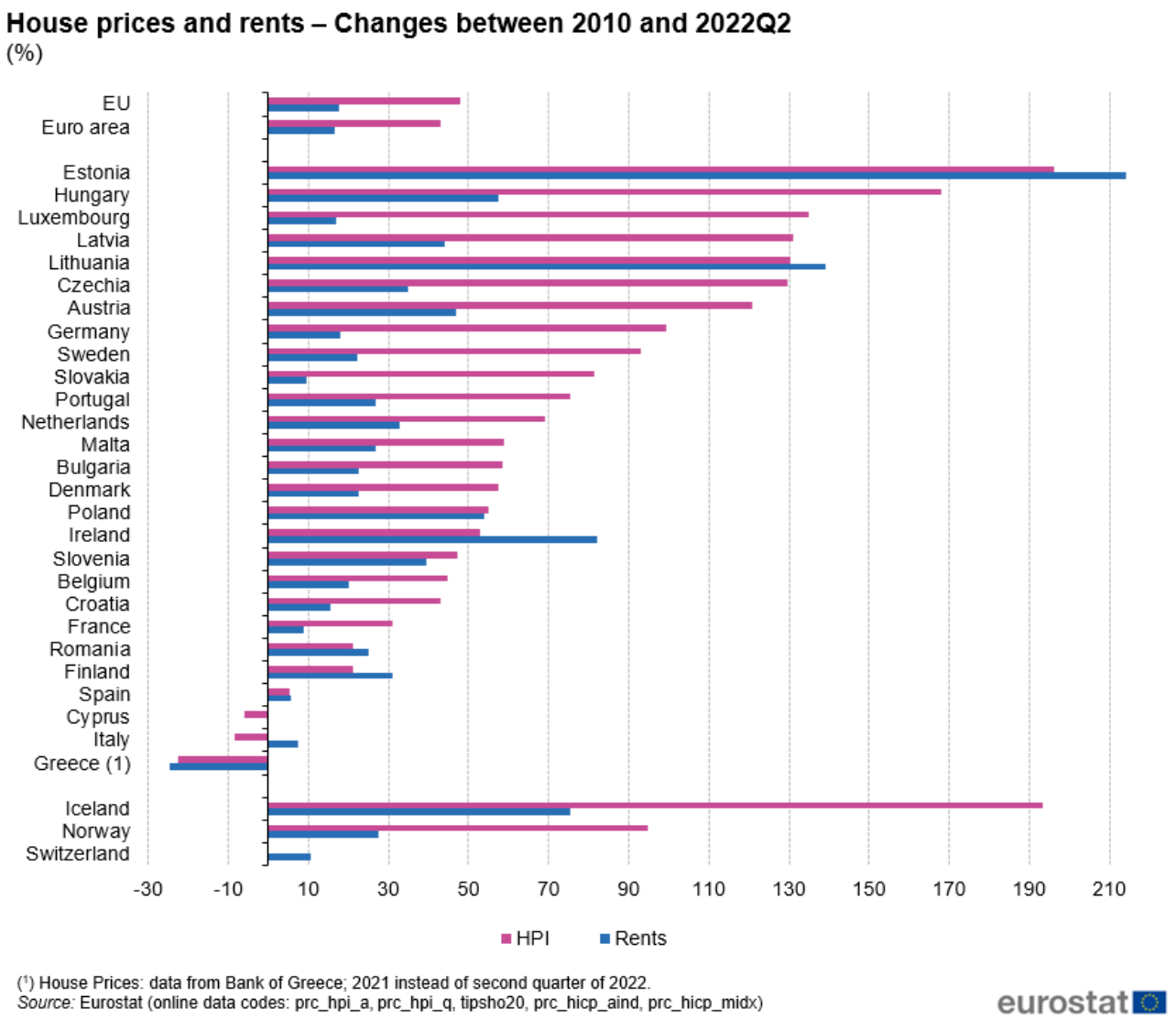


Figure 7: House prices and rents – Changes between 2010 and 2022Q2 (%) – Source: Eurostat (prc_hpi_a); (prc_hpi_q) (tipsho20); (prc_hicp_aind); (prc_hicp_midx)

Weights for the calculation of house price indices

Weights for the euro area and the EU

The House Price Indices (HPI) for the euro area and EU 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 2022 are based on data for 2021.

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

Figure 8 shows the 2021 weights used for the calculation of the 2022 EU HPI aggregates.

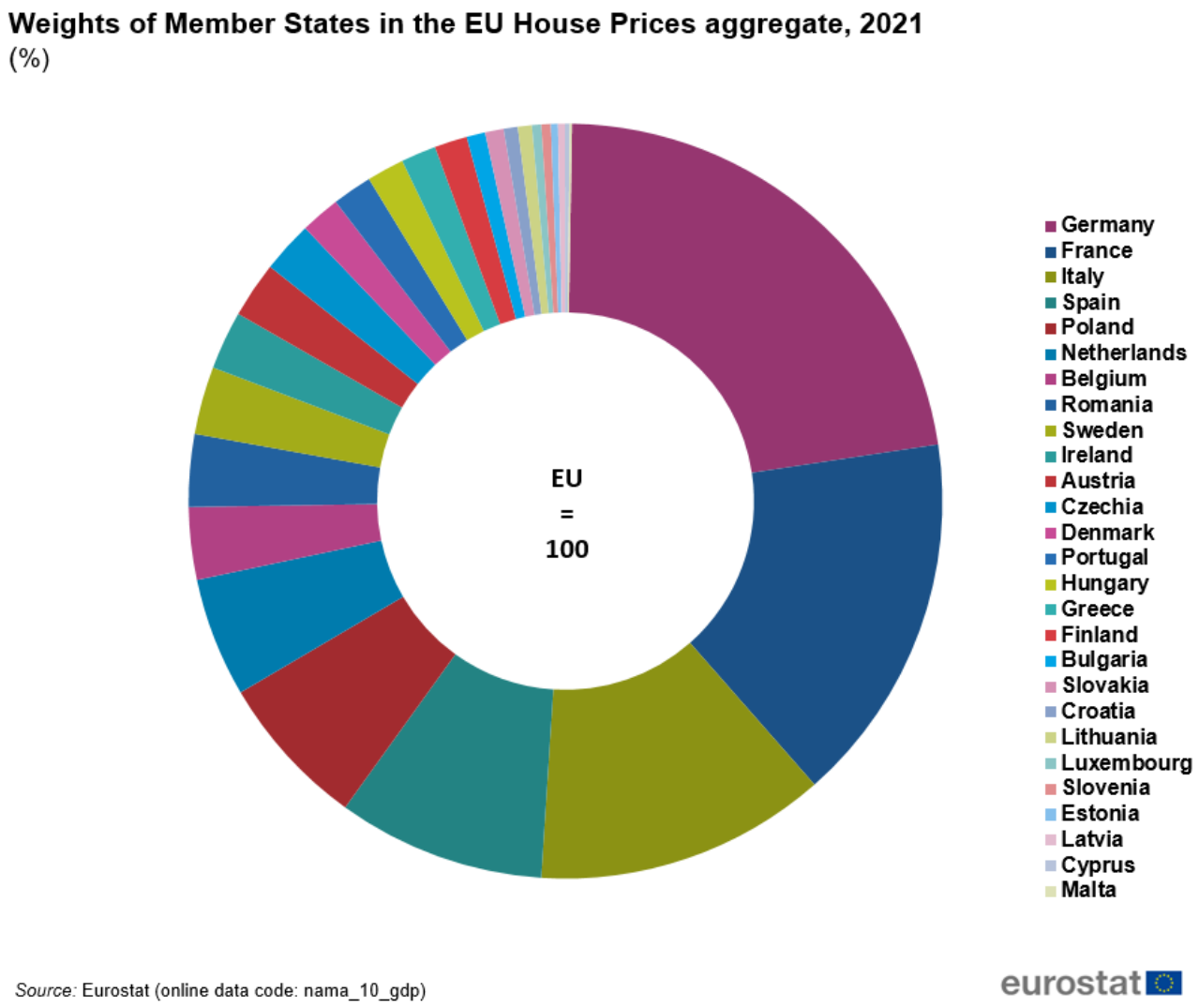


Figure 8: Weights of Member States in the EU House Prices aggregate, 2021 (%) – Source: Eurostat (nama_10_gdp)

Figure 9 shows the 2021 weights used for the calculation of 2022 the euro area HPI aggregates.

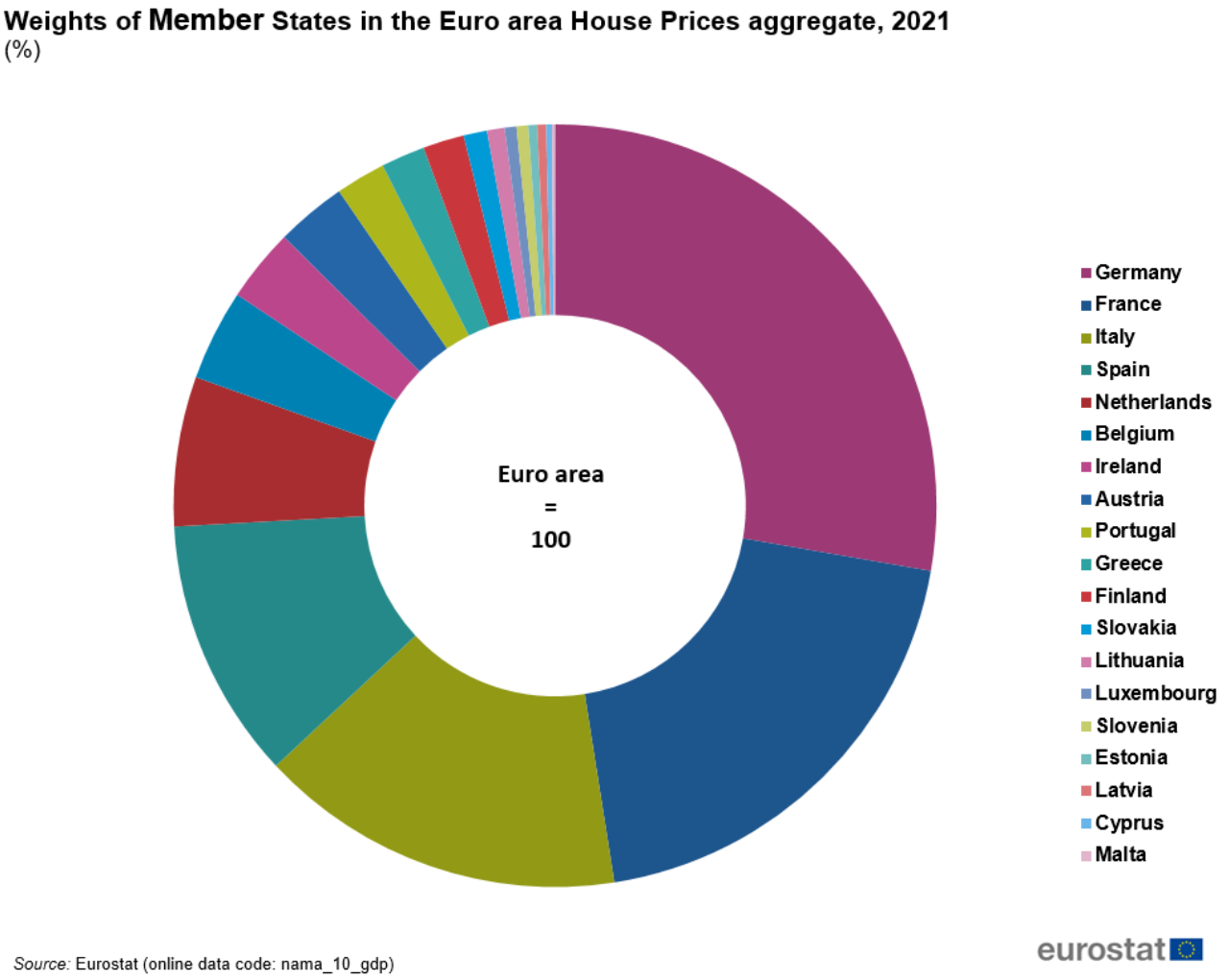


Figure 9: Weights of Member States in the euro area House Prices aggregate, 2021 (%) – Source: Eurostat (nama_10_gdp)

Weights for new and existing dwellings sub-indices

In addition to the price index for total dwellings transacted in the market, Eurostat publishes separate indices for newly built and existing dwellings. 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). The weights for the 2022 indices are illustrated in Figure 10, for available countries.

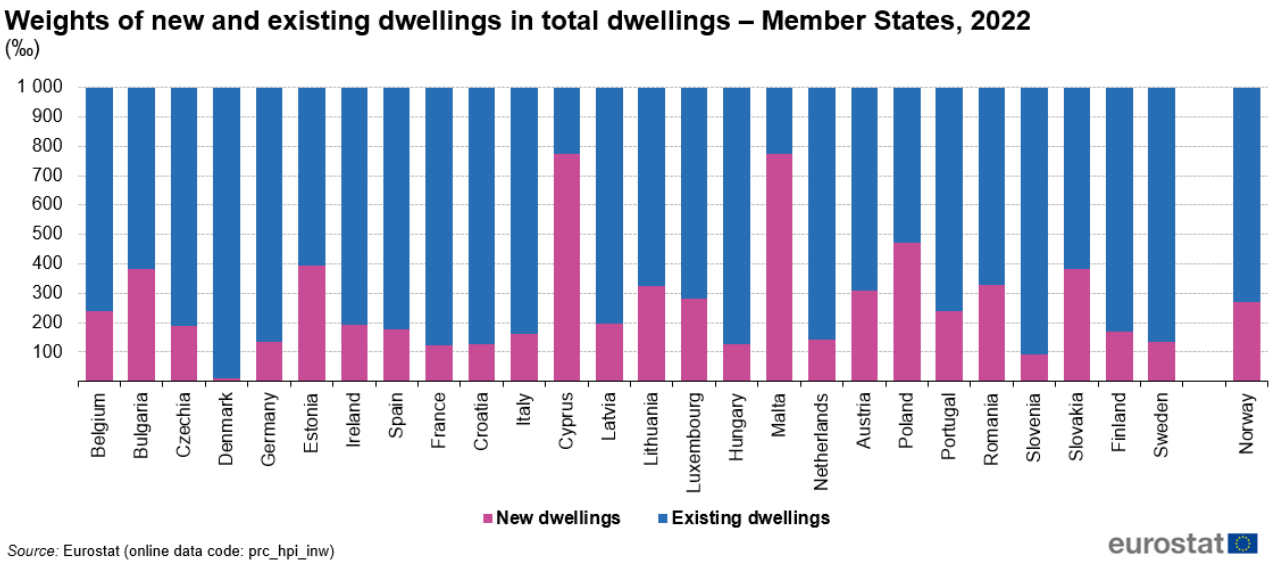


Figure 10: Weights of new and existing dwellings in total dwellings – Member States, 2022 (‰) – Source: Eurostat (prc_hpi_inw)

Source data for tables and graphs

- House Price Index - Release second quarter 2022

Data sources

Methodological background information is given in the Handbook on Residential Property Prices Indices (RPPIs) and and the Technical Manual on Owner-occupied Housing and House Price Indices .

Compilation

The first and most important issue in the compilation of HPI 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 pre-fabricated 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.

Context

The basic act providing for the compilation of the House price index (HPI) and the Owner-occupied housing price index (OOHPI) is the European Parliament and Council Regulation (EU) 2016/792 of 11 May 2016.

The basic act is implemented by Commission Regulation (EU) 2020/1148 of 31 July 2020.

In the context, of this publication, 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.

- House sales statistics
- Consumer prices
- Living conditions in Europe - housing
- Housing in Europe (2021 interactive edition)
- House price index (HPI) (teicp270)
- House price index (HPI) - deflated - annual data (tipsho10)
- Housing price and sales statistics (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 and sales index (HPI) (ESMS metadata file — prc_hpi_inx_esms)
- House price index - deflated - annual data (ESMS metadata file — tipsho10_esms)
- Macroeconomic Imbalance Procedure - Directorate General for Economic and Financial Affairs (DG ECFIN)